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THE GAAGUDJU PEOPLE AND THEIR LANGUAGE

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DECLARATION

Except where otherwise indicated  
this thesis is my own work

Mark Harvey

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## ABBREVIATIONS

Aug	Augment	5.6.1 & 7.1
AUG	Augmented	8.5.3
Aux	Auxiliary	7.2
CON	Conditional	7.7.4
detr	detransitiviser	9.6.1
DUR	Durative	8.5.8
F	Feminine	
FU	Future	7.7.4
FUA	Feminine Unit Augmented	8.5.2
HOR	Hortative	7.8
I	Class I	6.4
II	Class II	6.4
III	Class III	6.4
IV	Class IV	6.4
IM	Indirect Malefactive	8.6.1
IMP	Positive Imperative	7.9
IRR	Irrealis	7.7.2
Lig	Ligature	5.6.1
LOC	Locative	9.9
M	Masculine	
MA	Masculine Augmented	8.5.3
MIN	Minimal	8.5
MUA	Masculine Unit Augmented	8.5.2
Neg	Negative/Negator	9.7
P	Past	
PI	Past Imperfective	7.7.1
PIRR	Past Irrealis	7.7.2
plS+O	plural Subject and Object	8.5.4
PP	Past Perfective	7.7.1
PR	Present	7.7.3
PRM	Prominence	6.6
R	Reduplication	5.6.2
S.A.	Speaker's Assessment	9.13
SPEC	Specific	6.7.1
SUB	Subordinator	9.12.1
SUB	Substantiviser	6.2
1A	1st person Absolutive	7.5.2
1E	1st person Ergative	7.5.2
1IO	1st person Indirect Object	8.6
1+2A	1st and 2nd person Absolutive	7.5.2
1+2E	1st and 2nd person Ergative	7.5.2
1+2IO	1st and 2nd person Indirect Object	8.6
2A	2nd person Absolutive	7.5.2
2E	2nd person Ergative	7.5.2

2IO	2nd person Indirect Object	8.6
3E	3rd person Ergative	7.5.2
3FDAT	3rd person Feminine Dative	9.9
3FE	3rd person Feminine Ergative	7.5.2
3FIO	3rd person Feminine Indirect Object	8.6
3IA	3rd person Class I Absolute	7.5.2
3IIA	3rd person Class II Absolute	7.5.2
3IIIA	3rd person Class III Absolute	7.5.2
3IVA	3rd person Class IV Absolute	7.5.2
3MDAT	3rd person Masculine Dative	9.9
3ME	3rd person Masculine Ergative	7.5.2
3MIO	3rd person Masculine Indirect Object	8.6
-	Affixation	4.2
=	Direct Enclisis	4.2
..#	Indirect Enclisis	4.2

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## ABSTRACT.

This thesis covers two main topics. One of these is a description of social organisation in the northern Kakadu - Oenpelli region, focussing on those elements which derive from pre-contact systems of social organisation. The other is a descriptive reference grammar of the Gaagudju language.

Chapter One presents the available information on the linguistic situation in the northern Kakadu - Oenpelli at contact. The transformation of Aboriginal society in the region, which followed contact, is discussed, chiefly in relation to its importance in any understanding of the situation at contact. This discussion includes some information on the life histories, and linguistic competences, of my consultants.

Chapter Two discusses the two principal systems of land tenure in the region: the clan system, and land - language relationships. It considers the nature of affiliation to these systems of land tenure.

Chapter Three examines the kin systems of the Gaagudju and Gunwinjgu peoples. It pays particular attention to the classification of these systems in relation to the usual Kariera vs Aranda classing of Australian kin systems. The Gaagudju and Gunwinjgu kin systems are not happily classed in relation to this division.

Chapter Four presents the segmental phonology of Gaagudju. The analysis is chiefly concerned with describing the wide range of variation that occurs in the realisation of segments. Gaagudju exhibits a wide range of reduction and lenition processes which significantly affect realisation patterns. Speech speed is an important conditioning factor for the range of variations in realisations.

Chapter Five focusses on two main issues: the patterning of stress, and syllabic and morphological structures. The patterning of stress in Gaagudju differs significantly from that found in most Australian languages. It correlates most prominently with length and shows a high degree of lexicalisation. The syllabic and morphological structures of Gaagudju show a high degree of apparent surface irregularity. However it appears that these apparent irregularities reflect markedness constraints on permissible structures.

Chapter Six describes firstly the inventory of parts of speech in Gaagudju. It then proceeds to examine the classes of nominal parts of speech. It considers the nature of the correlations between the various formally and semantically definable subclasses of nominals.

Chapter Seven considers the structure of the verbal complex. It focusses on the structure of verbal lexemes and the tense, mood, and aspect categories marked in the verbal complex. Gaagudju has a highly lexicalised system of verbal compounding.

Chapter Eight sets out the phrase types that are found in Gaagudju. There are three main phrase types: functional phrases, right-headed formal phrases, and left-headed formal phrases. Functional phrases are represented by the prototypical phrase, the Noun Phrase. Right-headed formal phrases serve a variety of semantic purposes.

However they are generally analysable as compounds. Left-headed phrases are formed chiefly via enclisis. Incorporation constructions are an important class of left-headed phrases.

Chapter Nine considers the syntactic structuring of Gaagudju at the clause level. It examines the nature of grammatical relations. This involves a consideration of issues such as the status of bound pronominals, and the nature of transitivity. Chapter Nine also examines the clause types found in Gaagudju, and the nature of interclausal relations.

## PREFACE.

The fieldwork on which this thesis is based was undertaken as a result of the concerns of Gaagudju people, that cultural and linguistic information relating to their group should be recorded. In response to these concerns, the Australian National Parks and Wildlife Service funded three consultancies over the period from November 1986 to June 1990 for research on Gaagudju language and cultural organisation.

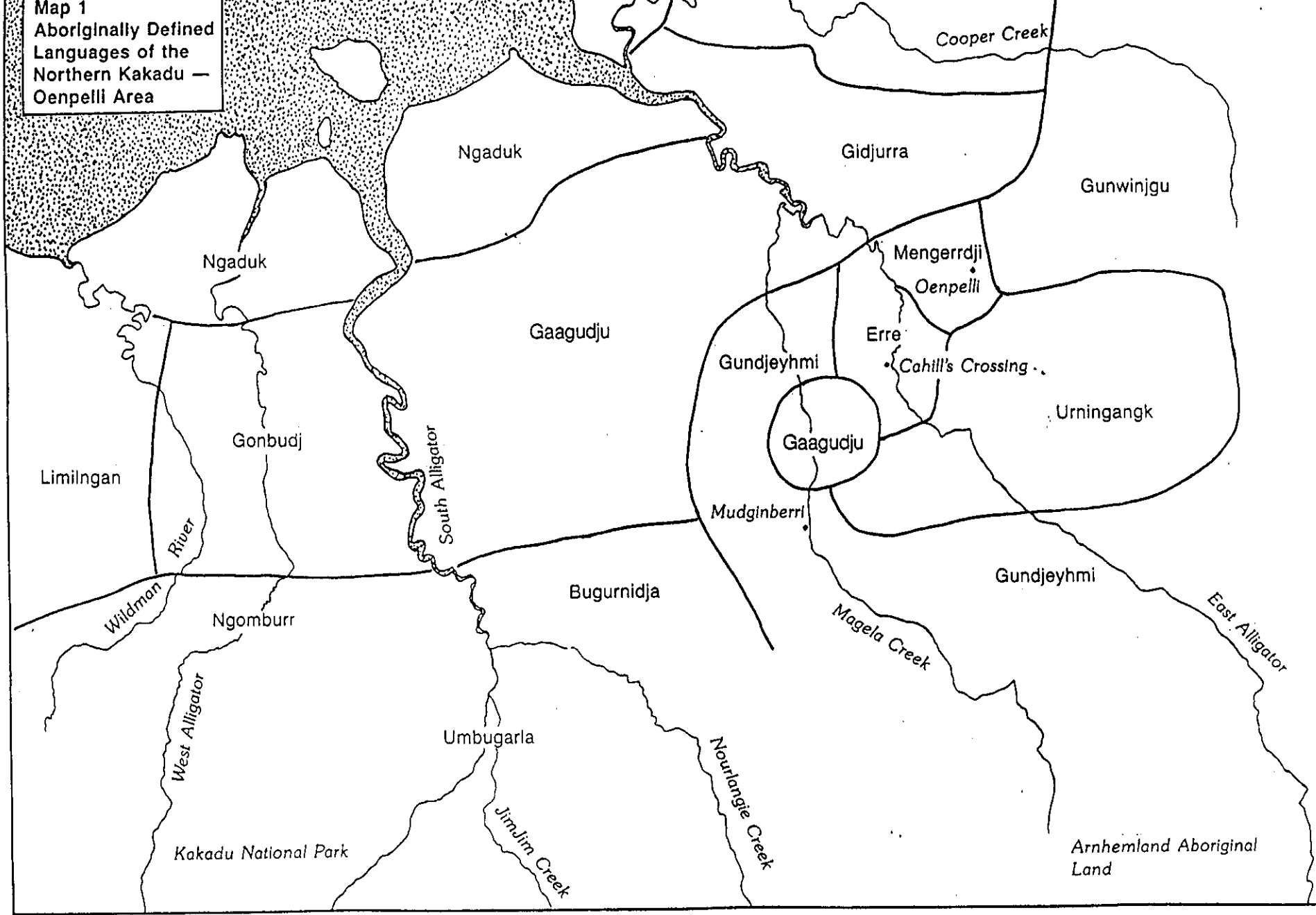
These consultancies supported four periods of fieldwork: November 1986 - February 1987; June 1987 - September 1987; May 1988 - September 1988; and May - June 1989. All field sessions were taped. The original tapes, together with copies of transcriptions, are deposited in the Australian Institute of Aboriginal and Torres Strait Islander Studies (hereafter A.I.A.T.S.I.S.). All example material in the thesis, save for a very few very common forms, is sourced to a page number in the transcriptions. The source page numbers follow the English translation section of each example. The source page numbers may or may not be preceded by a letter. The presence vs absence of a letter, and the various letters that appear, indicate the period of fieldwork in which the example was recorded.

Number not preceded by a letter	Nov 86 - Feb 87
Number preceded by A	June 87 - Sept 87
Number preceded by B	May 88 - Sept 88
Number preceded by C	May 89 - June 89

A total of 115 hours of tape was recorded. Of this, 88.5 hours was provided by my principal consultant, Peggy Balmana. The other fluent Gaagudju consultant, Little Dolly Yarnmalu, provided 16 hours. Various other consultants provided the remaining 10.5 hours.

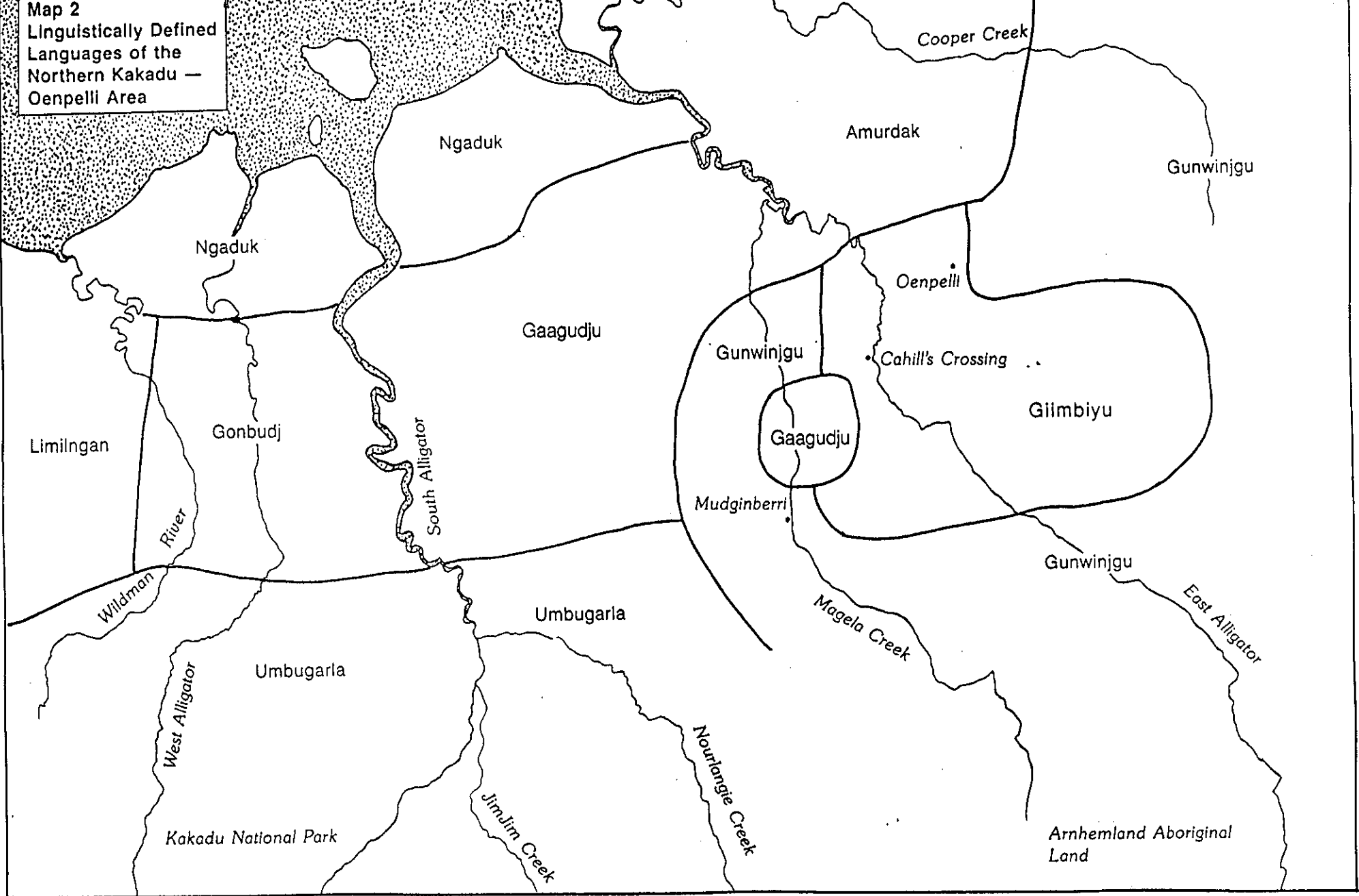
The anthropological analysis based on these materials has a reasonably eclectic theoretical base. The linguistic analysis is somewhat more formalist in nature than is usual in descriptive linguistic work in Australia. I have followed this course because the linguistic data is most abundant in those areas which have been the object of detailed investigation in formal linguistic theories: phonology, morphology, and clausal syntax. It will become evident to any reader of this thesis that Gaagudju presents considerable complexities in all of these areas. Formal theories provide a detailed basis for a contrastive analysis of these complexities in Gaagudju. Hopefully the formalisms used, will not prevent re-analysis of the data by other researchers. The appendices to this thesis contain a large amount of linguistic material in the relatively raw form of verbal paradigms, and of a dictionary. As the linguistic material presents considerable complexities, I have made a practice of presenting the theoretical framework first. I have done this in the hope that the presence of a framework will make it easier for the reader to assimilate the data.

Map 1  
Aboriginally Defined  
Languages of the  
Northern Kakadu —  
OenPELLI Area



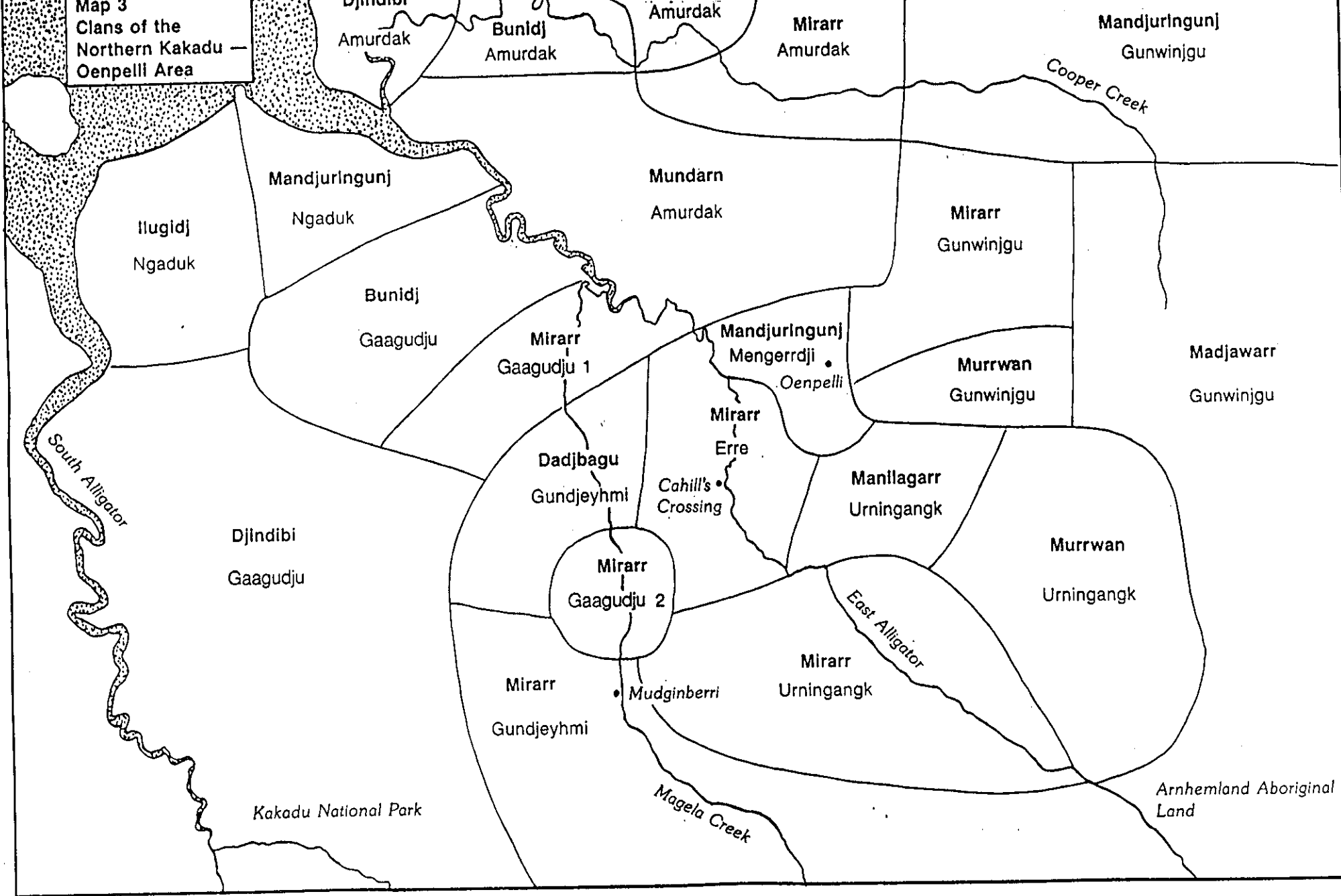


Map 2  
Linguistically Defined  
Languages of the  
Northern Kakadu —  
Oenpelli Area



Map 3  
Clans of the  
Northern Kakadu —  
OenPELLI Area

XX



## CHAPTER 1

## THE GAAGUDJU PEOPLE AND THEIR NEIGHBOURS

## 1.1 Location and Contact History of the Gaagudju.

Owing to the massive depopulation and related extensive movement of people since contact, it is not now possible to give a fully accurate statement on the location of Gaagudju speaking peoples at contact. Maps 2 and 3 indicate the general areas occupied by the three Gaagudju speaking clans: Bunidj, Djindibi and Mirarr (divided into two groups). The post-contact history of the Gaagudju is broadly describable in terms of two major phases, with the 1920's being the transition period between the two phases. The first phase is characterised by three major processes which transformed the nature of Aboriginal social organisation in the northern Alligator Rivers region. These three processes were the dramatic collapse in population levels, the development of European oriented economic regimes, and significant population movements.

The population collapse is discussed in Keen (1980a & 1980b). Keen (1980b) provides an estimate of the population collapse in a region extending from the Adelaide River to the East Alligator River and about 80kms inland. Keen makes this estimate of the pre-contact population of this area on the basis of information about population densities in ecologically similar, but much less contact affected, areas in north-eastern Arnhemland. Warner (1958 : 146) estimates that the Aboriginal population of the Yolngu areas of north-eastern Arnhemland (about 26,000 sq kms) was approximately 3,000 in 1926. This yields a density of one person per 8.5 sq kms. However Keen (1980b : 172) states that his own data shows that population densities were higher in coastal areas, approaching one person per 4 sq kms. Hiatt (1965 : 17) estimates that population densities among the coastal Gidjingali may have approached one person per sq km in places.

Keen therefore argues that a figure of one person per 8 sq kms is a conservative baseline for estimating the population of the area between the Adelaide River and the East Alligator River (about 14,300 sq kms). This baseline produces a population figure of approximately 1,800 people for this area. This figure is consistent with early records, which report large numbers of people in the region (see Keen 1980a : 37 - 38 for a summary of these reports). On the basis of his research for the Alligator Rivers Stage II land claim, Keen estimates that by the late 1970's the Aboriginal population of the area was about 4% of its pre-contact numbers (1980a : 37). Further it would appear from the evidence given by Keen that the bulk of this collapse occurred between 1880 and 1920. Keen (1980a : 42 - 44, 1980b : 172) attributes this dramatic collapse to the sudden exposure of the Aboriginal population to a whole range of new diseases, following the establishment of Darwin (1869) and Pine Creek (1872). It is possible that the effects of European settlement were felt even earlier. There were various temporary settlements from 1828 onwards at Cobourg Peninsula and Cape

Hotham, both reasonably close to the Alligator Rivers area, preceding the establishment of Darwin.

It would naturally be desirable to have some more accurate way of estimating the pre-contact population levels, both of the Gaagudju specifically, and more generally. It would also be desirable to have a more accurate estimation of the timing of the collapse. However, for present purposes, Keen's estimate is the best available. I will therefore operate within the analysis of post-contact demography that Keen presents.

While the population collapse was probably the most significant transformation brought about by contact, the buffalo industry was also significant, as it was one of the major forces which shaped the lives of the survivors. I do not intend to examine the nature of Aboriginal engagement with the buffalo industry in any significant detail, as this is a complicated issue (Levitus MS). Only the broad structural outlines and their general significance are examined. The buffalo industry started, officially at least, in 1876 when the Cobourg Cattle Company took up a lease for buffalo hunting in the Alligator Rivers region (Cole 1975 : 15). Aboriginal people had a significant involvement in the buffalo industry from the beginning, as they constituted the bulk of the labour force. The basic working unit in the industry consisted of a European hunter, or pair of hunters, and a group of Aboriginal workers. The work was largely concentrated in the dry season, with the work force dispersing during the wet. Unlike other areas of Australia, there is little evidence of the use of coercion to obtain Aboriginal labour. The Aboriginal participation in the industry appears to have been essentially voluntary (Levitus MS).

The most important of the European buffalo hunters, in terms of the contact history of the Gaagudju, was Paddy Cahill. Cahill arrived in the area in the 1880's and initially set up operations on both sides of the mouth of the East Alligator. His primary initial base is usually considered to have been at Ala'warndjawarn on the eastern side of the river in the territory of people with a primary affiliation to Amurdak. However most of his shooting was carried out on the western side of the river mouth in Gaagudju and Ngaduk country (G. Chaloupka : p.c, based on records held in N.T. archives).

Cahill later moved his primary base up the river to Oenpelli (apparently sometime during the period 1906 - 1909). Oenpelli quickly became an important centre for the Gaagudju, Amurdak, Giimbiyu, Gundjeyhmi and Gunwinjgu speaking peoples. It has commonly been assumed that while Gunwinjgu speaking peoples are now the dominant group in Oenpelli and appear to have been so since the 1930's, they were not resident in Oenpelli in its early years (e.g. Berndt & Berndt 1970 : 6 - 7), as Baldwin Spencer does not record their presence in the material based on his fieldtrip in 1912.

This is incorrect: Gunwinjgu speakers appear in Spencer's materials under the name Kulunglutchi. None of my consultants recognised the name. However in Spencer's fieldnotes in the Museum of Victoria there is a handwritten note "Bushman (to S of Oenpelli) call themselves *kunumburtchi*. Kakadu call them *weingo*". The name *weingo* would appear to be *winjgu*, a commonly used variant of Gun-winjgu with

the class marker *gun-* dropped. Elsewhere in his fieldnotes Spencer spells *kulunglutchi* as *kulungbutchi* and *kulumbutchi*, so its original form is somewhat problematic. Further in Cahill's correspondence with Spencer there is a Kulunglutchi word list which is identifiable as a dialect of the overall Gunwinjgu language (1.4). The location that Spencer assigns to the Kulunglutchi in his map of tribal locations (1914 : 6), to the east of Oenpelli, constitutes the traditional country of the Gunwinjgu. It is of course necessary to recognise that the precise reference of the term 'Kulunglutchi' cannot now be recovered. The evidence establishes that 'Kulunglutchi' and 'Gunwinjgu' are terms with a considerable overlap of reference, but it does not establish that they had identical reference. Indeed it would seem rather unlikely that they did have precisely the same reference.

Further there is genealogical evidence that there were Gunwinjgu people present in the Oenpelli area in the 1880's. As genealogical evidence is not commonly available to this time depth in Aboriginal Australia, I will present it in some detail. The individual concerned, Old Nipper Maragara, has been dead for a considerable period and his name is freely used by Aboriginal people in Oenpelli. Old Nipper was recognised as the primary traditional owner of the clan territory including Oenpelli for most of this century. He presumably derived this status by patrification (2.3). He was my principal consultant's paternal grandfather, and was well known both to her and to my other consultants.

From a variety of sources, written, life histories and genealogies, it is fairly certain that Old Nipper was born about 1880 (definitely not much later). Berndt & Berndt (1970 : 194) state "the last adult Mangerdji man [Old Nipper] ... claimed that his own mother and mother's father were 'true Gunwinggu' (Murwan gunmugugur)". Old Nipper's surviving widow volunteered the information that Old Nipper's mother had been Gunwinjgu to me. Given that Old Nipper's father was presumably a senior landowner for the Oenpelli area, Old Nipper's Gunwinjgu mother, and almost certainly some of her Gunwinjgu relatives, were presumably resident in the Oenpelli region from the 1880's onwards. Indeed, given the necessity of establishing some connections before marriage, they were presumably resident in the Oenpelli region from some time in the mid 1870's onwards.

Additional evidence for the presence of Gunwinjgu speakers in Oenpelli from its earliest period comes from the fact that clan territories immediately to the east of Oenpelli (within 2km to the east) are associated with the Gunwinjgu language. It has sometimes been suggested these clans were previously associated with the Mengerrdji language (Kesteven 1984 : 53). However the presently known place names within these clan territories would appear to be Gunwinjgu rather than Mengerrdji. The evidence is against the replacement of place names in the immediate vicinity of Oenpelli (1.6). Consequently this would suggest that the identification of these territories with the Gunwinjgu language is not of recent date.

Further, it is worth noting in connection with the genealogical evidence discussed, that Old Nipper described his mother and mother's

father as belonging to a Murrwan clan. The only Murrwan Gunwinjgu clan known is the now extinct one which used to be associated with the Fish Creek (Gun-nanj) area, immediately to the east of Oenpelli (this is based on my own research, and on unpublished material by P. Carroll listing all Gunwinjgu clans between Oenpelli and Maningrida). This would suggest that Old Nipper's mother was a member of this clan. If she was, then her marriage to Old Nipper's father would be in accordance with the preference for geographically close marriage, which is characteristic of this region (2.5 & 3.4). Therefore the genealogical evidence also provides some support for the view that Gunwinjgu land ownership in the Oenpelli area is not of recent origin.

The evidence therefore establishes the presence of Gunwinjgu speaking people in Oenpelli since its establishment. It also suggests that this presence followed naturally from the fact that Gunwinjgu people were landowners in the immediate vicinity of Oenpelli. However while it appears that Gunwinjgu people have been present in Oenpelli since its foundation, it would appear that they were not prominent in the group which was most strongly associated with Cahill in the early days.

Cahill's strongest links appear to have been with Gaagudju people. This is suggested by the material concerning the Oenpelli people presented in Spencer's "Native Tribes". In the preface to "Native Tribes" (1914 : ix) Spencer makes clear his debt to Cahill, both in terms of the material presented, and in terms of dealing with informants. Indeed there is good reason to view Cahill as Spencer's primary informant, providing the essential link between Spencer and the Aboriginal people resident at Oenpelli, and also providing Spencer with a view of those people. Spencer (1914 : ix) states that Gaagudju was the language that Cahill had learnt and used with Aboriginal people. In his correspondence with Spencer, Cahill refers to the Oenpelli people as the Gaagudju. The material on Oenpelli in "Native Tribes" is largely from a Gaagudju perspective. Spencer (1914 :14) recognises that there were a number of languages represented at Oenpelli, but uses Gaagudju as a cover term for all of them. Spencer thought that Oenpelli was in the country of the Gaagudju (1928 : 744). Additionally it appears that Spencer's principal Aboriginal informants, who were presumably selected because of their close links with Cahill, were Gaagudju. Spencer states that his three main informants were Mitcheralaka, Kopereiki and Wudeirti (1928 : 750). It would appear that these three men were those remembered by my consultants as Captain Madjirri'laaga (Mirarr Gaagudju), Gabi'rriigi (Bunidj Gaagudju) and Fred Wa'rdiirdi (Bunidj Gaagudju).

The evidence from "Native Tribes" that Cahill's closest connections were with Gaagudju people correlates with the fact that his earliest operations in the area during the 1880's were primarily in the traditional country of the Gaagudju. It seems likely that a significant portion of his original working teams would have been Gaagudju. It also appears from the material in "Native Tribes", and from oral history material, that the initial working association was maintained throughout Cahill's tenure at Oenpelli. Certainly the subsequent history of the "Alligator Rivers" people, including the Gaagudju, who had been

associated with Cahill would suggest that they had been thoroughly integrated into a European oriented economic regime by the 1920's.

Cahill left Oenpelli in 1922. Cole (1975 : 6 & 23) states that following his departure most of the people, including the Gaagudju, who had worked for Cahill also departed to work on the buffalo country around the Mary and Adelaide Rivers further to the west. My own fieldwork confirms this general picture, though it is more accurately described in somewhat less abrupt terms. The movement of Alligator Rivers people traditionally associated with Oenpelli and areas to the north and west is best described as a shift in primary residential focus from Oenpelli to the Mary - Adelaide River area. It appears that the bulk of this shift occurred immediately following Cahill's departure, but it continued into the early 1930's. It was during this period that the westwards movement of Gunwinjgu speakers resulted in their becoming the dominant group at Oenpelli.

It is necessary to recognise that this change of primary residential focus by the Alligator Rivers people was a fluid phenomenon. Considerable numbers of Alligator Rivers people had been resident for extensive periods on the buffalo country and in Darwin since at least the 1880's (Keen 1980a : 34). Some Alligator Rivers people also continued to return to Oenpelli after the major shift. Further, even within the buffalo country it is clear that there was continual movement of people. Nevertheless, the majority of people who had or have some recognised traditional association with the northern Kakadu - Oenpelli area spent most of the period from approximately 1925 until the late 1970's initially on the buffalo country and later in Darwin.

This group included the majority of Gaagudju speakers, and it would appear that after the 1920's Gaagudju had its most extensive usage in the buffalo country. In addition to the people who had a primary affiliation to Gaagudju, there were a group of people who had a secondary affiliations to Gaagudju. The primary affiliations of this second group were to a variety of languages: Amurdak, Giimbiyu, Gundjeyhmi, Umbugarla; and their secondary affiliations to Gaagudju had come through a variety of sources: descent, marriage, common life history. It appears that after approximately 1930 Amurdak and Giimbiyu were no longer commonly used by the members of this second group having primary affiliations to these languages. Instead they made greater use of Gaagudju. This is evidenced by the fact that the children of these people born after approximately 1930 did not acquire competence in their parents' primary languages, Amurdak or Giimbiyu, but instead learnt their parents' secondary language Gaagudju. Gaagudju continued to be actively used on the buffalo country until the late 1950's. One of my Warray consultants who married the son of an Amurdak woman in the early 1950's acquired some partial facility in Gaagudju from her mother-in-law (she did not learn Amurdak at all).

It is more difficult to estimate the usage of Gaagudju in Oenpelli. There was a small group of speakers with primary or secondary affiliations to Gaagudju until the mid 1960's. This group had no direct descendants. However one man born in the mid 1940's who had very

close life history connections with this group, has a limited partial knowledge of Gaagudju. Also my principal consultant made some use of Gaagudju with this group after her return in the late 1950's. As such it would appear that Gaagudju continued in some limited usage in Oenpelli until the early 1960's.

## 1.2 Previous Work.

Unlike most areas in Australia there is a reasonable body of previous research, both linguistic and anthropological concerning this area. The oldest of these, and the most directly relevant to the present research, is Spencer's 1914 "Native Tribes of the Northern Territory of Australia". This work includes material on many Aboriginal groups in the Top End, but by far the largest amount of information is concerned with the people who were gathered at Oenpelli when Spencer spent two months there in 1912 as a guest of Paddy Cahill.

Given the difficulties of dealing with Gaagudju, the material that Spencer gathered is on the whole well transcribed, and as far as I can determine, is largely accurate. It has been invaluable as a prompt for vocabulary items and provides a wealth of anthropological and cultural information about the area. I have also examined Spencer's fieldnotes, held in the Museum of Victoria. These notes contain additional information which was useful in clarifying certain points.

Most unusually for any Aboriginal language in Australia, some professional linguistic work on Gaagudju was undertaken by Christopher Court, Arthur Capell's research assistant, in 1963. This material is of good quality. However it consists largely of basic paradigmatic and vocabulary items, which had to be re-checked, so none of it has been directly used.

The Berndts have provided a major body of anthropological and linguistic materials on the region, as a result of their fieldwork from 1949 onwards. Two of their works are of particular significance. Their 1970 "Man, Land and Myth" study of the Gunwinjgu people of Oenpelli, though not directly relevant to the Gaagudju, provides a basic reference point for discussion of the systems of social organisation in the area. Their 1989 collection of myths "The Speaking Land", contains a large amount of material concerning the northern Kakadu - Oenpelli area.

The anthropological and historical material gathered by Keen and others in the mid - late 1970's in connection with the Alligator Rivers Stage II land claim (especially the Claim Book) has been a major source for information on land tenure systems, location and history of various groups, place names and religious/mythological information.

The present work has aimed very much to build on the work undertaken by all of these researchers and consequently owes a great debt to them.

## 1.3 Consultants.

There were only two people who had a reasonable fluency in Gaagudju during my fieldwork. One of these was my main consultant,



Peggy Balmana of Oenpelli. Peggy was born in Oenpelli in approximately 1930, but her parents moved to the buffalo country soon after. She returned to Oenpelli around 1958 and has lived there since that time. Gaagudju was one of Peggy's main languages in her childhood and youth. It was not however a primary language of either of her parents. Her father had a primary affiliation to Mengerrdji (a dialect of the Giimbiyu language 1.4). Her mother had a primary affiliation to Gunwinjgu. Gunwinjgu is now her main language, and has been since at least the time of her return to Oenpelli. In addition to these Aboriginal languages, Peggy also speaks a "heavy" Kriol dialect, which was used in the buffalo camps.

Peggy's father had a secondary affiliation to Gaagudju through his mother. Like her father, her stepfather also had his major language affiliations to Gaagudju and Giimbiyu (the respective ranking of his two affiliations is uncertain). However it appears that Giimbiyu had only a very limited use in Peggy's family, as she has a very limited and largely vocabulary partial knowledge of it. Rather, Gaagudju was the "Alligator Rivers" language used within her family. As discussed in (1.1) this pattern of use of Gaagudju is found with other people whose primary affiliations were to Giimbiyu, and to Amurdak.

While Gaagudju was one of Peggy's main languages in her early life she has had little opportunity to use it for many years, especially since her return to Oenpelli. This has naturally affected her command of Gaagudju, and her language use showed some of the effects which are typically taken to characterise language death (cf. Schmidt 1985). Language death effects were most noticeable in the following domains.

- (1-1)
- a). The dictionary is small, containing approximately 870 nominal and verbal stems, and particles.
  - b). There was apparently mother-in-law language *ma'gaalmurdu*, but Peggy did not know this register.
  - c). Peggy had a lesser facility at recognising Gaagudju forms from Spencer's "Native Tribes", than the other fluent Gaagudju speaker, Little Dolly Yarnmalu.
  - d). Peggy was initially uncertain of the class membership of some uncommon nouns (6.4).
  - e). Peggy was uncertain of the correct conjugational forms for uncommonly used verbs, and uncertain of the less frequent tenses, such as the Conditional (7.7.4), for somewhat less obscure verbs.
  - f). Peggy showed considerable uncertainty as to the correct patterns for formal detransitivisation (9.6.1).
  - g). Peggy did not generally give texts.

These effects, other than (1-1g), may all be viewed as reflections of a single underlying language death effect: the loss of lexicalised information which is less frequently accessed. (1-1a - c) involve the losses of root and stem forms in the lexicon. (1-1d - f) involve the loss of forms which are paradigmatically stored within the lexicon. The major distinction in bound relationships in Gaagudju is that between

unproductive lexicalised affixal patterns on the one hand, and productive syntactic clisis patterns on the other hand (4.2). The morphological patterns in (1-1d - f) are all unproductive affixal patterns. The very limited amount of text material relates both to the loss of lexicalised information, and to the lack of opportunities for use of the language. Peggy was generally confident in her usage of commonly accessed lexicalised information. She was also generally confident in usage of productive syntactic clisis patterns.

The description of Gaagudju presented here is obviously constrained by the lacunae discussed here. The database consists largely of elicited material, which has obvious limitations. In view of these problems, material given by Peggy was as far as possible checked, either with another speaker, or with Peggy herself after some reasonable time had elapsed. All paradigmatic material has been checked, and as far as possible material relating to construction types has been checked. In this respect it is worth noting that Peggy had a strong general concern for accuracy. This concern for accuracy was not confined to linguistic material, but also extended to life history and social organisation.

Peggy has an extensive knowledge of the whole northern area of Kakadu National Park and the Oenpelli area, owing partly to her many connections with the people traditionally associated with the area, and partly to her employment in the buffalo industry in the northern Kakadu area and further to the west. She provided much of the information on which the descriptions of systems of social organisation are based.

The only other fluent speaker of Gaagudju was Little Dolly Yarnmalu, who was born about 1925. Little Dolly was probably the most fluent speaker of Gaagudju. However she died in 1988, and it did not prove practical to work with her as a primary consultant. I was able to check most vocabulary items and the basic patterns of nominal and verbal inflection with Little Dolly. She also provided some information on social organisation and confirmed some of the information on social organisation provided by P.B.

My other major consultant was Big Bill Na'yiidji, who was born about 1920. Though Big Bill has a primary language affiliation with Gaagudju by descent, he is only a partial speaker, having spent most of his later childhood and youth with Amurdak speaking relatives of his mother. Despite the fact that he does not speak Gaagudju, Big Bill is certainly the most knowledgeable person about the area of the Park to the north of *Namarr-ga'naangga* (Cannon Hill) and along the East Alligator River. He provided most of the anthropological and cultural information about this area. He also provided considerable information about the Amurdak speaking peoples associated with the area from the eastern side of the East Alligator to *Awun'barna* (Mt Borrodaile). He is a fluent speaker of Amurdak.

In addition to these major consultants I also consulted the following people on a more restricted basis.

Nelson Mulurrinj

Nelson is a partial speaker of Gaagudju from his FM. He was of great assistance in checking word forms and provided much anthropological information both about the Gaagudju and the Amurdak, which last language he speaks fluently.

Priscilla Girrabul

Though a Gunwinjgu speaker by primary affiliation Priscilla has a long life history association with Gaagudju and Giimbiyu speakers and provided anthropological and linguistic information on both groups.

Jonathon and Lydia Maralngurra

The Maralngurras have a detailed knowledge of the Madjin'bardi (Mudginberri) - Ngalalil Marrawolngay (Cahill's Crossing) area and provided much anthropological and cultural information on this area.

Apart from these people I also consulted the following people who were partial speakers, or who have some knowledge of the area under consideration - Minnie Analam, Daphne Gaden, Toby Gangele, Talking Billy Gunburnukka, Frank Namaworn.godj, Carla Ngalyorrun, Nancy Snape and Doris White.

#### 1.4 Languages Spoken in the Area.

The nature and constituency of "language communities/tribes" and their realisation in the actual world of speakers in Aboriginal Australia is a subject of considerable debate (e.g Peterson 1976). The papers most directly addressing the question of language groups are Dixon (1976) and Rigsby & Sutton (1980-82).

Dixon (1976 : 214) in his discussion of the situation in the Cairns rainforest area distinguishes between two senses of the word *language*, which he calls language<sub>1</sub> and language<sub>2</sub>. Of language<sub>1</sub> Dixon says "people identify themselves as speakers of a particular language<sub>1</sub>, and make judgements as to whether their way of speaking is 'the same language<sub>1</sub>', or 'a different language<sub>1</sub>' from another's mode of speech". Of language<sub>2</sub> he says "The second sense is the technical use of linguistics - two modes of speech are regarded as dialects of a single language<sub>2</sub> if they are mutually intelligible. A wider definition of 'language<sub>2</sub>' is that it involves a chain of mutually intelligible dialects - there need not be necessarily be intelligibility between dialects at the extremes of the chain,".

Rigsby & Sutton (1980-82 : 18) in a partial critique of Dixon's views agree that the language<sub>1</sub> concept is a useful and applicable concept - "the crucial feature for defining a language, no matter how many varieties it includes, is the intention of its speakers to speak the same language". In respect of this definition Rigsby & Sutton add an important qualification

(ibid) "we have been treating the intention to speak the same language as a constant, all or nothing factor. This is probably an ethnographic oversimplification."

However they reject Dixon's language<sub>2</sub> concept on the grounds of inherent problems within the concept of mutual intelligibility. They state "Intelligibility then is not a simple function of the formal structural similarity of two codes or code-varieties, but it reflects individual language competence resulting from the interaction of first- and second-language learning, cultural values and attitudes towards language and language use, and personal abilities. Codes are not intelligible to each other; rather, they are intelligible to people." (ibid : 18). The evidence they provide concerning language knowledge and use in Cape Keerweer, and that provided by Wolff (1959) concerning intelligibility in the Delta area of Nigeria, clearly show that speaker determined intelligibility is not in all cases related to grammatical and lexical commonalities. Politically determined attitudes to other people are an inherent factor in determining the intelligibility of their languages.

Nevertheless while there are clearly major problems with the language<sub>2</sub> concept in relation to mutual intelligibility, it appears to me that Dixon was raising an important issue. Taking his Cairns rainforest area as an example, there is for the purposes of linguists, a salient difference between the relationship of Ngajan to Mamu (a fellow "Jirrbal" dialect) and its relationship to Yidiny (a different language<sub>2</sub>). It appears to me that it is necessary for any technical theory of what a language is, to take cognisance of this difference. This is especially the case as boundaries between language<sub>1</sub>'s are generally like either the Ngajan to Mamu one, or like the Ngajan to Yidiny one. That is language<sub>1</sub>'s either share most of their grammar and lexicon, or they show significant grammatical and lexical differences. Dixon (1980 : 36 - 37) discusses the range of differences in grammar and lexicon in Aboriginal Australia for language<sub>2</sub>'s.

As Dixon's language<sub>2</sub> term is essentially a technical term, it would appear to me that it should not be defined in terms of speaker's perceptions. Rather it should be defined in terms of linguists' perceptions. I would argue that a language<sub>2</sub> should be defined in terms of the lexical and grammatical commonalities between modes of speech. The precise percentage of lexical commonalities, and the degree of the grammatical commonalities require further research. Provisionally, Dixon's (1980 : 36) pointer to a minimum of 70% common vocabulary appears to be a good baseline requirement for lexical commonalities. Grammatical commonalities are somewhat more problematic, but presumably a high percentage commonality between inventories of grammatical systems would be required. There may be some problematic cases, but Dixon (1980 : 37) argues that all apparently anomalous examples are resolvable.

There are obvious connections between this definition of language<sub>2</sub> and that of Dixon's language<sub>1</sub> or Rigsby & Sutton's *language*. Firstly any language<sub>1</sub>'s that belong to the same language<sub>2</sub> are technically dialects. Secondly, situations where people say that they are speaking the same language<sub>1</sub>, when they are speaking different language<sub>2</sub>'s, such as

Chinese, are highly unusual. Normally people will only say that they are speaking the same language<sub>1</sub> if they speak the same language<sub>2</sub>.

In the technical linguists' sense the following languages and dialects were spoken in the area (Map 2).

### 1. Gaagudju

The available material on Gaagudju does not show any significant dialectal variation. The speech of my consultants, whether fluent or partial speakers, showed great uniformity. There were only a few lexical variations. There is however some evidence in the material gathered by Spencer and the Berndts, which suggests the existence of dialectal variation in Gaagudju. Spencer (1914 : 277 & 323) refers to a language called Watta ~ Wetta. Berndt & Berndt (1989) refer in a couple of stories to a language called Wada. These three names are presumably variant spellings of a single language name.

Berndt & Berndt (1989 : 35) quote their Gaagudju consultant Fred Wa'rdiirdi as saying "Wada language, close to Gagadju." There are a number of place names which are associated with the Wada language in the stories from Fred Wa'rdiirdi in Berndt & Berndt (1989). Some of these place names are identifiable, and they are all located in territory around Munmalarri, which is owned by the Djindibi Gaagudju clan. These facts suggest that the Wada language name refers to a western dialect of Gaagudju associated with the Djindibi Gaagudju clan. This hypothesis cannot be checked, as there is no linguistic material recorded from Djindibi Gaagudju speakers. Only one word of Wada is recorded in the sources. Spencer (1914 : 323) has a Wetta form *wombotta* 'what is it?'. None of my consultants recognised this item.

### 2. Amurdak

This language was spoken around the lower half of Cooper Creek, to the north of Oenpelli. It includes the Gidjurra and Urrirrk dialects. The Gaagudju call the language A'moordiyu (hence Baldwin Spencer's term Umoriu). The Gunwinjgu call it Wardadjbak (hence Berndt & Berndt's term Woraibug).

### 3. Giimbiyu

This word is the Gaagudju name for the Erre, Mengerrdji and Urningangk peoples and their languages. In Gaagudju, the name is analysable as consisting of the noun root *giimbi* 'stone, rock, hill', and the Indirect Object enclitic =*yu* (8.6). The Indirect Object enclitic appears to have a quasi-genitive function (8-144). The name appears to be best translated as something like 'associated with the stone country', a reflection of the location of the Giimbiyu peoples in the escarpment country as opposed to the location of the Gaagudju largely on the plains. This language is now extinct, but I have examined recordings in Erre, Mengerrdji and Urningangk and recorded some vocabulary from speakers

with a very limited partial knowledge. I can confirm that these three names refer to dialects of the one language. As there is no accepted term for the overall language I have chosen to use the Gaagudju term as it does refer to all three. Spencer spells the Gaagudju name as Geimbio.

Consultants gave differing versions of the name of the second dialect as Mengerr ~ Mengerrdji. I suspect that Mengerr was the original form of the name, but it is most commonly now known as Mengerrdji, and so it is referred to by this version. The Amurdak versions of Erre and Mengerrdji are Arra and Mangarryu respectively.

#### 4. Gonbudj

This language is extinct and nothing is known of it. The language was apparently alternatively known as Ngonbudj and Ba'rdaaya. Ba'rdaaya may have been the Gaagudju name for the language as the word Ba'rdaaya is pronounced [bə'ɖa:iə] showing an [ə] vowel, which is attested only in Gaagudju and Umbugarla.

#### 5. Gunwinjgu

This language includes Gunwinjgu proper, Gundjeyhmi, Mayali and a number of eastern dialects spoken towards Maningrida.

#### 6. Limilngan

This language was spoken around the lower Mary and Wildman River areas. It is also known as Minitja/Manidja and Menassie.

#### 7. Ngaduk

This language is extinct and nothing is known of it. Place names in Ngaduk territory are generally compatible with the phonotactic patterns of Gaagudju. This suggests that it showed areal similarities to Gaagudju, at least. I have also recorded the language name as Ngarduk, with a medial retroflex stop.

#### 8. Umbugarla

This language includes Umbugarla proper and Ngomburr. It also appears that it may have included Bugurnidja (Evans : p.c.). The relationship between this language and the term Magabalal is presently uncertain. It appears to be used mainly by Gundjeyhmi people and its reference for them is not clear to me. My principal consultant P.B. said that Magabalal was the Gundjeyhmi name for Umbugarla and Ngomburr people. She stated that the Gunwinjgu equivalent of Magabalal was Gun-garrigen. I was not able to confirm this information more generally.

The relationship between these 8 linguists' languages and the system of language names used by Aboriginal people is not

straightforward. A comparison of Maps 1 and 2 reveals only the expected correlation that there are no cases where technically distinct languages are combined under a single socially defined name. Otherwise the relationship between the Aboriginal language names and the technical languages is quite variable. Most language names refer to what in technical terms would be regional dialects. In some cases there is no term for the overall technical language (e.g. the overall Gunwinjgu language, the overall Umbugarla language).

In some areas of Australia there are well developed Aboriginal linguistic theories which take into account both social and technical linguistic considerations. The best described example of this type is that of the Yolngu people of north-eastern Arnhemland (initially by Schebeck 1968, and since then by a considerable number of anthropologists and linguists). The Yolngu theories involve a number of different levels of linguistic categorisation defined by both social and technical factors. These different levels of categorisation are both related to and partially defined in terms of various social groupings by the theories.

There does not appear to be any equivalently well developed Aboriginal linguistic theory in the northern Kakadu - Oenpelli area, or indeed in western Arnhemland more generally. Many of the languages/dialects are either extinct or nearly so, and therefore it is not possible to obtain a wide range of views as to how the language names were viewed by speakers. As far as I could determine, my consultants generally treated all language names as being of equal rank. The only clear case where a superordinate term based on technical criterion exists is with the Gaagudju term Giimbiyu, which refers to the overall Erre - Mengerrdji - Urningangk language. However quite apart from the fact that this term belongs to another language, the generality of the evidence shows that this superordinate term is a secondary categorisation. For purposes such as succession to land (Keen 1980a : 83 - 84) and mythological associations of land and language (Berndt & Berndt 1989) Erre, Mengerrdji and Urningangk are treated as separate languages. It is also possible that Amurdak is a superordinate term for the language involving Amurdak proper, Gidjorra, and Urrirrk. However I could not be certain of this on the basis of my own fieldwork. Further research is required on the reference of language names in the overall Amurdak and Gunwinjgu groupings.

The only other consistent correlate of the Aboriginal language names, apart from the fact that they are constrained by technical language boundaries, is that they are associated with reasonably well defined regions. The sizes of these regions vary considerably. However when looked at as a system of oppositions, the language names do serve to demarcate a system of regions. I will return to this point in my consideration of land tenure systems in (2.4). With respect to the present discussion it would appear that Aboriginal language names in this region should be understood as having a territorial component in their meaning.

### 1.5 Relationships of the Languages.

Gaagudju and Gunwinjgu are members of the Australian language family, and as such are related, though only very distantly. Umbugarla also appears to be a member of the Australian language family, though again the connections with Gaagudju and Gunwinjgu are very distant. The relationships of Amurdak and Limilngan are presently uncertain. However there is nothing in the limited material on either of these languages which would suggest a relationship with Gaagudju. In areal terms Gaagudju would appear to be most similar to Umbugarla. Both Gaagudju and Umbugarla tend to reduce unstressed vowels to [ə], and both have very complex, lexically controlled, noun class systems. Gaagudju also shares some areal typological features with Gunwinjgu, such as direction marking by prefixes to the verb stem. Our knowledge of the other languages is too limited to comment on any possible areal sharings.

### 1.6 Place Names.

The situation with respect to place names in the northern Kakadu - Oenpelli area shows one major difference from that generally recorded in Australia. Elsewhere in Australia adjacent languages tend to show virtual identity at a surface phonological level (Dixon 1980 : 125). Consequently it is not normally possible to assign a place name to a particular language simply on the basis of its phonological form. However in the northern Kakadu - Oenpelli region, the seven languages which were defined for technical linguistic purposes in (1.4), show considerable surface phonological diversity. As such it is, in most cases, possible to determine which language a place name belongs to. The relevant parameters of surface phonological differentiation are as follows.

1. Amurdak permits words to begin with a vowel and to end with consonants including clusters. It appears that Amurdak has a three vowel system: /i/, /a/ and /u/. It does not appear that Amurdak distinguishes between two series of stops.
2. Gaagudju in general requires words to commence with a consonant and shows a strong preference for vowel final words. The only common final consonant is /rr/. Vowels, other than the stressed vowel, tend to be reduced and centralised. Gaagudju does not distinguish between two series of stops.
3. Giimbiyu permits words to begin with a vowel and to end with consonants, including a larger range of consonant clusters than any other language. Giimbiyu has a 6 vowel system, with an additional vowel /oe/, not found in the other languages. The exact phonetic nature of this vowel is uncertain. It appears to have been a mid central tense vowel. My two



consultants, with a partial knowledge of Giimbiyu, generally replaced it with [ə]<sup>1</sup>. Giimbiyu appears to distinguish two series of stops.

4. Gunwinjgu in general requires words to commence with a consonant, though some dialects including Gundjeyhmi have some vowel initial prefix forms. Words in Gunwinjgu may freely end in consonants, including a small class of consonant clusters. Gunwinjgu distinguishes two series of stops and has a glottal stop.

5. Limilngan permits words to commence with vowels and to end with consonants, including some consonant clusters. Limilngan distinguishes two series of stops and has a palatal lateral phoneme /lj/, not found in any other language in the area. It appears that Limilngan has a three vowel system.

6. Umbugarla permits words to commence with vowels and end with consonants. It appears to distinguish two series of stops. It also appears to reduce unstressed vowels.

In European-based historical linguistics place names are mentioned as a class of lexemes which tend to resist both alteration and replacement. Therefore the possibility that place names in the northern Kakadu - Oenpelli area have a significant evidentiary value in determining land - language associations requires examination.

It does appear that place names form a class of lexemes resistant to alteration in the northern Kakadu - Oenpelli area. To take a practical example, the two consultants who knew some Giimbiyu vocabulary pronounced the lexeme 'hand' as /wirnmiyurr/, whereas on taped material full speakers pronounced it as /wirnmiyoerr/ with the /oe/ vowel. However the same two consultants pronounced two place names as /woelk/ and /injdwowoerrkkoerroem/ with the /oe/ vowels preserved. Similarly Gunwinjgu speakers, who do not normally use vowel initial words, preserve Amurdak and Giimbiyu place names with initial vowels.

On the other hand it is clear that place names do not form a class of lexemes which are necessarily resistant to replacement. There is at least one well documented example of considerable replacement from the Top End. In the Finnis River area to the south of Darwin, there was extensive replacement of Gungarakayn and Wajigiyn place names by Marranunggu place names within historic times (Layton & Williams 1980). Replacement also appears to have occurred in the Eva Valley area north-east of Katherine (F. Merlan : p.c.). In both cases the replacement followed the movement of the survivors of the original population towards and into centres for European contact, such as Darwin and Katherine.

The history of the northern Kakadu - Oenpelli area shows considerable similarity to that of the Finnis River and Eva Valley areas.

<sup>1</sup>A vocalic contrast of this nature occurs elsewhere in Australia. In the Daly River area Gamu, Matngele and MalakMalak contrast these two vowels, /oe/ and /u/. These two vowels are auditorily very similar in these languages. It also appears that a similar contrast is found in certain of the Wik languages spoken around Aurukun in Cape York.

As in these two areas there has been extensive movement of the survivors of the original population, in this case to the western buffalo country and Darwin. There has also been a significant westward movement of Gunwinjgu speaking people into Oenpelli since at least the 1930's. However the picture for the northern Kakadu - Oenpelli area is complicated by the presence of Oenpelli itself. This was a centre for European contact and attracted people, including survivors of the original population.

The situation in the northern Kakadu - Oenpelli area is thus more analogous to the overall situation of Darwin or Katherine and their hinterlands, than it is to either the Finnis River or Eva Valley, both of which lack centres for European contact. Taking Darwin as an example, it is the case that the original Larrikiya owners of Darwin have been much reduced in population, and that there has been extensive movement of Aboriginal people into Darwin. However the Darwin area is still identified as Larrikiya by all Aboriginal people. The fact that the remaining Larrikiya people have largely stayed in Darwin has been an important factor in the maintenance of this identification. It is in heavily depopulated areas of the hinterland, such as the Finnis River, that the greatest uncertainties concerning identification of traditional ownership, and consequent possibilities for replacement have arisen.

Similarly it is in the heavily depopulated areas further from Oenpelli such as the Wildman River - South Alligator River region that uncertainties and possibilities for replacement have arisen. In Oenpelli itself and its immediate hinterland there has been much less possibility for replacement as there has always been a group of survivors of the original populations resident at Oenpelli. Consequently it is reasonable to view evidence from place names in Oenpelli and adjacent areas as having considerable evidentiary value in determining previous land - language associations.

This should not however be taken to imply that the evidence from place names is in all cases without problems. While place names are resistant to change, they are not completely resistant. Place names may be altered phonologically to fit the phonotactic patterns of another language. Thus the Giimbiyu name *injdjawanjdjaw* is often altered to *injdjawanjdjawa* to conform to Gaagudju phonotactic patterns (Gaagudju does not permit final /w/. 5.3.1). Similarly Gunwinjgu speakers normally avoid syllable final clusters which are not permissible in Gunwinjgu (e.g. Giimbiyu *Arrmarnd* -> Gunwinjgu *Arrmarnda*; Giimbiyu *Urningangk* -> Gunwinjgu *Urningak*). Alternatively if a place name is meaningful, the meaning may simply be expressed in another language. Thus the "chest dreaming" which in Giimbiyu is *ulernk-u-yandj* (*ulernk* 'chest'), is frequently named as *nga'daambirr*, the Gaagudju word for 'chest'.

These problems are fairly clearly problems relating to the recent extinction of the Giimbiyu language and the succession of other language groups. However not all problems involving place names can be so analysed. There are two examples of place names, which linguistic evidence would indicate belong to a particular language, being found in areas which from the evidence both of consultants and of the other place

names in the areas, are associated with another language. In neither case would it appear that these place names result from the effects of language succession.

The first example involves the place name for Cannon Hill *Namarr-ga'naangga*. This name appears to be a partially analysable compound involving the Gaagudju lexeme *ga'naangga* 'high country' (there are other examples of partially analysable compound place names in unambiguously Gaagudju territory). Not only is the place name partially morphologically analysable in terms of Gaagudju, it also takes a Gaagudju stress pattern, and the third vowel shows the Gaagudju tendency to reduce unstressed vowels. The name is therefore almost certainly Gaagudju, yet the remainder of the place names in the area are unambiguously Giimbiyu, and evidence from consultants shows that the area was historically associated with the Giimbiyu language. However my consultants have consistently denied that *Namarr-ga'naangga* is the Gaagudju version of an original Giimbiyu name, unlike the *injdjawanjdjaw* example previously given.

Kesteven (1984 : 53) gives a second example of the same type. The hill to the south-west of Oenpelli is called *Arrguluk*. This name falls within acceptable Giimbiyu phonotactic patterns, but does not fall within acceptable Gunwinjgu phonotactic patterns (it is vowel initial). However there is apparently a place called *Arrguluk* in the Nabarlek area, which is traditionally associated with the Gunwinjgu language. Kesteven suggests that this may be explained by positing Giimbiyu as the original language of the Nabarlek area, with a subsequent alteration of language association consequent on the westward migration of Gunwinjgu speakers. However as we have seen the overall evidence does not support the view that the undoubted westward movement of many Gunwinjgu speakers has in fact had any effect on the land-language associations made in the immediate area of Oenpelli.

I would argue rather that the occurrence of the Giimbiyu name *Arrguluk* in otherwise Gunwinjgu territory, is parallel to the occurrence of the Gaagudju name *Namarr-ga'naangga* in otherwise Giimbiyu territory. These names are not explicable in terms of historical succession, but rather I suspect require some reconsideration of the nature of land tenure in the area. There are presently no detailed on the ground mappings of clan territories in this area such as have been undertaken in Cape Keerweer by Sutton or around Yirrkala by Williams. The major point of relevance to the present problem from their studies is that both Sutton (1978 : 56) and Williams (1986 : 78 - 80) report that small areas within clan territories may be jointly owned by another clan along with the main clan. It seems likely to me that the occurrence of the exogenous place names under discussion may turn out to be explicable in terms of this type of phenomenon, rather than in terms of historical succession.

## CHAPTER 2

## LAND TENURE SYSTEMS

Land tenure systems in the northern Kakadu - Oenpelli area constitute an area of considerable complexity, as indeed land tenure systems probably do in most, if not all, human societies. Any analysis of these complexities must naturally proceed from a particular perspective or set of perspectives. I have operated principally from the perspectives suggested by Bourdieu (1977). In particular, I have followed Bourdieu in analysing the land tenure systems from a perspective of "strategies", rather than one of "rules". The use of the term "rule" implies that the system can be described in terms of reasonably clear-cut constituents, with any indeterminacies being of marginal status in understanding the system. The system does indeed have a number of reasonably clear-cut constituents, but there are considerable areas of indeterminacy. I am not aware of any evidence which would establish that these indeterminacies are somehow more marginal to an understanding of the system than the determinacies. Consequently I prefer to follow an analysis in terms of strategies, as this accommodates both determinacies and indeterminacies.

Bourdieu describes one important class of strategies as being officialising strategies, whose object is 'to transmute "egoistic", private, particular interests (notions definable only within the relationship between a social unit and the encompassing social unit at a higher level) into disinterested, collective, publicly avowable, legitimate interests.' (Bourdieu 1977 : 40). As we will see, the concept of officialising strategies is helpful in modelling the systems of land tenure found in the northern Kakadu - Oenpelli area (2.3). As indicated, both by Bourdieu's description and by the term itself, strategies imply goals. The goal of strategies relating to land ownership is undoubtedly control over land and its associated resources in many cases. However I do not think that it is the only goal in all situations. In some situations, these strategies are also aimed at success in systems of male status achievement. Status is in itself a complex area, and I will return to it in (2.3).

There are two major systems involving relationships to land in the region. One of these is a system of regional relationships between land and language groups, which is found throughout the area. The other is the clan system, a more localised, patrilineally based, totemically mediated system of land tenure. The clan system is found throughout Arnhemland and in most of the Park. It is not found west of the South Alligator River, with the exception of a single estate. In the areas where it operates the clan system is the primary system for description of land ownership. Owing to the virtually complete depopulation of the areas to the west of the South Alligator it may be regarded, for all practical purposes, as the primary system for the whole region. Consequently I will begin examination of land tenure systems with a consideration of the clan system. I will then turn to consider the more general system of land - language relationships.

## 2.1 The Clan System.

As a point of departure it is useful to examine the nature of the data base concerning the clan system. It will be obvious from the discussion of contact history in (1.1), that the clan system was for most purposes inoperative over most of the region for the greater part of this century. The extent of the population collapse meant that the clan system could only continue in operation with a much less fine grained set of oppositions than would have existed with pre-contact population levels. The migration westwards onto the buffalo country meant that the clan system could only have been of very limited relevance to the bulk of the surviving population. The buffalo industry also significantly altered the economic regimes of the survivors. This was another factor contributing to the very limited relevance of the clan system, which had among its primary functions the management of resources within a hunter-gatherer economy (cf. Williams 1986 : ch6).

The earliest memories of my consultants are from the late 1920's. As such their direct knowledge of the clan system as participants post-dates the essential completion of the transformation of Aboriginal social life in the region by the population collapse, the migration, and the buffalo industry. All the Aboriginal people I have worked with could remember, or work out very quickly, the appropriate kin term for long dead people, even those with whom they only had very limited contact. Similarly, though with less certainty than kinship, it was usually possible to establish people's primary linguistic affiliation. This was partly based on observed usage, and partly on the continuing relevance of land - language associations as a system of more generalised regional identification. Normally it was only for people with whom they had considerable contact, that they could remember clan affiliations with any degree of certainty.

However this cannot be treated solely as the result of the fact that the clan system was inoperative in the northern Kakadu - Oenpelli area. Berndt & Berndt (1970 : 88 - 89) report the same phenomenon from their fieldwork "In many instances a woman did not know the territorial unit (*gunmugugur*) of her wulubulu [great-grandparent] or even of her father's mother, and in a few the same applied mother's mother. This was usually because she could not remember them as individual people". In my fieldwork it did appear that women had a somewhat narrower knowledge of the clan system than men. Nevertheless it was certainly the case that men also had problems remembering clan affiliations, even in some cases of other older men they had known reasonably well.

The problems, both with memory accounts and with the social salience of the clan system, must also be viewed as being related to the general nature of Aboriginal systems for representing and reproducing the past, both the relatively immediate past and the more remote past. As Levitus observes in his discussion of Aboriginal society in the region "Oral tradition, in the sense of historical narratives faithfully passed down through successive generations, does not exist." (Levitus MS : 5). My own fieldwork would confirm this statement.

This phenomenon is by no means peculiar to the Kakadu - Oenpelli region. Indeed it appears to be characteristic of Aboriginal Australia generally. Stanner (1966 : 140) in his discussion of Aboriginal religion makes the following comment "If one could speak of Murinbata tradition at all it had to be as the product of a continuous art of making the past consistent with an idealised present." In the conclusion to their analysis of the Ngalakan oral history of contact Morphy & Morphy (1984 : 475) state "the Ngalakan version of their early history has been transformed over the years by the selection of elements and episodes that were in harmony with their image of themselves at different points in time and which reflected their relationship with the white men who structured so much of their lives - their lives as they live in the present, not the lives of their ancestors."

Merlan in her discussion of the movement of Aboriginal people into European settlements states (MSa : 14 - 15) "What sense, for example, is to be attributed to Aboriginal people's apparent lack of nostalgia and sometimes impatience when asked who may now know about a particular cultural phenomenon : 'All gone, all finished, no more old people', etc? The perlocutionary force is clearly to demand refocusing of attention on the now, the immediate ... western interpreters, by and large, have not yet found a happy way of coming to terms with Aboriginal readiness to abandon past particulars in the interests of sustaining the meaningfulness of an often embattled present."

Running through these comments is a general theme that one of the salient ways that Aboriginal people, no less than other people, view and use the past is as an ideological justification and support for the way they are living their lives now. This is especially true of the concept of the "Dreamtime" which is the ideological basis of traditionally oriented Aboriginal societies. Myers (1986 : 70 & 125) argues that the representation of the "Dreamtime" as an unchanging and unchangeable ordering of the social world is an ideology which has as one of its major functions the mediation between the conflicting drives for autonomy and dominance found in Aboriginal society.

The use of the past in the service of the present is not restricted to the Dreamtime, but is also found in the more immediate historical past, as indicated by the comments previously given. At times it appears that this present-oriented use of the past can extend to virtual deliberate forgetting, as Sutton (1978 : 139 - 140) instances. In the Kakadu - Oenpelli region, the factors of land claims, mining, and royalties have all made land ownership a very political issue, and subject to some degree of use of the past to justify present strategies.

In my fieldwork, I found that the accounts of past patterns of land ownership could vary considerably from consultant to consultant. The topic which produced the greatest range of variation, was that of affiliation to clan. This topic is examined in (2.3). The other topic which tended to produce variations in accounts was the issue of estates belonging to extinct clans. In some cases, the Aboriginal people of the region generally recognise that a particular area of land is an extinct estate, and

that a particular patrilineage has succeeded to it. There are a number of bases for succession (Keen 1980a : 82 - 83).

However in other cases, not all people recognised the existence of an extinct estate. In one case, some of my consultants stated that a particular area was an estate belonging to an extinct clan. These consultants did not claim this area of land as their own. However another consultant, who did do so, stated that the members of the extinct clan had had their estate in another area. In cases of conflicts such as this, the patterns of clan and language associations presented in Maps 1 - 3 follow in all cases from the accounts of consultants who did not make claims to the particular relevant areas. I found that the accounts of these consultants were generally consistent with one another.

Another example involving an estate in the northern Kakadu area, showed a somewhat different pattern. The last recognised member of the clan owning this estate died in 1964, during the period when the northern Kakadu area was largely abandoned (1.1). By the late 1980's, the clan members had largely been forgotten by the Aboriginal people of the area. All consultants agreed that the area had indeed previously been owned by another group, including those who claimed it as theirs in the late 1980's. As far as I could determine, it did not appear that the succession to this estate had ever been openly debated among the Aboriginal people of the region. Nor did it appear in discussing the estate with various consultants, that any of them viewed it as a matter requiring public consideration once it had been brought to their attention. It appeared that the extinction was simply too long ago for a public examination of the succession to be required. In this case the past had ceased to be of relevance to the present, and as such was no longer reproduced.

As a result, issues of this nature, and of others arising in connection with land rights, and of issues that arose in relation to the establishment and management of the National Park, there was a considerable amount of research on the clan system in the Kakadu - Oenpelli area in the period from the late 1960's to the late 1980's. Much of this work involved the people who were also my consultants. However some of it involved people who were of the generation senior to my consultants, and as such it can provide some reference back to the early 1900's. This research is of central importance for the analysis presented here, as it forms the basis for many of the conclusions. Given the central importance of this research, it is desirable to examine its context in somewhat more detail, as this in turn is pivotal to any understanding and evaluation of the research.

The most salient constituents of this context were the continuing "land rights" conflicts, centred on control over land and its associated resources. The most prominent of these conflicts is presented in terms of a conflict between Europeans and Aborigines, focussing on European recognition of Aboriginal land ownership and on European rights of access to various resources (minerals, transport, water, etc). In respect of the presentation of this conflict I would agree with Cowlshaw (1988) that "European" and "Aborigine" are not inherent and invariant

characteristics of persons. Rather they are socially constructed categories, whose meaning and application varies along a number of parameters. This does not prevent them being easily used in the great majority of cases to make a social categorisation with significant concomitants.

There is not the space here to fully examine these categories, their applications or their concomitants. I will merely mention the most obvious factors. In defining Aboriginality, skin colour, "traditional" lifestyle and attitudes, life history associations with "traditional" people, and knowledge of Aboriginal languages are all relevant. People normally regarded as Aboriginal within the classification appear to place greater significance on life history associations than do people who are normally regarded as European. Obviously a more detailed analysis of "traditional" is required in order to present a complete analysis of the contrast. For our purposes we may note that the "traditional" systems of land tenure to be discussed constitute one of the factors involved in determining legitimacy to claims to Aboriginality. In more general terms the number of the factors and their inherently gradient nature means that the application of the terms "Aborigine" and "European" is subject to variability.

In overall terms therefore, the presentation of the most prominent land rights conflict, as being between Europeans and Aborigines must be recognised as a simplification, albeit one that captures an important fact at a more general level of observation. In addition to the European - Aboriginal conflict there are also conflicts within the Aboriginal community over ownership of land and access to resources. In the Kakadu - western Arnhemland region conflicts have not directly focussed on specific land ownership, but have concentrated on access to resources.

It is within this range of contexts, from the more general Aboriginal - European to the more specific internal Aboriginal that much of the material on Aboriginal systems of land tenure has been gathered. This material has tended to focus on determining the legitimacy of claims. The contextual saliency of legitimacy has itself varied considerably. Legitimacy most clearly arises with respect to reasonably specific claims, though naturally specific claims form part of more general claims. Wherever possible statements concerning specific ownership were checked with people who had no strong interest in the area in question.

Legitimacy is determined in accordance with the criterion of traditionality. Traditionality is not usually specifically defined, but is summarisable at its extreme as "unaffected pre-contact systems of social organisation". It is a moot point whether any of the material on land tenure systems satisfies this extreme description. As I have already indicated, there is a considerable body of material on land tenure systems in the northern Kakadu - Oenpelli area. The set of systems described by this material has major elements which derive from pre-contact social systems, and is organised according to principles which derive from pre-contact systems. Effectively it is in accordance with this meaning of "traditional" - viz 'having major organising principles and major structural elements which derive from pre-contact systems' that legitimacy is interpreted.



Apart from the material provided by consultants in the period from the late 1960's to the late 1980's, there is one other major source on the nature of pre-contact systems. This is the material provided by the Berndts, on the clan system relating to Oenpelli and the areas to east. This material focusses on the Gunwinjgu and is based on their fieldwork since the late 1940's. The social life of the Gunwinjgu had undergone considerable transformation by the time the Berndts commenced their fieldwork (Berndt & Berndt 1970). However this transformation was much less radical than that which affected the Alligator Rivers peoples. The Gunwinjgu do not appear to have been affected by population collapse to any significant extent, and significant westward movement of the bulk of the Gunwinjgu population did not commence until the late 1920's. Therefore the Berndts were able to work with a considerable number of people who could report, as direct participants, on the functioning of the clan system when it had been much less affected by the processes of transformation operative throughout the region. The material presented by the Berndts is the other major source for the analysis presented here.

Having examined the nature of the database on the clan system, we may now turn to consider the correlates of the term "clan" within the land tenure systems of the northern Kakadu - Oenpelli region. There are a number of descriptions of the official constitution of clan systems, both generally and with more specific reference to the area we are considering. Berndt & Berndt (1985 : 41 - 42) in their general introduction to Aboriginal social organisation define a clan as "a group of people who claim to be descended in one line from the same putative ancestor or ancestress, not always named and not necessarily in human shape. They may not be able to trace their relationship to one another in genealogical terms, and may not live in the same area; but the clan is virtually always exogamous ... The members of such a clan, particularly the territorial clan, are most likely to be living in the same neighbourhood or the same stretch of country".

In their specific study of the Gunwinjgu people of Oenpelli they make the following statements about clan systems in the area (Berndt & Berndt 1970 : 54) "The bond between a person and his own country is also a bond between father and child. Wherever he was born, a person's 'own territory' is, almost by definition, the same as his father's. The whole region is divided among people whose claims to it rest on patrilineal descent. Other associations are recognised too: for instance, with a person's mother's country (which is also her father's) and with *her* mother's country. ... Each territory is associated with a named unit of patrilineal descent, the *gunmugugur* [gun-mogurrurr] ... Most *gunmugugur* ... are conventionally described as belonging exclusively to one language or another. Actually, in a large number of cases they do not ... some *gunmugugur* are split into two or more groupings connected with quite separate areas."

Keen (1980a : 71) states "Clans are found in the east and south of the region [the northern Alligator Rivers area]. The word "clan" is used to translate the Gunwinjgu and Gundjeyhmi word *gunmogurrurr* ..., the Gaagudju word *nguyukudu*, and the Jawoyn word *mowurrurr*. Such a

group consists of members of one or more patrilineages having common rights in a contiguous area of land including a set of dreaming sites. Each clan has a proper name which applies to the group of members and to the land. ... Each clan is related to a number of other clans in a variety of ways. With some, it shares a common gunmogurrurr name. People may refer to a set of clans with the same name as being different gunmogurrurr with the same name, or as one gunmogurrurr with different countries, or as "different kinds of (the clan name)."

Altman (1987 : 20) in the introduction to his study of the economic systems of the Eastern Gunwinggu states "There are two important social groupings in eastern Gunwinggu society : the patrilineal clan and the band. The patri-clan is a social unit that is clearly recognised and is called *gunnguya* in the eastern dialect. People articulate land ownership primarily in terms of discrete blocks of land with vague boundaries; sites within these estates are jointly owned by all members of particular patri-clans. Members of clans acknowledge common descent, although actual genealogical connections are only known to the grandparental generation of the oldest living clan members."

Levitus (1987 : 31) states "Closely related to the clan, and sometimes used synonymously, is the concept of gunmogurrurr. These are not the same and I wish to keep the two entities separate ... In various cases, gunmogurrurr and clan may be the same, or a number of clans may have the same gunmogurrurr name ... or a number of clans may be said to be different gunmogurrurr even though they have the same name ... The important point here is that between different clans of the same gunmogurrurr or the same name, there may be very great geographical distance and virtually no social relationship."

The evidence that I will present argues that Levitus is essentially correct. A clan consists of a patriline or small set of patrilines, who own a largely contiguous area of land. Thus defined, a clan may share a gunmogurrurr name with one or more other clans. This definition of clan requires further examination, particularly with respect to delimiting the potential size of a "small" set of patrilines. The Mirarr grouping found in the Cahill's Crossing - Mudginberri area (Map 3) is a good test case for this point. At one extreme, this grouping could be analysed as consisting of five separate clans, which are distinguished by language and territorial associations. At the other extreme, it could be analysed as consisting of a single Mirarr clan, which just happens to involve people associated with a number of different language groups and particular sub-areas of the total clan territory. Alternatively it could be described in terms of a variety of analyses, which are intermediate between these two extremes.

In order to choose among the various analyses, it is necessary to examine the construction of landowning groups in the region more closely. There are four systems which are publicly acknowledged as being relevant to the constitution of landowning groups in the region.

- (2-1) The primary gun-mogurrurr system of names  
 The secondary system of names, known as igurumu in  
 Gunwinjgu  
 The Aboriginal language name system  
 Marriage patterns

As we will see the intersection of the gun-mogurrurr name system and of the Aboriginal language name system is sufficient to define a clan for most purposes in the northern Kakadu - Oenpelli region (though not more generally in Western Arnhemland). The other two systems, the secondary igurumu names and marriage patterns, also generally mark the same groups that are picked out by this gun-mogurrurr/language intersection. As such they also function to define or index the clan. The major gun-mogurrurr system of names has itself a variety of names in the languages of the area. These names are listed in the following table.

(2-2)	Amurdak	<i>i'wurumu</i>
	Eastern Gunwinjgu	<i>gun-nguya</i>
	Gundjeyhmi/Western Gunwinjgu	<i>gun-mogurrurr</i>
	Iwadja	<i>namanadj</i>
	Jawoyn	<i>mowurrurr</i>

This system is most commonly known as the gun-mogurrurr system and I will continue to refer to it as such. The Gunwinjgu name for the system of secondary names, *igurumu*, is a borrowing into Gunwinjgu of the Amurdak term *i'wurumu*, which we have just observed is equivalent in meaning to *gun-mogurrurr* in Gunwinjgu. As far as I am aware the secondary name system does not itself have a specific name in any of the languages apart from Gunwinjgu. One of my Amurdak consultants called the gun-mogurrurr names "big names" and the igurumu names "little names", but this appeared to be an idiosyncratic, as opposed to a linguistically systematic distinction.

Berndt & Berndt (1970 : 54) provide the following information on the secondary names "Each territory is associated with a named unit of patrilineal descent, the *gunmugugur* [gun-mogurrurr] ... In turn, each of these is linked with another name that is much less widely known. This is the *igurumu* [igurumu] or *ngwoia* [gun-nguya] (Eastern Gunwinggu), a stylised exclamation that is used also in ritual invocations and is therefore sometimes said to be bigger, more important, than the *gunmugugur* name." According to my consultants the secondary names should also be used when someone sneezes. Keen (p.c.) reports that they should be cried out when someone is in danger. The significance of these usages requires further consideration.

Table 2.1 shows how the gun-mogurrurr name system, the secondary name system and language affiliation intersect. The secondary name system is less well known than the gun-mogurrurr name system, and I was unable to elicit these names for a number of groups. It may be observed that there is a general congruence between the language based

Table 2.1 : Gun-mogurrurr, Language and Secondary Names.

<u>Gun-mogurrurr</u>	<u>Language</u>	<u>Secondary Name</u>
Bunidj	Amurdak	Arnbalarr, Im'bini
Bunidj	Gaagudju	Mananawa'ngaardi, Galba'rraarru, Mana'buudja
Dadjabagu	Gundjeyhmi	
Djindibi	Amurdak	Marni'yalga
Djindibi	Gaagudju	Garla'ngeebu
Ilugidj	Ngaduk	
Madjawarr	Gunwinjgu	Nabamgarrk, Djambunu
Mandjurlngunj	Gunwinjgu	
Mandjurlngunj	Mengerrdji	Maga'lirra
Mandjurlngunj	Ngaduk	Muwarl?
Mani'lagarr	Urningangk	Winjbet, Manila
Mirarr	Amurdak, Gunwinjgu (?)	Nabamgarrk, Djambunu
Mirarr	Erre	
Mirarr	Gaagudju 1 & 2	Gama'daagu
Mirarr	Gundjeyhmi	Ginj'mardamba
Mirarr	Gunwinjgu	
Mirarr	Urningangk	
Mundarn	Amurdak	
Murrwan	Gunwinjgu	
Murrwan	Urningangk	
Ulbu	Amurdak	Injgurr, Wadjarra

divisions of gun-mogurrurr names and the secondary names. The only exception I am presently aware of involves the Bunidj grouping. Historically there were three Bunidj Gaagudju patriline and two Bunidj Amurdak patriline. The three Bunidj Gaagudju patriline all took the secondary names listed as Bunidj Gaagudju. One of the Bunidj Amurdak patriline took the names listed as Bunidj Amurdak. However one of my consultants stated that the other Bunidj Amurdak patriline took the Bunidj Gaagudju secondary names. I was not able to check this with other consultants.

While in most cases, the secondary names are individual to the gun-mogurrurr/language grouping involved, there is one confirmed example of the secondary names being shared by two clans. The Madjawarr Gunwinjgu and Mirarr Amurdak share the secondary names Djambunu and Nabamgarrk. I have not investigated the significance of this commonality in detail. Nevertheless it is worth noting that the two clans do appear to have been closely linked in historic times, to the extent that certain observers have incorrectly given the Mirarr Amurdak clan a territorial affiliation adjacent to that of the Madjawarr Gunwinjgu (see Map 3 for their non-adjacent locations).

Not only do language based gun-mogurrurr divisions show a general correlation with secondary names, they also show a general correlation with expected marriage patterns, that is they function as exogamous units. Berndt & Berndt note with respect to marriage (1970 : 57) "the first Gunwinggu marriage rule: *gunmugugur* are, ideally, exogamous - people of the same *gunmugugur* should not marry. However, Gunwinggu ... acknowledge that a few *gunmugugur* with the same name are actually separate units, attached to different territories." The following table shows some actual marriages of people from the large Mirarr grouping in the Crossing - Mudginberri area. It appears that these were the first marriages of the women involved. They date from around WW1 or a little later.

(2-3)	Mirarr Erre	Mirarr Gaagudju 2	Mirarr Gundjeyhmi	Mirarr Gaagudju 1
		┌──────────┐	┌──────────┐	
	Y. (f) =	M. (m)	Ng. (f) =	N. (m)    M. (f) = M. (m)

Unless it is to be assumed that the still expressed norm of clan exogamy was somehow suspended, these marriages would appear to establish that the groupings defined by the gun-mogurrurr/language intersection functioned as exogamous units with respect to one another.

Therefore the weight of evidence in this area would argue that the groupings signalled by the gun-mogurrurr/language intersection should be described as clans. In the northern Kakadu - Oenpelli area, these groupings involve from one to three patriline. The patriline or set of patriline own a particular contiguous area of land (the one exception is discussed in 2.6). They are distinguished by secondary name(s), which they may occasionally share with patriline in another gun-mogurrurr. There

are no confirmed examples of non-contiguous patriline within the same gun-mogurrurr sharing secondary name(s). The patriline(s) identified by the gun-mogurrurr/language intersection function as exogamous units in the manner that is generally described for clans.

## 2.2 The Gun-mogurrurr.

In the preceding section I have argued that the clan as the primary land owning unit in the northern Kakadu - Oenpelli region is most generally distinguished by the intersection of the gun-mogurrurr name system and Aboriginal language name system. However in discussions concerning land ownership people are normally described by their gun-mogurrurr name only (S/he is Bunidj, Mirarr etc). They are not, except in unusual circumstances, described in terms of the appropriate gun-mogurrurr/language intersection (S/he is Bunidj Amurdak, Bunidj Gaagudju), even though these intersections capture their land owning affiliations much more accurately. Given the general importance of land ownership the question then naturally arises as to whether the sharing of a gun-mogurrurr name has any substantive correlates or is merely the result of chance.

The immediate possibility that would suggest itself to anyone who has worked in this area is that the sharing of a gun-mogurrurr name is one of the ways of marking the "company" relationships between clans that are found throughout the area. It is common in this area for consultants to make statements after the following fashion "Gun-mogurrurr X (and Y) they are company for us. We can go and see them and stay with them anytime. We don't need special permission." However there is no evidence that the sharing of gun-mogurrurr names synchronically marks company relationships at any level beyond that of pure chance. The nature and content of company relationships is such that there is little principled reason to expect them to be marked by the sharing of a gun-mogurrurr name. Levitus (1987 : 32) states "the majority of these [company] relationships are not corporate, but personal, they are not relationships between clans, but between individual members of clans." Of those company relationships that do appear to involve some sort of corporate relationship between clans, Levitus (1987 : 33) states "The content of [these] company relations varies greatly." My own research in this area entirely agrees with these conclusions. There is therefore no reason to expect that company relationships should be marked by the sharing of a gun-mogurrurr name.

The one substantive synchronic correlate of the sharing of gun-mogurrurr names is in the inheritance of personal names. Berndt & Berndt (1970 : 55) note "Ideally, all personal names except nicknames come through the *gunmugugur* as personal gifts from immediate paternal relatives in the parents' or grandparents' generations". In this respect and in this area at least, gun-mogurrurr appears to mean any clan sharing the gun-mogurrurr name and not merely one's own clan. Taking the married couple who appear in (2-3) as Ng. (Mirarr Gaagudju 2) and N. (Mirarr Gundjeyhmi). The name Ng, is now held by the BSD of the

original Ng's husband N. The new holder of the name is naturally a member of the Mirarr Gundjeyhmi clan, not a member of the Mirarr Gaagudju clan. Equivalently N. passed his name on to a member of the Mirarr Gunwinjgu clan. In a third example the name of a member of the extinct Mandjurlngunj Ngaduk clan has been passed on to members of the Mandjurlngunj Gunwinjgu clan.

Given the importance that Aboriginal people universally assign to names, this connection between clans with the same gun-mogurrurr name cannot be lightly dismissed. Stanner (1937 : 301) states "Names are not symbols so much as verbal projections of an identity which is well known in the flesh." It is necessary, then, to consider what the sharing of names between individuals signifies. One of the most important variables determining the significance of the sharing is whether the bestowee is a child or an adult.

The cases of bestowal of names on children which I investigated all conformed to the pattern described by the Berndts. The bestowers were always "immediate paternal relatives", and in these cases were in fact the senior paternal relatives. In discussing the bestowal of names on the children, the bestowers were quite explicit that "I gave X their name because it was a Y (gun-mogurrurr) name" (Y being X's gun-mogurrurr). They also quite freely characterised names as belonging to a particular gun-mogurrurr (i.e. as being the property of a gun-mogurrurr). In all the cases concerning the bestowal of names that I investigated, the majority of people's names had been acquired under this system, and for most people it appeared that this was the only system under which they had acquired names.

I encountered only one definite case of the bestowal of a name on an adult across gun-mogurrurr boundaries among people who are associated with the area where the gun-mogurrurr system operates. This particular bestowal was presented to me in terms of recognising common life history between bestower and bestowee. Neither clan nor gun-mogurrurr was presented as a relevant factor in this case. I do not know how frequently this type of bestowal occurs. It does not appear to be common in the area where the gun-mogurrurr system operates, though Berndt & Berndt (1970 : 162) report it as a widening phenomenon by even the late 1960's. This type of bestowal is quite frequent among people who are associated with areas to the west of the Park, and is formalised among them as part of a system of name exchange called *ngirrwat* (commonly cited as *ngirwat* - Elkin 1950).

In this particular case the bestowee naturally had other names which had been given in accordance the gun-mogurrurr pattern of bestowal. Despite the difference in the two patterns of bestowal, the consultant who I discussed this particular case with, appeared to view both patterns of bestowal as examples of an overall giving of names process. The common factor between the two patterns is, I would suggest, common life history. While bestowers formally characterise the usual bestowal process in terms of the gun-mogurrurr, it is also true that the contextual import of this bestowal pattern is to symbolise the closeness of life history ties between close relatives, and concomitantly their unity of action for

many purposes. In the case of children, the relevant life history ties are probably more often between the bestower and the child's parents, than between the bestower and the child. In the former case the bestowal is symbolic of present ties and unity; in the latter case it is symbolic of future ties and unity.

It is in terms of this understanding of bestowal, that is, as a system for symbolising common life history ties and types of unities, that the gun-mogurrurr pattern may be related to other patterns of name bestowal which are found in Aboriginal Australia. The bestowal of Aboriginal names on Europeans, which occurs in this area, can only be understood in these terms. In this context it should be noted that there is also a distinction between the bestowal of the name of a living person and that of dead person. Unsurprisingly the names of living persons can only be bestowed by that person (at least as far as my research indicates). The names of dead persons appear to be viewed in some senses as belonging to a store of names which are relatively freely available to bestowers. At least with respect to women's names, it does not appear that bestowers need to consult the descendants of previous holders for permission to bestow the name on a new holder. There is also a continuum in the strength of the symbolism between the bestowal of one's own name, the most direct connection, through to the bestowal of the name of fairly distant deceased kin of the bestower, the most indirect connection.

The nature of the connections symbolised by the sharing of names within a gun-mogurrurr, but across clan boundaries is less certain. This is chiefly because I do not have direct information on the relevant bestowals. The two cases involving the Mirarr gun-mogurrurr appear to have involved some common life history connections between the original holders and either the bestower or the new holder. The case involving the Mandjurlngunj gun-mogurrurr appears to be somewhat different. The life history information available on the individuals concerned suggests that they did not have particularly strong ties.

As with other areas of the clan system I would propose that the significance of these bestowals is most easily understood if bestowal in general is analysed as a strategy. I argue that it is a strategy which is concerned with symbolising life history ties and unity of action. In most situations the bestowal system does not present great opportunity for manoeuvre. It is normally almost inconceivable that the system should fail to operate in the publicly affirmed manner as this would signal a breakdown in social relations between close kin. However the possibility of bestowal across clan boundaries within the gun-mogurrurr appears to offer an area rich in ambiguities with considerable freedom of manoeuvre. It offers the possibility of symbolically assimilating a range of relationships, which have an apparently variable potential content, to that of a prototypically close relationship. In other words the representation of personal names as being the collective property of a gun-mogurrurr, as opposed to a clan, is in itself a strategy which has as one of its aims/functions to extend the range of relationships which can be symbolised as being close.



While the ownership and bestowal of personal names is a synchronic correlate of the sharing of a gun-mogurrurr name, it does not appear to provide any principled basis for determining how particular clans have come to share a particular gun-mogurrurr name. A high level of sharing of gun-mogurrurr names between clans appears to be characteristic of the Western Arnhemland area generally (cf. Berndt & Berndt 1970 : 237 - 239). It appears to be particularly frequent in the northern Kakadu - Oenpelli area, where of the 22 clans marked on Map 3, 16 share a gun-mogurrurr name with at least one other clan. The sharing of the Mirarr name by 6 clans is to my knowledge a record.

A high level of sharing of primary clan or estate names is not generally characteristic of most areas of northern Australia. Therefore the patterning of primary clan names in the region in general, and the northern Kakadu - Oenpelli area in particular, is unusual. It is not however unique, as there are some other areas which also show a high level of sharing of primary clan names (e.g. North-eastern Arnhemland. Keen : p.c.). The historical origins and synchronic motivations for a high level of sharing of primary clan names vary no doubt from region to region.

In the case of the northern Kakadu - Oenpelli region, the particularly high degree of sharing is suggestive of a recent spread of the gun-mogurrurr name system through the region, and there is in fact some direct evidence that this has been the case. According to Keen (1980a : 80) older members of the Ngomburr and Umbugarla language groups denied that the gun-mogurrurr name system had originally been in use among members of these language groups. They stated that the Gerrmogu and Murumburr gun-mogurrurr names to which they were now respectively assigned had been given to them by Gundjeyhmi people from the east. Ngomburr and Umbugarla are the westernmost groups having gun-mogurrurr name affiliations, arguing that the spread had just reached them in historic times. It should be noted that while systems of clan or estate names are very widespread in tropical northern Australia, they are not universal. The Mangarrayi, for example, have patrilineages as their basic land holding units, but do not make use of a system of clan or estate names (Merlan : p.c.).

I encountered an interesting example of what might be described as the actual spreading of the gun-mogurrurr name system. During the course of a discussion on clans and clan membership in the Kakadu - Oenpelli area (which it should be noted was largely in accord with that given by other consultants), one of my consultants gave gun-mogurrurr names for people known to him, traditionally associated with the Adelaide and Mary River areas, immediately to the west of the Park. I have worked extensively with these people, and there is no evidence for the operation of the gun-mogurrurr name system among them. Not only did the consultant assign these people a gun-mogurrurr name, the names he assigned were names from his area.

The motivation for the spread of the gun-mogurrurr name system, and presumably also the less widely known, secondary igurumu name system is to be understood, I would suggest, in the same terms that

the well known spread of the system of sub-section names is usually understood. Systems of section and sub-section names may profitably be viewed as providing a summary indication to certain very general strategies and behaviours which are officialised in terms of the kin systems. They provide people with a summary indication of their structural kin positions with respect to one another. As such they provide an indication to appropriate interpersonal behaviour and to marriage possibilities. As this is most useful in more general contexts the section and sub-section systems have spread.

The gun-mogurrurr and igurumu name systems provide a summary indication to certain much more specific strategies and behaviours which are also officialised in terms of the kin system. These strategies and behaviours are those concerned with land tenure, which are officialised in terms of patrification (2.3). As with the section and sub-section systems, the gun-mogurrurr and igurumu systems are most useful in more general contexts, though the section and sub-section systems obviously have a much greater range. All these systems are replaced on the most specific level by actual kin relations.

I have some direct evidence that the gun-mogurrurr and igurumu name systems class specifically with the sub-section name systems. One of my senior male consultants, a man well used to dealing with Europeans and explaining traditional culture to them, asked me about the correct terms he should use in explaining naming systems such as the sub-section system and the gun-mogurrurr system to Europeans. The relevant point for present purposes is that it became clear in our discussion that my consultant viewed the gun-mogurrurr and sub-section names as falling within a single overall class designated by the Kriol term "skin" (the usual Kriol term for sub-section). This evidence of highly specific common classification provides support for the view that the motivations for the spread of the gun-mogurrurr and igurumu name systems are similar in nature to the motivations for the spread of the sub-section system.

There is one factor which is implicit in this hypothesis on the spread of the gun-mogurrurr and igurumu name systems. This is that patrilineages, whether named or un-named, have always been the primary land owning groups throughout the region. In the area of the Park to the west of the South Alligator and the areas to the west beyond that, land ownership is now described solely in terms of language groups (with the exception of the Gerrmogu Ngomburr estate). However it seems almost certain to me that this could not have been the sole way in which land was owned in pre-contact times, or even the primary way in which it was owned.

While systems of land tenure differ significantly across the continent, all descriptions agree that only a small number of people ever claim a direct primary relationship of ownership to a particular area of land. Rose (1987 : 147) states "In 1941 the median size of the Wanindiljaugwa patrilineal land owning group was thirty-six, varying between nineteen and eighty-three members." Sutton's census of Cape Keerweer clan members shows a variation of 3 to 62 (1978 : 104).

It seems extremely unlikely to me that, given pre-contact population levels and the relatively large areas associated with a number of language groups, that land ownership could have been primarily conceived in terms of language group affiliation. I would assume that there was a much more localised system of patrilineally based, totemically mediated land tenure operating in the western area in pre-contact times. However the catastrophic population collapse in this area has produced a situation where language groups, when extant, are represented by a single family, which has usually spent little or no time on the country associated with their language group. Given this, it is hardly surprising that land tenure is now discussed only in terms of language group affiliations in this area.

Therefore in terms of the overall available evidence, the hypothesis that the gun-mogurrurr and igurumu name systems have spread through the area in recent times is a plausible one. It cannot be proven, except for the Ngomburr and Umbugarla groups. Nor is it possible to date the potential spread. Introduced social systems quickly acquire the patina of timelessness in Aboriginal society. This results partly from the lack of any system of oral history (though not of oral tradition), and partly from the universal dreamtime ideology of the unalterable, pre-existing nature of social systems.

### 2.3 Affiliation to Clan.

Having examined the position of the clan within the land tenure systems of the northern Kakadu - Oenpelli region, I will now turn to examine the strategies which have access to this position as an immediate goal. I will also be considering the further goals of these strategies. In the Kakadu - Oenpelli area the official strategy for gaining affiliation to a particular clan is via patrification. Levitus undertook a detailed survey on clan membership and affiliation in this area. He presented the following conclusions (1987 : 39 - 45) .

- (2-4)
- a). That the principles of clan affiliation are strongly biased towards actual physical patrification. While people may claim membership of their pater's clan, it is always open to a person to claim membership of their genitor's clan, whatever the circumstances of their life history.
  - b). Some people may be viewed as having two clan affiliations, that of their genitor and that of their pater.
  - c). There is, in general, no requirement for life history attachment to one's genitor's clan territory. Even the children of absentee land owners are recognised as clan members and land owners. Levitus notes that this does have some limits over an extended period. I am personally aware of one case where a Park landowner claims to have taken over a neighbouring territory belonging to the absentee children, who show no intention of returning, of a deceased absentee landowner.

d). Membership of clans is never transmitted matrilineally. In all cases where children with non-Aboriginal fathers have been assigned clan membership, the clan is that of a male connection of the mother's, never that of the mother.

e). There are examples of people claiming "incorrect" clan membership (one lacking an acceptable patrilineal basis). Nevertheless there is a general reluctance to cause any public confrontation over these incorrect affiliations.

To these findings we may also add the comments of Kesteven concerning other bases for interest in land (1984 : 48) "The clan is not the only basis for interests in land ... One also has rights in the land of one's mother, of her mother, and of one's father's mother: one has rights in the land of one's spouse, of country one was born in, of country one has lived in for a long time, of country one 'knows' (that is, has been educated about and has legitimate knowledge of), of countries that are linked by dreaming tracks, through 'company relations', through contiguity of country, through ceremonial links, and through common language."

A major component of the context in which both Kesteven and Levitus undertook their research was the distribution of large amounts of royalties from mining operations in the region. Both individuals and corporate bodies received royalties. The criterion for the receipt of royalties was traditional ownership of land affected by mining, either individually or as part of an areal corporate grouping. Consequently there was considerable motivation for individuals to pursue a variety of strategies which might give them an accepted claim to a relevant area of land.

As Levitus indicates, the least publicly controvertible basis for a claim to a particular clan affiliation is through one's genitor. It is necessary of course that the man in question should be accepted as the genitor by the Aboriginal public of the region. If this is the case then the person's claim is not publicly counterable, at least in any public context short of a major fight. The claim is of course privately counterable. In cases of disputes, I have been privately told that a person in fact had another genitor from the one publicly accepted. The reputed genitor was said to have been away at the time of conception, or to have been too old, and the mother was "carrying on" with someone else.

Levitus (1987 : 40 - 43) considers claims to affiliation through a father who is pater, but not genitor. The degree of public controvertibility of these claims depends upon the extent of the common life history between pater and child and on the nature of the child's integration into the Aboriginal community of the region. Beyond these official patrilineal bases, there is the range of bases indicated by Kesteven which give an individual a claim to land of rather variable and frequently indeterminate status.

During my fieldwork I encountered an interesting example of a claim with an indeterminate status. It concerned a man who I will call "Old Billy" for the purposes of the following discussion. Old Billy belonged to a gun-mogurrurr which I shall arbitrarily call "Warel", again for the purposes of the following discussion. He described himself as being

a member of the Warel Language A clan (hereafter the Warel A clan). His father died when he was quite young, and he was largely brought up by a man who did not belong to the Warel gun-mogurrurr. His statement concerning his own father was "My father belongs to here [the country of Warel A]. He been use to talk Language A, I think." It should be noted that by his use of the form "I think" Old Billy was qualifying the information he had given about his father's primary linguistic affiliation.

Other consultants described Old Billy's patrification rather differently. They stated that his father's primary language was Language B, and that his father, though belonging to the Warel gun-mogurrurr, was associated with a different area of land to that of Warel A. Old Billy agreed that he was also associated with this area of land (that belonging to the Warel B clan). In other words he did not abandon his claims to the territory of Warel B, even though he claimed to be a landowner for Warel A. None of the other members of the Warel A clan regarded themselves as being associated with this area of land.

Apart from Old Billy there was another man, who I will call Jack, who also described himself as being a member of Warel A. All consultants agreed that Jack was a member of Warel A. Warel A has associated with it a secondary (igurrumu) clan name P. Jack and all members of Warel A are or were associated with this name, however Old Billy was not. Old Billy told me that he could not remember the secondary clan name he was associated with. I did not encounter any other male consultants who were unable to recall their secondary clan name(s), though one of my female consultants was unable to do so.

While the patrifiative connection of Old Billy with Warel A was very dubious, he did have other generally recognised connections with the country and the members of Warel A. His actual MM had been a member of Warel A, and he had life history associations with past and present male members of Warel A. He had also lived and worked on the country of Warel A. These factors appear to have had some play in answers given by Jack, when I asked him whether various past and present members of the Warel gun-mogurrurr were the same or different kind of Warel to him. Concerning four deceased individuals, Jack stated that Q (associated with Language A and Warel A territory) was the same kind of Warel, but that R, S and T (who had been associated with other Warel clans) were a different Warel to him. When asked whether Old Billy was the same or different kind of Warel to him he replied "different one, but we still same, you know my cousin."

This example illustrates a number of points about indeterminate claims to clan affiliation. Firstly in this case, the indeterminate claim appears to have met with a fair degree of public acceptance for a number of reasons. One relevant factor appears to be that both the A and the B clans were associated with the Warel gun-mogurrurr name. In anything other than detailed questioning Old Billy, like anyone else, was simply described by his gun-mogurrurr name as Warel. His shift in affiliation from Warel B to Warel A was not therefore normally publicly marked (whereas a corresponding shift of gun-mogurrurr would be). As such the ambiguities in the

gun-mogurrurr name system permitted Old Billy to mask his change of affiliation to a considerable degree.

Of more importance was the fact that Old Billy had extensive life history and descent attachments to Warel A. These were sufficient to make a public challenge most unlikely. Levitus states that people were in general unwilling to publicly challenge illicit claims, even those claims which were viewed as having virtually no substance. I would suggest that this general unwillingness reflects a general association between neutral - good social relations and linking strategies, and between bad social relations and dividing strategies. Statements such as Jack's which qualify a reference to a division with a reference to a link, are frequently encountered in discussions on the specifics of people's territorial affiliations.

Williams (1986 : 83 - 84) comments on this phenomenon with respect to the precision, or lack thereof, with which boundaries are described around Yirrkala "If a Yolngu person professes a lack of precise knowledge about a boundary or refrains from stating its precise details, it may mean that relations between the owners on opposite sides of the boundary are amicable ... Conversely, describing a boundary in great detail may reflect a dispute about its location ... Reticence to locate precise boundaries may even indicate concern about the consequences of doing so, that is, of challenging existing harmonious relations."

Jack's explicit reference to his kin relationship with Old Billy, the most important linking strategy, invoked a whole range of "officialised" behaviours, including both the avoidance of dividing strategies and the imperative for sharing. Jack's statement signalled a present acceptance of Old Billy as having some reasonable claim to Warel A. However it must be noted that the claim was not accepted as being identical to Jack's, and that the statement allowed for the possibility of future rejection of Old Billy's claim. As such, Jack's statement overtly recognised that responses and strategies are context dependent.

The existence of "conditional" clan members, such as Old Billy, suggests that the notion of the clan is best analysed as a prototypical notion. Sutton (1978 : 59) suggests a conception of this nature for the clan at Cape Keerweer "the clan as a patrilineal land-holding totemic unit with a unique country is the target towards which the flux of reality is continually pushed, and forms the model into which people attempt intellectually to compress the often somewhat ragged facts." This description appears to be applicable to the northern Kakadu - Oenpelli area. As we have seen, the least publicly controvertible basis for gaining recognition as an estate-owner is via a claim of patrification to a previously recognised owner. People may in actuality be basing their claims on other factors. However as a public and officialising strategy, they present their claims in terms of patrification. The clan may therefore be defined as consisting of a group of people who claim ownership over a particular estate, with the public and official basis for membership of the group being via patrification to a previously recognised owner.

In the majority of cases, the goal of a claim of patrification is presumably access to, and control over, the resources of a particular estate.

However in some situations it appears that there is a further goal: success in systems of male status achievement. Full examination of this suggestion is outside the domain of our present enquiries, and I will only present the salient outlines here. Land tenure systems in this region constitute an engendered domain (Merlan 1988 : 53 - 57), though not one as rigidly engendered as some other domains such as the hunting of large mammals (the preserve of men). On initial examination the gender differences appear to be characterisable in terms of active and passive rights. Both men and women are land owners and both have the same rights to move over their home ranges (Stanner 1965), but it is the male landowners who control access to clan estates by outsiders.

While the characterisation in terms of "rights" is not inaccurate, it does seem to me that it fails to integrate this particular domain of gender differentiation properly into the more general context of gender differentiation in Aboriginal society. Merlan (1988 : 44 - 47) argues that traditional Aboriginal marriage systems should be viewed as systems of male political achievement - "a system of practices which are a locus of attempted control by social actors over others" (ibid : 45). I would suggest that this is also a suitable description of the strategies involved in the clan system in certain situations. The salient difference with the clan system, as opposed to marriage, is that the control is of an altogether more general and less individuated nature.

In the Kakadu - Oenpelli area there is a system for constituting men of high status. Apart from the usual factor of personal abilities, this status is publicly constructed in terms of "traditional" knowledge, being a senior "traditional" land owner, and being a leader of a group of Aboriginal people. Obviously the strategies involved in the clan system are also intimately involved in the achievement of this status. Within this status system access to land and resources are not goals in themselves. Rather they are objects to be gained, to then be redistributed by an individual in order to gain leverage over other individuals. I would hesitate to describe this redistribution in terms of a client - boss system. On the basis of my own fieldwork I would say that it was aimed at creating a general community impression of the individual's access to desired objects, rather than binding specific individuals by specific ties of loyalty. It is terms of this analysis that I would suggest the observed gender differences are better understood. Women do not, in general, control access to estates because this is one of the constituents of a system of status achievement which is not open to them.

The present constitution of status in the area critically involves interaction with and control over Europeans (e.g. "traditional" knowledge, "traditional" owner). The previous constitution of status was probably rather different. I do not wish to go into the thorny question of "governance" in Aboriginal society (Keen 1988). However I think it is generally accepted that there were systems of male status achievement operative in pre-contact society, and that religion was everywhere an important constituent of that status (Berndt & Berndt 1985 : 363 - 366). In the tropical north of Australia clan leadership was also a constituent of this status (Sutton 1978 : 60 - 61, Williams 1986 : 98 - 100). I would argue

that clan leadership continues to have this function in the Kakadu - Oenpelli area, even though the other constituents of status have changed radically.

Finally I would like to mention one further area which I suggest is worthy of further investigation for continuities with pre-contact practice. In my initial discussion of the clan system I mentioned that it had as one of its prime functions the management of resources within a hunter-gather economy. The hunter-gatherer economy has been replaced by other economic regimes. However there are reasons for suggesting that the clan system is still concerned with the management of resources. Specifically, I would suggest that Aboriginal representations of traditional land tenure function in part as a strategy for gaining access to, and managing, resources within the context of the on-going Aboriginal desire for engagement on their own terms with the European economy. This desire has been evident since contact, and must be accommodated within any understanding of the dynamics of pre-contact society.

#### 2.4 Land - Language Relationships.

The nature and constituency of language groups in the area has already been considered in (1.4). The language groups we are concerned with here are those defined by Aboriginal people, and not those defined for linguistic purposes. The relationships between language groups and land has received detailed consideration in Dixon 1976, Merlan 1981, Sutton 1978 and Trigger 1987. All of these commentators agree that it is possible to posit relationships between particular languages and particular areas of land. The nature and directness of these relationships varies considerably.

The most general formulation of the relationship between land and language is that of Merlan (1981 : 146) "I suggest it may rather be the case for many areas within Australia that primary sanction is given at supra-individual level to land-language relations". With regard to the Western Roper area Merlan states (*ibid* : 141) "there is frequent identification of large, continuous land areas with particular socio-linguistic groupings. Thus in this area, a single name ... can be used in reference to languages and to large areas within which, in theory at least, speakers of the language should live". The discussions of land to language relationships by Dixon and Trigger essentially support this view, though Trigger addresses the question of recruitment to language groups (2.5).

A significantly contrasting picture is presented by Sutton on the basis of his work in the Cape Keerweer area. The most important point to be made about Cape Keerweer is that there is no evidence that language groups (groups of people sharing a primary affiliation to a particular language) function either in theory or in practice as well-defined social or territorial units. Indeed Sutton states (1978 : 65) "Among the coastal people of this region, it is rare for dialect identifications to be used as marks of social or regional identity". The extremely low saliency/virtual non-existence of language groups as social/territorial entities naturally affects the nature of the relationship between land and language.



The relationships that do exist can only be understood in terms of the clan system. Each clan is associated with a particular language, and ideally if clans share the same language then each such clan will have its own particular dialect (ibid : 63 & 183). There is no requirement for a particular language to be associated with a contiguous area of land. While people do make statements directly associating land and language, Sutton argues that these associations must be understood as secondary (ibid : 30) "a site/dialect relationship can be stated .... But such a relationship is not primary. It is a triadic by-product of the elementary relationships of site-to-land-holding unit and land-holding-unit-to-dialect." Sutton also notes that some clans may have dual linguistic affiliations and that this is usually the case when the clans are on the boundaries of language groups (ibid : 85 - 86).

The question is then how land to language relationships in the Kakadu - Oenpelli area compare to those of the Western Roper and Cape Keerweer. There are elements of similarity with both systems of relationships. As the discussion of the function of the system of Aboriginal language names in (1.4) will have indicated there are important similarities with the situation in the Western Roper. The system of language names has as one of its most consistent correlates the identification of continuous areas of land, and conversely areas of land may be identified by linguistic affiliations. Indeed I have suggested in (1.4) that territorial association is a component of the meaning of the language names. The mythological material in Berndt & Berndt (1989), concerning the Kakadu - Oenpelli area, is replete with references to the linguistic associations of particular sites, and of regions. It is also replete with references to mythological characters changing languages when crossing the appropriate boundaries.

There are also somewhat more inchoate similarities with the situation in Cape Keerweer. In addition to the general regional land - language associations there are also more localised associations between land and language, at least among the Gundjeyhmi and Gunwinjgu. It appears that the clan is at least one potential locus for the more localised associations. Berndt & Berndt (1970 : 87 & 94) state that it is regarded as desirable for close kin and affines to share not only the Gunwinjgu language, but also the same dialect of Gunwinjgu. Evans (1991 : 4 - 5) discusses variation in Gundjeyhmi, Gunwinjgu and Mayali, and takes the clan to be one locus of dialect differentiation. From my own very limited work with Amurdak speakers it would appear that they also make more localised associations between land and language, with the clan possibly being a locus of dialect differentiation.

These more localised associations have an affinity with the system of clan - language associations described by Sutton for Cape Keerweer, especially as the clan appears to be one locus of dialect differentiation. However I do not think that the clan - language associations which appear to exist in the Kakadu - Oenpelli area can be equated with those existing in the Cape Keerweer area. The relationship between the clan - language association and the region - language association is the reverse of that found in Cape Keerweer. In Cape

Keerweer, region - language associations, where these exist, are to be understood as summary combinations of the primary clan - language associations. In the Kakadu - Oenpelli area, clan - language associations are to be understood as specifications of the primary region - language association.

Unlike the Cape Keerweer area, regional language affiliations are the unmarked way of identifying groups in the Kakadu - Oenpelli region. The Aboriginal language name system does not provide for reference to clan-lects with any consistency. A few language names, such as Erre and Mengerrdji, apply to only a single clan. Most language names involve more than one clan. In cases such as Gunwinjgu, involving a considerable number of clans, particular clan-lects are presented by Aboriginal people as types of Gunwinjgu, and not as distinct languages. Reference to the difference between clan-lects is not common. It does not appear to be salient as a marker distinguishing clans from one another. In overall terms the northern Kakadu - Oenpelli area shows a pattern of regional land - language associations which is most congruent with the patterns described by Merlan for the Western Roper. Further research is required for a proper understanding of the more localised associations involving the clan.

## 2.5 Affiliation to Language Group.

The question of affiliation to language group has not been prominent in the Kakadu - Oenpelli area. This is because clans rather than language groups have been the focus of attention in the discussion of land tenure. Nevertheless it has been an issue of some concern as languages are relevant to the social construction of clans. Clans are conceived of as being associated with a particular language name and indeed, as I have argued, may be partly indexed in terms of that association. Consequently if somebody is making a claim of primary affiliation to a particular clan it is highly desirable that they should also be claiming primary affiliation to the particular language which is associated with the region where the clan estate is. The strategies for affiliation to language group are generally similar to those for affiliation to clan. The least publicly controvertible strategy for a claim of primary affiliation is via patrification.

Extinct or nearly extinct languages clearly present something of a problem in terms of claims for affiliation. Researchers, both in this area (Kesteven 1984 : 49) and elsewhere (Trigger 1987 : 220) have stated that the ability to speak a language, and even the extinction of that language are irrelevant to the question of a person's being primarily affiliated to it. A person's primary language affiliation is to a language that one owns, not to a language that one speaks. However it is regarded as desirable that a person should in fact speak their primary language (Kesteven *ibid*). On the basis of my own fieldwork I would say that in the Kakadu - Oenpelli region the ability to speak a language was in fact a somewhat more important factor than has been suggested. It clearly troubled people to claim affiliation to an extinct language. The fact that they did not speak the

language made the claim considerably more open to public dispute, in part by other Aboriginal people, but more importantly by Europeans.

Claims of affiliation to extinct languages are obviously very much a context bound product of the population collapse in the region. They are to be understood partly in terms of maintaining distinctive identities in face of the spread of both English and Gunwinjgu. However they are mostly to be understood in terms of asserting the continuity of links with "traditional" systems of land - language relationships.

In addition to primary affiliations, people may claim a very wide range of secondary affiliations arising through the whole range of kin and life history associations. As throughout Australia many Aboriginal people have extensive multi-lingual and multi-lectal repertoires, and all the available evidence indicates that this has always been the situation. Partly because of this, and partly because language groups tend to be more generalised regional groupings than clans, the distinction between primary and secondary affiliations is not as great.

While affiliation to language group appears to have been an important factor in constructing relationships to land and thereby social identity, it does not appear to have been an important factor in determining social interaction. I have not encountered any evidence of preferences for language group endogamy. Berndt & Berndt's statement that it is desirable for spouses to speak the same kind of Gunwinjgu (1970 : 94) should, I think, be taken as indexical of the desirability of marrying someone from a geographically close area (ibid : 96 - 97), not as a statement of a preference for linguistic endogamy. It would appear that this preference is most directly relevant in determining a woman's first marriage. The Berndts note (ibid : 95) "the distance a young wife has to move from her parents should not be so great that they cannot easily keep in touch with her."

There is some material on marriages among people from the northern Kakadu - Oenpelli area in the early part of this century. In as far as it is possible to determine what was a woman's first marriage, the marriages show a general conformity to the situation described by the Berndts. That is a woman's first marriage tended to be to a man from a territorially close clan, in some cases a neighbouring clan. Linguistic affiliations do not appear to have been relevant. It is necessary to be somewhat wary in interpreting the "closeness" of marriages from the early part of the century in clan/territorial terms. Even by the turn of the century residence and demography patterns had been greatly altered. It would seem likely that the "closeness" of some of these marriages should be interpreted in terms of "closeness" of links within the buffalo hunting economy, rather than in terms of territorial "closeness". Certainly the first marriages of women from later on in the century must be interpreted in terms of this factor.

However conversely it is also likely that the closeness of links within the buffalo hunting economy in the early part of the century would have been reflective to some degree of pre-existing ties. Additionally it is likely that pre-existing modes of publicly expressing and conceptualising desirable marriage patterns would still have had an important influence

in the early part of this century. Even today people can still present this information. As such it is not unreasonable to propose that the traditional first marriage patterns for women in the northern Kakadu - Oenpelli area were congruent to those described for the Gunwinjgu to the east of Oenpelli. Consequently it would appear that language group affiliation was not a relevant factor in marriage patterns.

The one region where affiliation to language group has been a focus of attention is in the area west of the South Alligator, where the clan system does not appear to have been operative traditionally. As I have already stated this area is virtually completely depopulated, and the few claims that are made for affiliation to language groups from the area must be understood within the wider context of claims to language group affiliation within the immediate hinterland of Darwin.

From comments made to me by older people it would appear that the traditional pattern of primary language affiliation was the same as that found in the area with clans - i.e. to either the genitor or the pater, with a few people having dual affiliations to both. However with the overwhelming changes since contact there have been changes in the patterns of primary language affiliation. Essentially it appears that factors that would previously have constituted a basis for a claim of secondary affiliation have become publicly acceptable as bases for claims of primary affiliation. This probably relates in part to the fact that the difference between primary and secondary affiliation to language group has never been as great as for clans.

Since early this century it appears that matrification has been the principle applied to the children of non-Aboriginal fathers. In one such case known to me a person born in the late 1920's regards her mother's language as her primary language, even though she largely grew up on the country of her mother's second Aboriginal husband, who spoke another Aboriginal language (which this person also speaks).

Nowadays a great deal of indefiniteness surrounds many claims to language affiliation, and there are many cases of people who claim to be "mixed" with more than one primary language affiliation. As with the eastern clan area, the actual ability to speak a language does not prevent people from claiming primary affiliation to that language. While there may be considerable indefiniteness an examination of the claims reveals that the following bases underlie claims primary language affiliation.

- (2-5)      Actual genealogical links.  
              Proximity of territory associated with a particular language to residential history range.  
              Life history associations.

Actual genealogical links provide the least challengeable way of affiliating to a primary language group. A person will regard their genitor's language as their primary language, unless he is non-Aboriginal or comes from a distant area. In either of these situations a person will regard their mother's language as their primary language. If however a person has life history associations with people speaking a language

belonging to a closer area than one's mother's language, then that person may affiliate to that language group. An example illustrating this point involves a woman who had two Aboriginal husbands, the first from a close area, the second from a distant area. The children of the woman's second marriage affiliate with her first husband's language group as they have life history associations with those people and that language is associated with a closer area than their mother's. However in cases such as this people may also claim somewhat inchoate primary affiliations with their genitor's and mother's language groups.

## 2.6 The Mirarr Gaagudju Anomaly.

The descriptions of the clan system and of the relationships between land and language that I have so far presented confront a problem in relation to the two Mirarr Gaagudju groupings found in the Cahill's Crossing - Mudginberri area. The most obvious problem is that the Mirarr Gaagudju 2 group is isolated from the other Gaagudju groups by the Dadjbagu Gundjeyhmi. This situation is unique in the region, and is to my knowledge otherwise unparalleled in the rest of the Top End outside the Yolngu speaking groups.

The second problem is whether these two Mirarr groupings should be treated as two clans or one. Both groups are extinct and unfortunately the available information does not serve to adequately answer the question. Mirarr Gaagudju 1 consisted of one patriline, and Mirarr Gaagudju 2 consisted of two patrilines. It appears that all three patrilines shared the secondary name *Gama'daagu*, but my consultants were not completely certain of this. There are no examples of intermarriages, but given the small number of people involved it is doubtful that any particular significance can be attached to this fact. The possibility of a split clan is also unique in the region to my knowledge.

As such the Mirarr Gaagudju groupings present an anomaly on two levels. However there is evidence which argues that the anomaly is of recent origin. Specifically this evidence suggests that the association of the Gundjeyhmi language via the Dadjbagu clan with the area between the two Mirarr Gaagudju groupings is of recent origin. The most direct evidence for this comes from a number of place names within Dadjbagu Gundjeyhmi territory. These place names; *A'rdagawa* [a'da:kəwə], *Ga'rranggirr* [ga'ra:ŋgɪɾ], and *Gordawu* ['gɔ:ɔau:], are incompatible with Gundjeyhmi phonotactics and phonology (Evans : p.c.), but are perfectly regular in Gaagudju. These place names argue fairly strongly that Dadjbagu Gundjeyhmi territory was previously associated with the Gaagudju language.

Complementing this evidence is evidence from place names within the territory of Mirarr Gaagudju 2 that the association of Gaagudju with that country is not of recent origin. The two place names which provide this evidence are *Ma-ya-ba'rdeedj=ma'djiirli* and *Djaayu Mooyu*. The first place name is a compound, of a rare type with limited productivity (5.6.1). In Gaagudju *ma'djiirli* means 'sand'; it is a Class III noun, and *ma-ya-* is the appropriate Present tense prefix complex for an

intransitive verb with a Class III Subject (Table 7.3). Therefore the first place name means 'sand, it X's'. However my consultants did not recognise the *ba'rdeedj* element. The second name is translatable as 'the sore' *mooyu* 'lies' *djaayu*. However this form is irregular, as *mooyu* is a Class III noun and the correct form of the expression 'the sore lies' would be *Ma-'yaa-yu Mooyu*. The fact that this second name is irregularly constructed, and that the first name is constructed in a rare compound frame of limited productivity, provides good evidence for their relative antiquity.

This evidence from place names suggests with some reasonable consistency that the association of the Dadjbagu Gundjeyhmi with their present estate is of recent origin. The available historical evidence is congruent with this suggestion. In the early part of this century there were 8 - 9 individuals in 2 apparently separate patrilineal groups who had primary affiliations to Mirarr Gaagudju 2. On the other hand there was only 1 individual who is known to have had a primary affiliation to Dadjbagu Gundjeyhmi in the early part of this century. The succession of single patriline, in this case possibly by a single person, to the Dadjbagu Gundjeyhmi estate is much more plausible than the succession of two patrilineal groups, definitely involving a number of people, to the Mirarr Gaagudju 2 estate.

Further it should be noted that it is by no means certain that the "separation" of the Mirarr Gaagudju 2 ever had any reality, on the ground. The clan - land associations set out in Map 3 reflect associations existing in the early part of this century, and in some cases late last century. Significant changes in demography and residence patterns had already occurred by that time. Combining this fact with the possibility of recent succession by Dadjbagu Gundjeyhmi to the area between the two Mirarr Gaagudju groupings, raises the possibility that the Dadjbagu Gundjeyhmi succession was more a notional succession in a largely abandoned area than an actual succession in an inhabited area. It appears that the Dadjbagu Gundjeyhmi estate and both the Mirarr Gaagudju estates were largely vacated by their owners from the 1920's onwards, and in all probability somewhat earlier.

Whatever its status, the association between the Dadjbagu Gundjeyhmi and their present estate demonstrates that person - language affiliations could conflict to some degree with regional land - language affiliations. In this respect it is necessary to recognise that land - language affiliations in the particular local area under consideration have been rather uncertain for a considerable period of time and that different consultants can give rather variable pictures. In overall terms I would suggest that it is highly likely that the anomalies discussed should be strongly correlated with the uncertainties about land - language relationships found in the area.

## CHAPTER 3

## KINSHIP

## 3.1 Kinship Terminologies.

The Gaagudju kinship system presents certain areas of complexity, particularly in relation to affinity. These areas of complexity are rendered somewhat more problematic by the fact that the system is no longer in active use. The system, as presented by my consultants, is similar to the Gunwinjgu kin system. As the Gunwinjgu system was the system actively used by my consultants I also present an outline of this system in order that the specific similarities and differences between the two systems may be compared<sup>1</sup>.

The complexities, both in description and classing, of the Gaagudju and Gunwinjgu kin systems revolve around the classification of affinal kin. Consequently, the initial discussion of these kin systems excludes affinal kin, including kin within the "cross-cousin" category. Table 3.1 presents the Gaagudju kin system, excluding affinal and "cross-cousin" kin. I have recorded the term for 'mSC' as both *bornobo'rnoongo* and *na-bornobo'rnoongo*, the second variant apparently involving the Class I prefix *na-*, from Declension 2 (6-26). Spencer records the second variant in his listing of Gaagudju kin terms (Appendix 1). P.B's usage of these two variants was somewhat uncertain. The occurrence of the masculine prefix *na-* did not appear to depend on the sex of the referent (i.e. present when referring to 'mSS' vs absent when referring to 'mSD'). It did correlate with the length of the possessive markers: *na-* was usually present with the monosyllabic prefixes *nga-* '1st' and *nji-* '2nd', but was consistently absent when compounded with the polysyllabic possessive marker *ma'naarra=* '1+2' (3.5). Table 3.2 presents the kin terms, other than affinal and "cross-cousin" kin terms, in use among Oenpelli Gunwinjgu speakers (for a male EGO - a female EGO uses different terms in G-1). The differences between the two systems of classification are examined in (3.4), which deals with the question of the categorisation of the Gaagudju and Gunwinjgu kin systems.

In addition to the terms set out in Tables 3.1 and 3.2 there are also two terms which refer to kin in G±3 : *mayamaya* and *ulubulu*. The Berndts (1970 : 79) list these terms as meaning 'MFF' and 'MMM' respectively. I was not able to obtain a consistent reference for these terms, even in respect of present day classifications in Oenpelli Gunwinjgu kin reckonings. Consequently I have not included them in the Tables. It would appear that these two terms were used in Gaagudju kin

<sup>1</sup>Narelle and Stephen Etherington provided much of the information, set out in this chapter, on the general patterning of Oenpelli Gunwinjgu kinship practices. It would be highly repetitive to separately acknowledge each piece of information that they provided. Consequently I wish to make a general acknowledgement of their contribution at the start of this chapter. In particular, it may be noted that they confirmed that the -modjarrkdorinj skewing (3.3), and the Aranda usage of G±2 kin terms (3.4), were general practices of Oenpelli Gunwinjgu speakers.

Table 3.1 : The Gaagudju Kin System

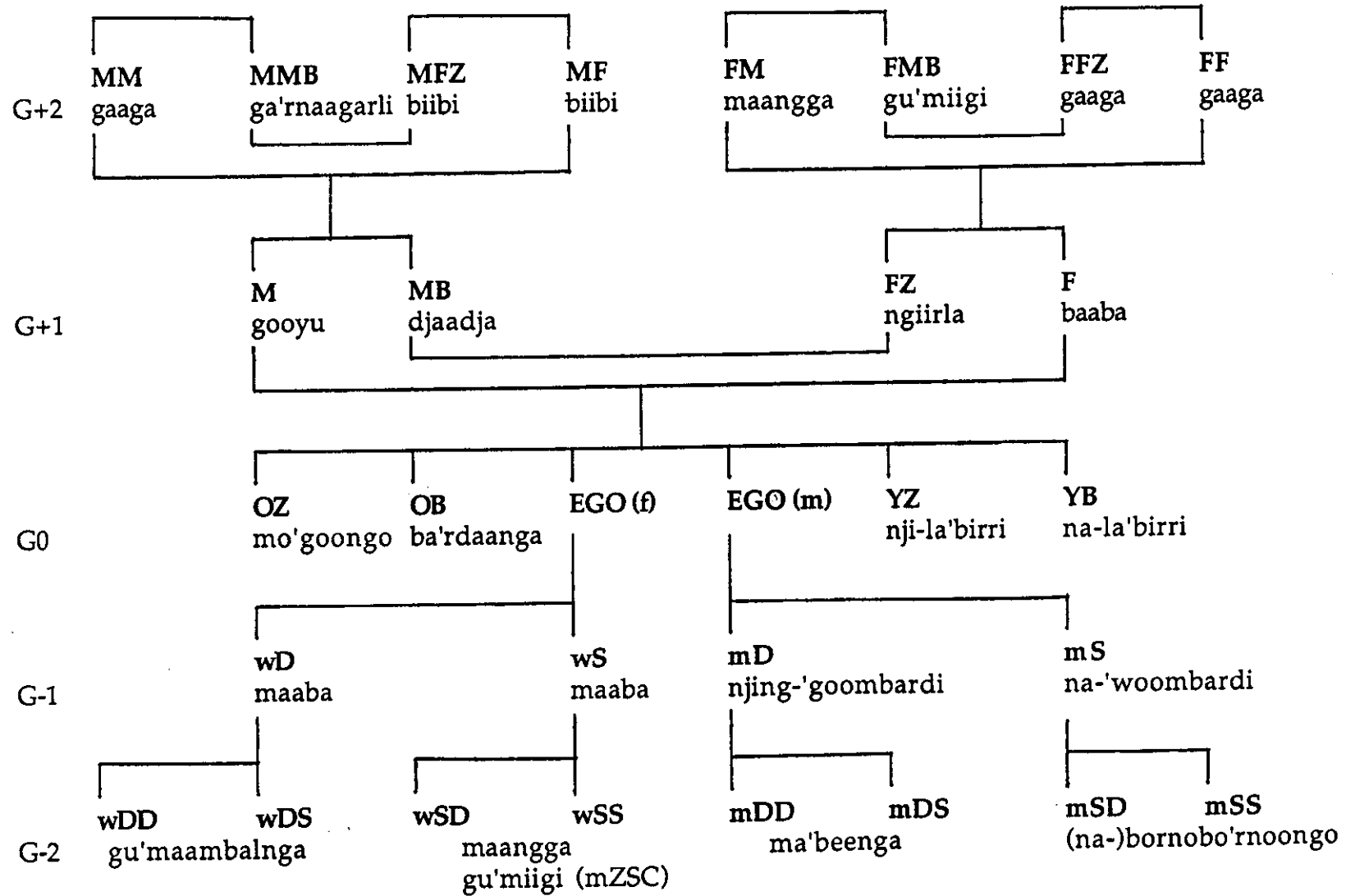
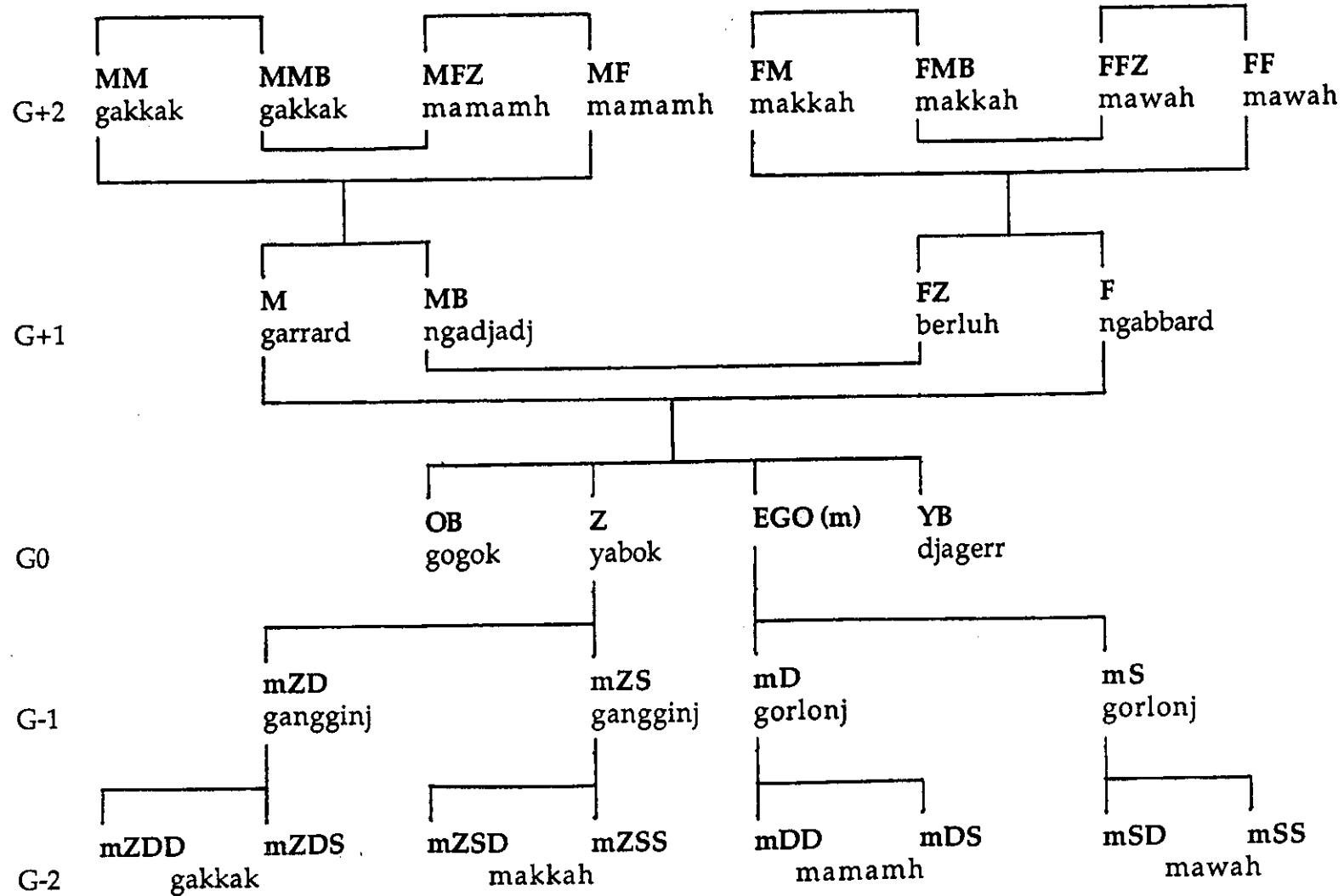




Table 3.2 : The Oenpelli Gunwinjgu Kin System.



classification, as well as in Gunwinjgu kin classification, as they are present in Spencer's list of Gaagudju kin terms (Appendix 1).

The evidence on the respective markedness of the senior vs junior sibling terms in Gaagudju is inconclusive. I have recorded both senior and junior terms being used in unmarked contexts where there is no specific reference to age. In later life people of approximately equal age in a brother/sister relationship use the senior terms to refer to one another. This could be taken as evidence that the senior terms are unmarked. However given that the brother/sister relationship is one of the most highly constrained and central avoidance relationships in this area (Berndt & Berndt 1970 : 220 - 225), it is equally possible that this usage could be analysed in terms of the respect usages which form an inherent part of avoidance relationships. The distinction between siblings according to age applies into the next generation for the children of same-sex siblings. Thus a child of a younger sister will call a child of an older sister by the older sibling kin terms, even if the child of the younger sister is in fact older than the child of the older sister.

In addition to the sibling terms set out in Table 3.1 there are two "sibling" terms which denote absolute seniority *ganjdji'laarrama* 'oldest brother' and *njing-'geerradama* 'oldest sister'. These two terms are however not kin nouns. They do not take the pronominal prefixes which are the formal diagnostics of kin nouns (3.5). Nor are they kin "terms" in the same sense as those set out in Table 3.1. They may be used of any same sex sibling set, irrespective of the actual relationship of the members of the set to EGO.

(3-1)     *ma'gaarra ngadj-'baaba=mana*  
           that.I        1MIN-father=MUA  
           'They are my two fathers.'

*yaana-Ø ma'gaarra ganjdji'laarrama*  
           where-I    that.I        oldest brother  
           'Which one is the oldest?' (B776)

Apart from the regular set of kin terms in Table 3.1 there was also a set of bereavement terms. My consultants recognised three such terms from Spencer.

(3-2)	<i>na-ma'rlaadja</i>	'orphan'
	<i>na-wudbu'gaarra</i>	'B of dec.'
	<i>njing-gudbu'gaarra</i>	'Z of dec.'
	<i>na-'woordomalay</i>	'widower'
	<i>njing-'goordomalay</i>	'widow'

The 'orphan' term *na-ma'rlaadja* apparently only occurs in a masculine form, as it does in Gunwinjgu. Gaagudju has no formal mechanism for marking dyadic relationships. The closest available expressions are those such as the following;

- (3-3) *ngoyo-mo'goongo=da*      *ngo'yoo-njdja*  
 3F-O.sister=MIN              3F-FUA  
 'Those two are sisters.' (A44)  
 '[lit.] Her older sister, those two (female).'

There is an expression referring to a married couple.

- (3-4) *nji-n-da'rraangga-ba*      *ma'baari*  
 3IIA-3ME-put up-Aux.PP    hip  
 'They are a married couple.'  
 '[lit.] He has put up/built her hip.'

This idiom involves the lexeme 'hip' which is frequently found in Aboriginal expressions referring to marriage. One point which is naturally not covered by Tables 3.1 and 3.2 is how incorrect marriages affect the classification of lineal and collateral kin. In cases of incorrect marriages, classification may be either matrilineal or patrilineal, depending on the respective closeness of the links through father or mother. However, on the basis of my own fieldwork, it would appear that matrilineal classification is the unmarked choice. The cases of patrilineal classification, known to me, were positively supported by direct lineal connections. In other situations classification proceeded on a matrilineal basis. This was so even when the father was closely connected by other affinal links, and there were no close kinship links of any kind to the mother. In this respect it may be noted that sub-section membership is normatively matrilineal. It is never possible to obtain sub-section membership patrilineally: the father is always thrown away.

In respect of the incorrect marriages themselves, again on the basis of my own materials, it should be noted that only the spouses and the immediate G±1 in-laws necessarily alter the terms they use to one another. I found that other people, even if closely connected, generally continue to use pre-existing classifications of the spouses and their G±1 in-laws. Given that incorrect marriages are by no means infrequent in Oenpelli, the actual use of kin terms shows little evidence of concern for the maintenance of any "ideal" systematisation of kin classification.

### 3.2 Affinal Kinship Terminologies.

Much of the elicitation on affinal terminology in Gaagudju was conducted using Gunwinjgu affinal classifications as a base. Consequently I will begin by presenting a brief outline of the primary set of affinal kin terms in Gunwinjgu. The Berndts describe the central affinal 'spouse' relationship among the Gunwinjgu in terms of a preferential system. They state (1970 : 94) "The ideal spouse ... is a *gagali* [gakkali], ... Relatives a man calls by the term *gagali* include MMBDD, FFZSD, FZDDD, and MBDDD". Concerning other marriage choices the Berndts state (1970 : 99) "In first-choice unions, then, husband and wife are genealogically related as *gagali*. In second-choice unions they are genealogically related as *ganjulg* [ganjok : cross cousin]; once they marry they call each other *gagali*

too, but only as a courtesy term - they are 'not real *gagali*.' The Gaagudju equivalents of the terms *gakkali* and *ganjok* are as follows.

(3-5)	<i>na-woma'gaali</i>	'husband'	[gakkali]
	<i>njing-goma'gaali</i>	'wife'	[gakkali]
	<i>gu'beengga</i>	'cross-cousin'	[ganjok]

The primary Gunwinjgu G±1 affinal kin terms are as follows.

(3-6)	<i>ngal-gurrng</i>	'mother-in-law'	[WM, SW]
	<i>na-gurrng</i>	'son-in-law'	[DH, mZDH, WMB]

In addition to these primary G±1 terms, Gunwinjgu has a large number of other in-law terms, many belonging to the special *gun-debi* kin register. The nominal root *-gurrng* found in the primary G±1 in-law terms also appears in the name, *gun-gurrng*, of the special "mother-in-law" register of Gunwinjgu used between in-laws.

Gaagudju also apparently had a special "mother-in-law" register, known as *ma'gaalmurdu*, though none of my consultants knew this register. The structuring of the Gaagudju terms for G±1 affinal kin is, to my knowledge, unique in Australian languages. The Gaagudju terms are not simple nominals, but are compounds involving fully inflected forms of the verb *wu* 'to give' and the kin noun *maaba* 'woman's child'. Further there exist two formal structures for these compounds. My main consultant P.B showed some uncertainty about the G±1 in-law terms, other than those with a first person propositus, and she used the two formal compound structures in apparent free variation. The more commonly attested compound structure is illustrated following.

(3-7)	<i>arr-ga-wu='maaba</i>	'my mother-in-law'	[WM, WMB]
	1A-3E-give.PP=wC	[(S)he gave me wC]	
	<i>Ø-arra-wu='maaba</i>	'my son-in-law'	[wDH, mZDH]
	3IA-1E-give.PP=wC	[I gave him wC]	

The compound type in (3-7) involves a fully inflected Past Perfective form of the verb *wu* 'to give' and the noun *maaba* 'wC'. Thus *arr-ga-wu='maaba* is '(S)he gave me woman's child', and *Ø-arra-wu-'maaba* is 'I gave him woman's child'. This compound structure is phonologically differentiated from a free clausal form in two ways. The first of these is the obvious one: the lack of a pause between the two major constituents. The other difference lies in the fact that the verbal constituent lacks the stress that it would have as a free form. (3-8) sets out the form that would be found if the verb had its free form stress.

(3-8)	<i>Ø-a'rraa-wu='maaba</i>	'my son-in-law'	[wDH, mZDH]
	3IA-1E-give.PP=wC	[I gave him wC]	

The other terms attested conforming to this compound structure are as follows.

(3-9)	<i>nji-rra-wu='maaba</i> 3IIA-1E-give.PP=wC	'son-in-law's sister' [I gave her wC]	[wDHZ]
	<i>ga-marra-wu='maaba</i> 3E-1+2A-give.PP=wC	'our mother-in-law' [(S)he gave us wC]	
	<i>Ø-marra-wu='maaba</i> 3IA-1+2E-give.PP=wC	'our son-in-law' [We gave him wC]	
	<i>nj-dje-wu='maaba</i> 2A-3FE-give.PP=wC	'your mother-in-law' [She gave you wC]	

The alternate less commonly attested compound structure shows interesting differences.

(3-10)	<i>arr-go-o=da='maaba</i> 1A-3E-give=Lig=wC	'my mother-in-law' [(S)he gives me wC]
	<i>nji-ngo-o=da='maaba</i> 2A-3FE.PR-give=Lig=wC	'your mother-in-law' [She gives you wC]
	<i>Ø-ayo-o=da='maaba</i> 3IA-3FE.PR-give=Lig=wC	'his mother-in-law/her son-in-law' [She gives him wC]

These forms again involve *wu* 'to give' and *maaba* 'woman's child'. However they are distinct from the previous compound type in that they also involve the ligature =*da* (5.6.1), and in the fact that the verb *wu* 'to give' is in a different tense, the Present as opposed to the Past Perfective. Not only are the forms of *wu* 'to give' in a different tense, but the forms in this compound type also show phonological reduction from the corresponding independent forms. The usual forms of the verbs in (3-10) are set out in (3-11)

(3-11)	<i>arr-'gaa-wo-y</i> 1A-3E-give-PR	<i>nji-'ngaa-wo-y</i> 2A-3FE-give-PR	<i>Ø-a'yaa-wo-y</i> 3IA-3FE-give-PR
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When followed by an apical segment, such as /d/, the final palatal /y/ is deleted by a regular process (5.3.3). Consequently, the predicted compound forms would be those listed in (3-12).

(3-12)	<i>*arr-ga-wo=da='maaba</i> 1A-3E-give=Lig=wC	'my mother-in-law' [(S)he gives me wC]
	<i>*nji-nga-wo=da='maaba</i> 2A-3FE.PR-give=Lig=wC	'your mother-in-law' [She gives you wC]
	<i>*Ø-aya-wo=da='maaba</i> 3IA-3FE.PR-give=Lig=wC	'his mother-in-law/her son-in-law' [She gives him wC]

The attested forms involve a further reduction of the unstressed sequence *\*a-wo* to *oo*. This reduction is attested as a fast speech process elsewhere in Gaagudju (5-100). In addition to the forms listed in (3-10), the following form, conforming to this pattern, is also attested.

- (3-13) *nji-n-do-o=da='maaba* 'your son-in-law'  
 2A-3ME-PR-give=Lig=wC [He gives you wC]

This form was given as an equivalent of the Gunwinjgu term *na-gurrng* in the meaning 'son-in-law'. However the form itself would suggest that it was the equivalent of the Gunwinjgu term *na-gurrng* in the meaning 'wife's uncle'. It is probable that this mismatch in meanings results from a mistake by P.B, owing to her uncertainties concerning forms with other than a first person propositus. While P.B was unsure of the full range of G±1 in-law terms, it did appear that for her these compound structures were productive. This is suggested by forms such as (3-9) *nji-rra-wu='maaba* 'wDHZ', for which relationship I also recorded the term *njing-'goombardi* 'mD'. There is evidence from Spencer's listing of Gaagudju kin terms (Appendix 1) that this productivity does not merely result from some type of extensive back-formation phenomenon on the part of P.B

Spencer lists a number of G±1 in-law terms. Among these are *Komapa* 'man's wife's mother' and *Proomapa* 'woman's daughter's husband'. The *Komapa* form is recognisable as *arr-ga-wu='maaba* 'my mother-in-law' [She gave me woman's child] (3-7), which in careful speech is [aɽgəwə'mə:bə]. However in faster speech this form is reducible to [gə:'mə:bə]. The form *Proomapa* would appear to be *ba-rra-wu='maaba*, which would be [bəɽəwə'mə:bə] in careful speech, and could become [bɽə:'mə:bə] in faster speech. This form however raises other issues, as it has the meaning indicated in (3-14).

- (3-14) *ba-rra-wu='maaba*  
 2A-1E-give.FU=wC  
 'I will give you woman's child'

As such it would presumably be an address term used by G+1 in-laws to G-1 in-laws (Spencer's list specifically implies mother-in-law to son-in-law - Appendix 1). The other difference is that, as indicated by the translation, *wu* 'to give' is in the Future tense. This implies a betrothal rather than a marriage. I did not record any Future tense G±1 in-law terms, but given that marriage and betrothal practices have radically changed, and that Gaagudju is no longer actively used, this is hardly surprising.

Spencer's list of Gaagudju kin terms is reasonably accurate both in terms of transcription and reference (Appendix 1). The form *Proomapa/ba-rra-wu='maaba* cannot therefore simply be dismissed as a mistake. Further the compound is correctly structured in formal terms. It follows the pattern of the compounds involving the Past Perfective forms of *wu* 'to give'. As such compounds involving Past Perfective and Future tense forms would be formally opposed to those involving Present tense forms. This is the pattern found whenever there is a formal opposition involving these three tenses (7.7). The existence of Future tense forms would also suggest the nature of the distinction between the Past Perfective and Present tense forms, which P.B used in apparent free

variation. Elicitation concerning the G±1 in-law relations was conducted essentially with reference to existing G±1 relations. Such relations could be described by both Past Perfective and Present tense forms. However it would seem likely that no longer existing G±1 affinal relationships could only be described by the Past Perfective forms.

In summary the evidence suggests that Gaagudju had a productive compounding system for referring to and addressing the primary G±1 in-laws. It appears possible that this compounding system may have been able to indicate the status of these relationships in greater than usual detail, through the use of tensed verb forms. Apart from the affinal terms already analysed there are two other affinal terms. One of these is an ordinary kin noun (3.5).

(3-15) *ma'rreegidji* 'man's brother-in-law'

The other is formally somewhat more complicated.

(3-16) *nji-n-'daa-ma-ngi=da* 'man's father-in-law'  
 3IIA-3ME-PR-get-PR=SUB  
 '[lit.] The male one who gets her.'

The term *nji-n-'daa-ma-ngi=da* consists of the Present tense verb form *nji-n-'daa-ma-ngi* 'he gets her/you' and the substantiviser =*da* (6.2). This term is formally constructed in a manner similar to that of the Present tense in-law terms exemplified in (3-10). The substantiviser =*da* is possibly historically related to the ligature =*da* (5.6.1). Given that the term refers to an affinal relationship it would appear likely that the Object of *nji-n-'daa-ma-ngi* is 'her' rather than 'you' (the 2nd and 3rd feminine persons are neutralised in the Absolutive prefixes. 7.5.2). However 'he gets her' would appear more likely to be a reference by a man to his son-in-law, rather than to his father-in-law. It is possible that some type of semantic inversion is involved. P.B was confident and consistent in her use of this form through a number of field sessions. Therefore it does not appear that the form can be analysed as a mistake as (3-13) appears to be.

It is almost certainly the case that the Gaagudju affinal terminology showed further complexities beyond those described here. Spencer lists a number of other affinal kin terms that my consultants did not recognise (Appendix 1).

### 3.3 The -Modjarrkdorriinj Skewing of Cross Cousins.

While the classification of affinal kin shows a general similarity to classification patterns elsewhere in Australia, there are certain aspects of classification patterns in this area which do not appear to conform to the usual patterns. These aspects involve the second choice cross-cousin spouse *gu'beengga* (Gaagudju)/*ganjok* (Gunwinjgu). Individuals in this category are the children of an aunt *ngiirla* (Gaagudju)/*berluh* (Gunwinjgu). However it is only the children of "distant" aunts who are actually classified as cross-cousins. Children of "close" aunts are skewed by

a skewing which is known as *-modjarrkdorriinj* in Gunwinjgu. The Gaagudju and Gunwinjgu versions of this skewing are set out in Tables 3.3 and 3.4.

Most of my information on the *-modjarrkdorriinj* skewing comes from Oenpelli Gunwinjgu speakers. However the skewing appears to have been widespread throughout the region. It was found in the Gundjeyhmi kin system, though it is no longer in active use among Gundjeyhmi speakers (Evans 1991 : 19 - 20). On the basis of my own fieldwork it appears also to be characteristic of the Amurdak kin system, though I was not able to obtain a complete generational range for the skewing in the limited material I gathered on Amurdak kin terminologies. There is evidence that the skewing was also characteristic of the Gaagudju kin system. My principal consultant P.B, and L.D.Y skewed one another in accordance with the *-modjarrkdorriinj* skewing. As genealogy 1 in Table 3.5 demonstrates the brother - sister relationship which formed the basis for this skewing involved two members of the Bunidj Gaagudju clan born well before 1900.

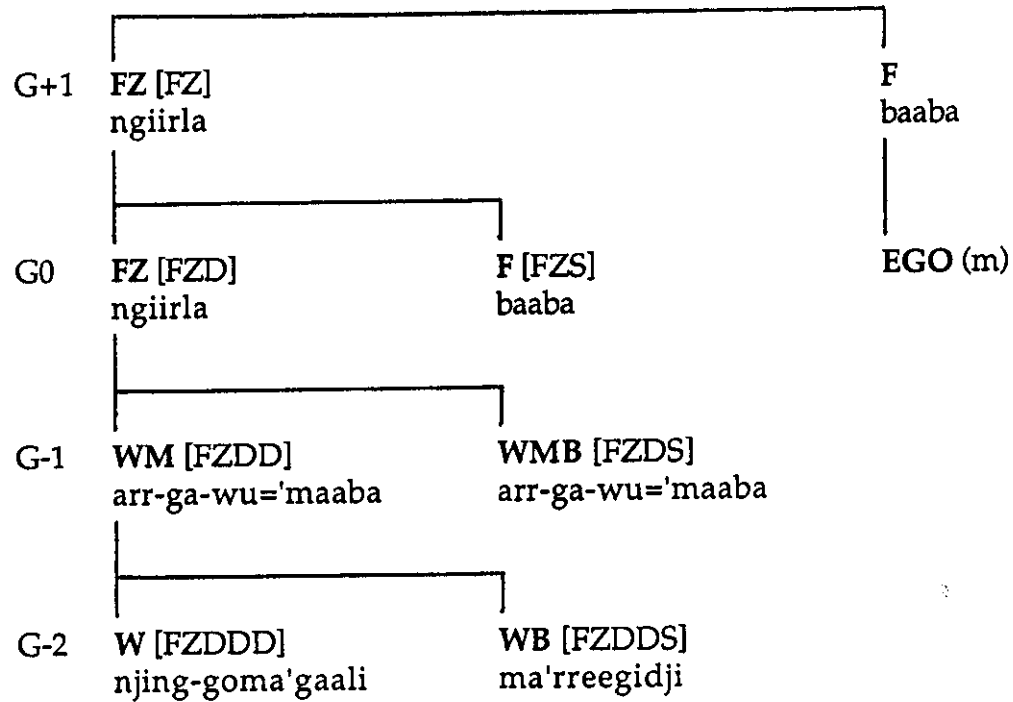
The determination of "closeness" for the purposes of the *-modjarrkdorriinj* skewing is subject to some variation. All actual genealogical first cross-cousins are so skewed. Classificatory cross-cousins are skewed if there are direct connections by marriage in the G+1 level of Tables 3.3 and 3.4. Genealogy 4 in Table 3.5 provides an illustration of this point. S.B. and D.G. skew one another, as a result of D.G.'s mother F.M.'s second marriage to S.B.'s uncle G.G. This is the case even though there is an actual genealogical relationship between S.B. and D.G. which is rather different: D.G. is S.B.'s actual mother's father's half brother.

While the *-modjarrkdorriinj* skewing is usually characterised by actual genealogical or affinal links in G+1, there are also occasional examples which appear to be purely classificatory. In their discussion of Gunwinjgu marriage practices the Berndts make the following comments, which suggest classificatory use of the *-modjarrkdorriinj* skewing (1970 : 100) "In cross-cousin marriages, the timing of the betrothal is particularly crucial. If such a betrothal is confirmed quite early in a girl's life by relatives, above all by her mother and mother's brother, ... that in itself legitimises it ... but not to the extent of identifying it with the ideally correct type of marriage. However, if that opportunity lapses and no betrothal is arranged between them, the cross-cousin relationship may change as far as terms are concerned so that the two call each other by the terms for 'father' (*ngaba* [ngabbard]) and 'daughter' (*gulun* [gorlonj]). (The change of term seems to take place usually before the girl reaches puberty.) From that point on, marriage between them is regarded as wrong, but not outrageously so."

According to my information the use of the terms 'father' and 'daughter' between actual first cross-cousins is established much earlier than puberty. Further the relationship between two people who call one another 'father' and 'daughter' as a result of a *-modjarrkdorriinj* skewing, is a highly constrained avoidance relationship, apparently because marriage between them remains a possibility. As such it is quite different from an actual 'father' - 'daughter' relationship.

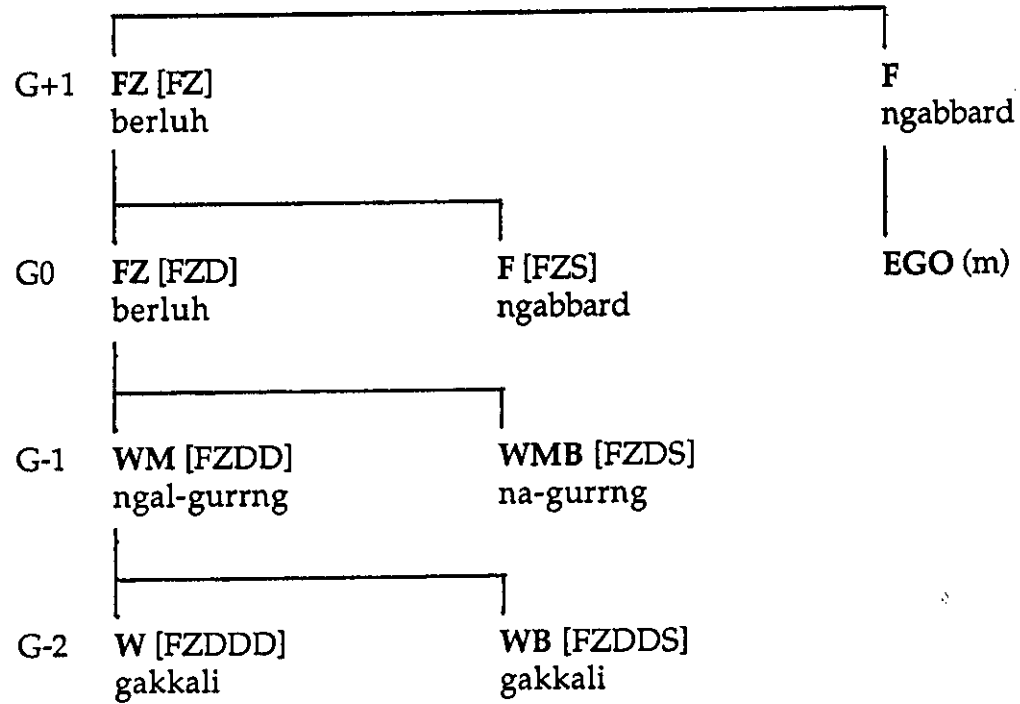


Table 3.3 : The Modjarrkdorrinj Skewing of Cross-Cousins in Gaagudju.



[] = relationship by usual methods of kin classification

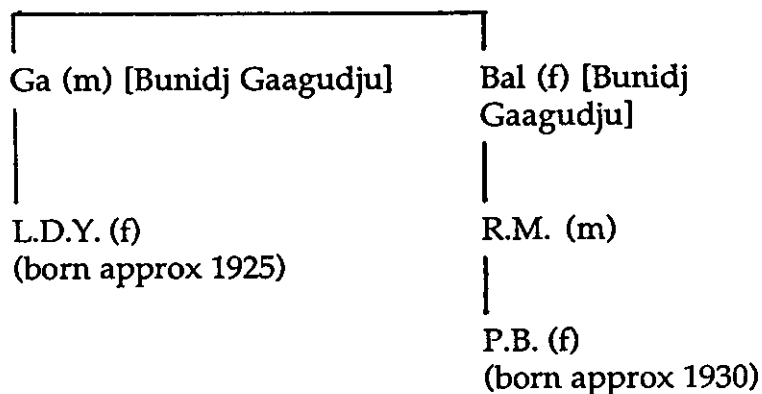
Table 3.4 : The Modjarrkdorinj Skewing of Cross Cousins Among Oenpelli Gunwinjgu.



[] = relationship by usual methods of kin classification

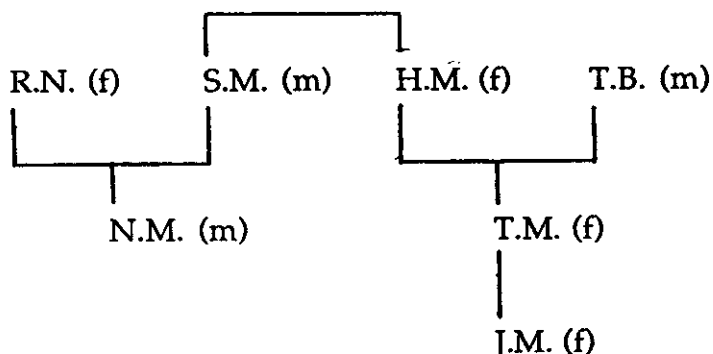
Table 3.5 : Modjarrkdorrinj Skewing Genealogies.

Genealogy 1.



L.D.Y. -> Bal      *ngiirla* 'aunt' [FZ]  
 L.D.Y. -> R.M.    *baaba* 'father' [FZS]  
 L.D.Y. -> P.B.    *nji-la'birri* 'younger sister' [FZSD]

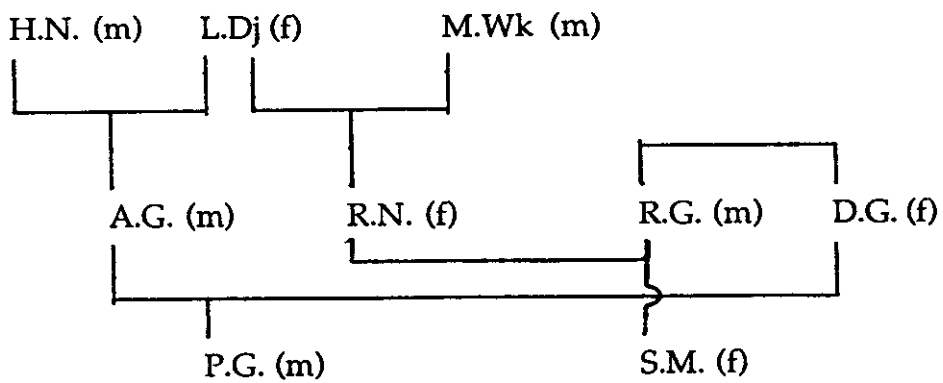
Genealogy 2.



N.M. -> T.M.    *ngiirla* 'aunt' [FYZD]  
 N.M. -> J.M.    *arr-ga-wu*='maaba' 'mother-in-law' [FYZDD]

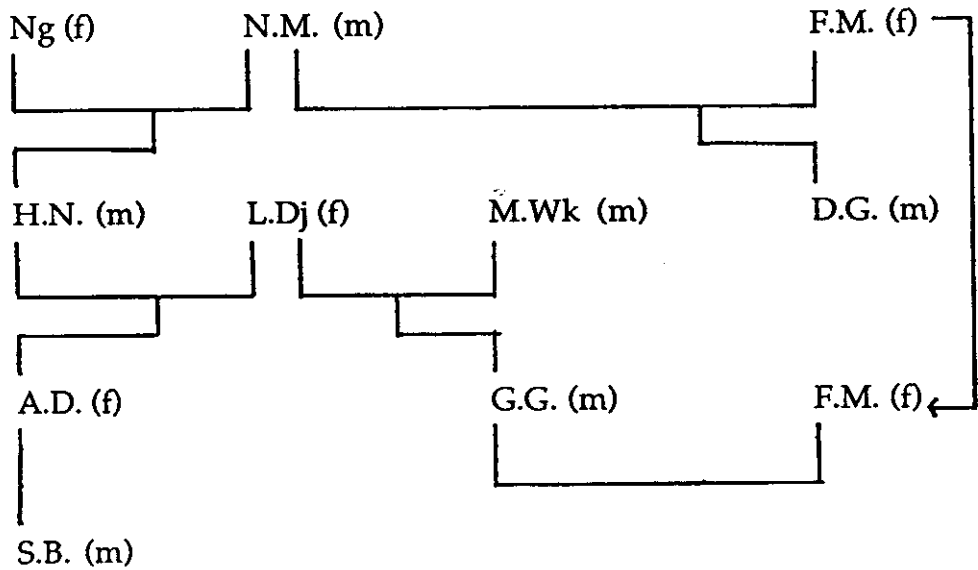
Table 3.5 : Modjarrkdorriinj Skewing Genealogies.

Genealogy 3.



P.G. -> S.M. *ngiirla* 'aunt' [FYZD], [MOBD]

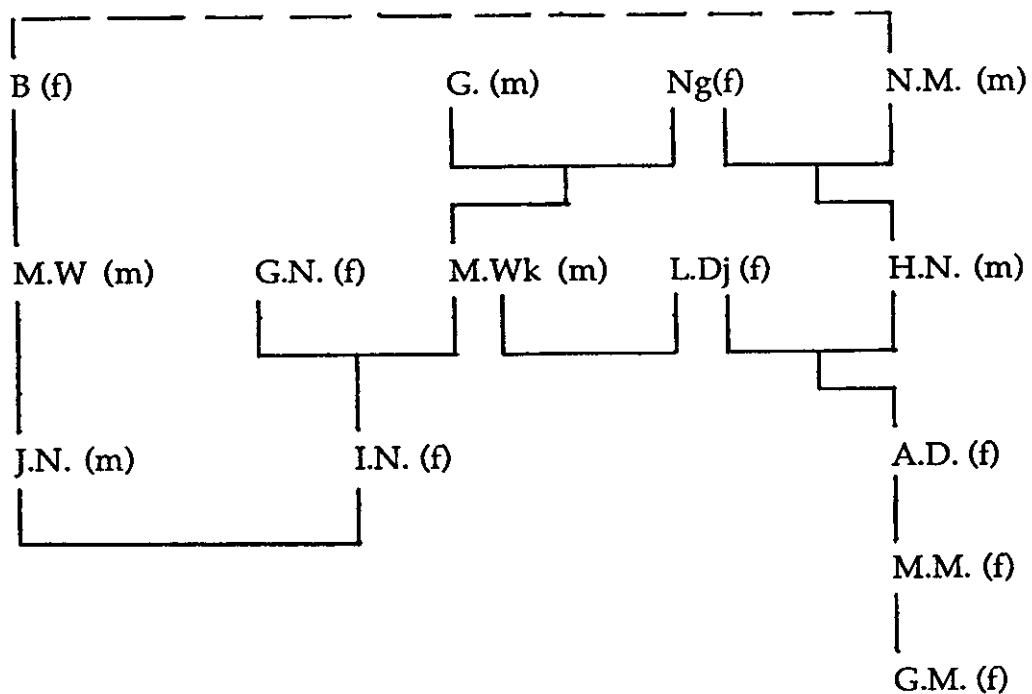
Genealogy 4.



S.B. -> D.G. *na-'woombardi* 'son' [MFFS]

Table 3.5 : Modjarrkdorriinj Skewing Genealogies.

Genealogy 5.



- J.N. -> A.D.    *ngiirla* 'aunt'
- J.N. -> M.M.    *arr-ga-wu*='maaba' 'mother-in-law'
- J.N. -> G.M.    *njing-goma*'gaali' 'wife'

The classificatory possibilities of the *-modjarrkdorriinj* skewing are illustrated by Genealogy 5 in Table 3.5, a somewhat complicated genealogy which raises a number of points. In Genealogy 5 J.N. skews A.D. and her descendants. J.N. and A.D. are clearly not actual first cross-cousins, and even the classificatory basis of the skewing was not clear on the information available to me. J.N. and A.D. are closely connected by J.N.'s marriage to A.D.'s step-sister I.N., and this is possibly of some relevance for "closeness". However this connection in itself raises another interesting point. Given this marriage the relationship between J.N. and A.D. would usually be a brother-in-law : sister-in-law relationship.

The use of different terms by a man to his wife and his wife's sister is highly unusual in terms of the general patterning of Aboriginal kinship systems. The Falkenbergs in their extensive study of the variable categorisation of affinal kin among the Murrinh-patha found only one case of a man categorising his wife's sister differently from his wife (Falkenberg & Falkenberg 1981 : 116 - 117). The example they describe involved an irregular marriage, with the wife's sister remaining in her standard classification because this standard classification was the correct classification in terms of her own marriage. Neither of these factors was operative in Genealogy 5. Genealogy 5 is a good example of the lack of concern for the "ideal" systematisation of kin classifications in the Kakadu - Oenpelli area referred to in (3.1).

The *-modjarrkdorriinj* skewing is itself structurally highly unusual in terms of the general structuring of Aboriginal kinship systems. It merges adjacent disharmonic generation levels, but is not classifiable as either a Crow or an Omaha skewing. The initial skewing of FZD = FZ and FZS = F is technically a Crow skewing. However the skewings in succeeding generations are quite different from those in Crow skewings. Mothers-in-law and spouses do not feature in the pattern of Crow skewings. Lounsbury (1964) argues that Crow skewings reflect patterns of succession by a woman's son to some part of the status of her brother. This is quite clearly not the case with the *-modjarrkdorriinj* skewing. This skewing is concerned with marriage possibilities, specifically with the status of FZDDD as a potential spouse, and not with potential succession to elements of the MB's status.

The FZDDD spouse of the *-modjarrkdorriinj* skewing is not merely a potential spouse, she is the first preference spouse for a male EGO. Consequently her mother, the FZDD, is the first preference mother-in-law for a male EGO. These preferential affinal relationships are set out by the Berndts from the viewpoint of the mother-in-law [FZDD] (1970 : 95) "Women seem to emphasise the matrilineal 'side' more than men do [in choosing sons-in-law]. In general, we found that they were most likely to cite as an ideal union one in which a woman gives her first daughter to her actual mother's mother's eldest brother's eldest son".

The unusual nature of the *-modjarrkdorriinj* skewing, both in terms of structuring and practice, clearly requires explanation. I will however postpone examination of the factors which appear to motivate the skewing until I have examined some other problems which arise in respect of the overall categorisation of the Gaagudju and Gunwinjgu kin

systems in terms of the general patternings of Aboriginal kin systems. These problems also involve the classification of affinal kin, and are relevant to any analysis of the *-modjarrkdorrinj* skewing.

### 3.4 The Categorisation of the Gaagudju and Gunwinjgu Kin Systems.

The categorisation of the Gaagudju and Gunwinjgu kin systems in terms of the usual Kariera/Aranda dichotomy is rather problematic. An Aranda kin system distinguishes four types of grandparent, in accordance with each of the males in the grandparental generation: FF, FMB, MF, MMB. A corresponding four-way distinction is drawn in the other generations. Thus in the parental generation, FFC, FMBC, MFC, MMBC are each classified by a distinctive kin term, and so on. A Kariera kin system distinguishes only two types of grandparent: cross-grandparents and parallel-grandparents. The two cross-grandparents, MF and FMB, are merged, as are the two parallel-grandparents, FF and MMB. The same cross vs parallel distinction is found in the other generations. Thus FFC = MMBC, and FMBC = MFC, and so on.

For the purposes of descriptive convenience, I refer to groupings of these generational divisions by the term in common use: patriline. Thus FF and FFC belong to the FF patriline, and the same for the other groupings. However I do not wish to suggest, by the use of the term "patriline", that these groupings are to be understood as descent-based constructs. Rather they simply reflect equivalences in the classifications of kin between generation levels. One of the principal points of interest of the Gaagudju and Gunwinjgu kin systems is the fact that they do not show a consistent pattern of equivalences in the classification of kin between generation levels.

There are a number of other differences, which are to a degree associated with this fundamental difference in categorisation. In a Kariera system, there is a single cousin category, to which the preferred spouse is terminologically assigned. In an Aranda system, the preferred spouse is terminologically classified as a second cousin, this category being distinct from that of a first cousin.

The correct categorisation of the Gunwinjgu kin system in terms of this dichotomy has been the subject of some debate. The Berndts originally characterised it as a Kariera system, but later appear to have characterised it as being akin to an Aranda system (Elkin, Berndt & Berndt 1951 : 266 - 281, Berndt & Berndt 1970 : 82 - 83). Scheffler (1978 : 487 - 488) argues that it is a Kariera system. In fact neither the Gunwinjgu, nor the Gaagudju, kin system is particularly happily described in terms of the Kariera/Aranda dichotomy.

I will begin by considering the classification of kin in  $G\pm 2$ . In the Oenpelli Gunwinjgu system (Table 3.2) kin in  $G\pm 2$  are segmented into four groups of siblings. This follows the pattern of an Aranda terminology, rather than that of a Kariera terminology (Radcliffe-Brown 1930 : 50). The categorisation of  $G+2$  kin in Table 3.2 is not the only classification of  $G+2$  kin found among speakers of the overall Gunwinjgu language. Gundjeyhmi speakers in Kakadu National Park have the

following alternate classifications of grandparents' opposite sex siblings (Evans 1991 : 18 - 19).

(3-17)	<u>Classification 1</u>		<u>Classification 2</u>	
MMB	<i>gakkak</i>	[MM]	<i>mawah</i>	[FF]
FFZ	<i>mawah</i>	[FF]	<i>gakkak</i>	[MM]
MFZ	<i>mamamh</i>	[MF]	<i>makkah</i>	[FM]
FMB	<i>makkah</i>	[FM]	<i>mamamh</i>	[MF]

Classification 1 is an Aranda classification identical to that of Oenpelli Gunwinjgu speakers. Classification 2 is however a Kariera classification, where a class of parallel grandparents is opposed to a class of cross grandparents, with a gender distinction in each class. Further to the south among Mayali (part of the overall Gunwinjgu language) speakers at Barunga, only the Kariera classification of G+2 kin is found (F. Merlan : p.c.). The significance of the distinction between the Aranda style classifications of G±2 kin found in the Gaagudju and Oenpelli Gunwinjgu systems, and the Kariera style classifications of G±2 kin found optionally in the Gundjeyhmi system, and obligatorily in the Barunga Mayali system requires further investigation.

The Gaagudju classification of G±2 kin (Table 3.1) is also Aranda in pattern. The distribution of the kin-term *gaaga* as 'FF, FFZ' and 'MM' tends to suggest that the parallel grandparents, including *ga'rnaagarli* 'MMB', could be superclassed. This is supported by the Gaagudju kinship material presented by Warner (1933 : 66. see Appendix 1). In this material *gaaga* and *ga'rnaagarli* are presented as alternate designations for the parallel grandparent class, and *gu'maambalnga* 'wDC' is presented as the kin term for the parallel grandchild class. In Warner's material the cross-grandkin are also combined under the terms *biibi* 'MF' and *ma'beenga* 'mDC'.

However there are reasons to doubt the correctness of Warner's material. Firstly there are some mistakes in his descriptions of other kinship systems. Warner (1933 : 64) describes the Nunggubuyu kin system as Kariera, whereas Heath's research shows it to be Aranda (Heath 1984 : 224). Further Warner combines the terminologically quite distinct Gunwinjgu, Gunabidji (Ndjeebbana) and Nakkara kin systems together under a Gunwinjgu terminology. His description of these three combined kin systems implies that all the cross-grandparents can be combined under the term *mamamh* 'MF'. While, as we have seen, there is a Kariera classification of cross-grandparents by certain groups within the overall Gunwinjgu language, this Kariera classification involves a gender distinction within the cross-grandparent class. The 'FM' *makkah* cannot be described by the term for 'MF' *mamamh*. Secondly the superclassing of the parallel grandparents under the terms of the line of the collateral parallel male grandparent MMB, and not under the terms of the line of the lineal parallel male grandparent FF, in Gaagudju is rather unusual. It could perhaps be explicable in terms of the unmarked reckoning by matrilineation in the region.



Thirdly P.B was consistent in her usage of Gaagudju kin terms in accordance with Table 3.1, and her usage was consistent with the much more detailed kin terminology presented by Spencer (Appendix 1.). Spencer spent a much longer period with Gaagudju speakers involving much greater contact than Warner did. The totality of P.B's usage does not bear out the suggestion that G±2 kin can be superclassed into parallel and cross classes. P.B did not ever superclass the parallel grandparents terminologically, under either *gaaga* or *ga'rnaagarli*. Indeed she did not even class just the 'MM' and 'MMB' together under either term. Secondly her usage of the G-2 reciprocals showed that the 'MM' is a different kind of kin to the 'FF' and 'FFZ'. The reciprocal of *gaaga* 'MM' was *gu'maambalnga* 'wDC', whereas the reciprocal of *gaaga* 'FF' and 'FFZ' was *(na-)bornobo'rnoongo* 'mSC'. Therefore the two different types of *gaaga* are covertly distinguished by the reciprocals (this is the reverse of situations involving kin terms such as 'wC' and 'mC' which indicate covert superclasses in the senior reciprocals. Scheffler 1978 : 124 - 129). Similarly P.B did not ever superclass the cross grandparents terminologically. She invariably distinguished the 'FM' *maangga* from the 'MF' *biibi*. N.M also invariably used the term *maangga* to refer to his actual FM who he learnt Gaagudju from.

As such it does not appear that there is sufficient evidence to establish a Kariera superclassing of G±2 in the Gaagudju system. Nevertheless the occurrence of the kin term *gaaga* in both classes of parallel grandparents is problematic in terms of prototypical Aranda terminologies. It is of course possible that there was a Kariera superclassing of G±2 kin used in certain contexts when Gaagudju was used in an active speech community. However this possibility must remain hypothetical.

In all other respects the Gaagudju G±2 terminology is even more strongly Aranda in patterning than the Oenpelli Gunwinjgu system. In the Gaagudju kin system the two collateral male grandparents, MMB *ga'rnaagarli* and FMB *gu'miigi*, are distinguished from their lineal siblings MM *gaaga* and FM *maangga*. Further the segmentation of G-2 into four sets involves only one use of reciprocal terms: *maangga* 'wSC' / *gu'miigi* 'mZSC'. The other three sets of G-2 kin are distinguished by their own individual terms. These classifications, especially the terminological distinction of MMB and FMB from MM and FM, strongly suggest an Aranda analysis of the kin system.

The classification of G±1 kin and G0 kin in the Gunwinjgu system also shows both Aranda and Kariera features. The Gunwinjgu distinguish between first preference *gakkali* spouses, and second preference *ganjok* spouses by genealogical criteria. In G0, the first preference *gakkali* spouse is a second cousin, as in Aranda systems. However, as we have seen in the discussion of the *-modjarrkdorriinj* skewing (3.3) the *gakkali* category spouse of absolute first preference is the FZDDD, and not a second cousin. As such the *gakkali* category of the Oenpelli Gunwinjgu kin terminology is constituted rather differently from the second cousin = spouse category found in Aranda terminologies.

Further, first cousins are acceptable second preference *ganjok* spouses. Therefore in overall terms, all cousins are acceptable spouses. This is the pattern found in Kariera systems. There is superclassing evidence which argues that all spouses do in fact belong to a single cousin class. In the *gun-debi* kin register of Oenpelli Gunwinjgu where *gakkali* is in certain situations re-termed *ganjok* (Elkin, Berndt & Berndt 1951 : 266). This argues that the term *gakkali* refers to a sub-class of first preference spouses within the *ganjok* super-class of cross cousin = spouse.

The classification of G±1 affinal relationships also shows Kariera superclassing patterns. The primary G+1 affinal terms is *ngal-gurrng* 'mWM'. Among Gundjeyhmi speakers in Kakadu National Park any *ngal-gurrng*, including one's own mother-in-law, may alternatively be referred to by the term *berluh* 'FZ', the classification of mWM in Kariera systems (N. Evans : p.c.). This is not possible among Oenpelli Gunwinjgu speakers, at least for the *ngal-gurrng* resulting from *-modjarrkdorrinj*. However, for Oenpelli Gunwinjgu speakers, the superclassing relationship between the two terms is shown by the fact that any *berluh* is a possible mother-in-law, other than those whose descendants are skewed by *-modjarrkdorrinj*.

The patterning of secondary G±1 affinal relationships, such as that between a man and his son's wife, is exclusively Kariera in nature at all levels of classification. A man terms his son's wife *gangginj* 'mZD' as in Kariera systems, and not *garrard* 'mother' as in Aranda systems (Table 3.2). Therefore in terms of overall superclassing patterns, the Gunwinjgu classification of G±1 kin and G0 kin is clearly Kariera in nature. However I do not wish to suggest that the Gunwinjgu kin system should thereby be analysed as Kariera at all levels (contra Scheffler 1978). I would argue that such an interpretation is incompatible with the more specific aspects of the Gunwinjgu classification, specifically in relation to the distinction between first and second preference spouses in G0.

As we have seen the Gunwinjgu distinguish between first and second preference spouses in G0 cousin class by genealogical criteria. The first preference spouses are second cousins, whereas the second preference spouses are first cousins. There are in fact many Kariera systems which draw a distinction of marriageability within the G0 cousin class by genealogical criteria. All of the kin systems to the south and west of the Gunwinjgu, from the Jawoyn through to the Murrinh-patha at Port Keats, are classically and unambiguously Kariera kin systems (own research and p.c. from other field researchers). All of these systems draw a distinction in marriageability between genealogically close and genealogically distant cousins. Genealogically distant cousins are the spouses of first preference. However actual first cross-cousins are not acceptable marriage partners. A marriage to an actual first cross-cousin is not simply a marriage of second preference. It is a wrong marriage, as seriously unacceptable as marriage to one's classificatory mother.

Therefore both the criteria for the distinction, and the nature of the distinction in marriageability in the Gunwinjgu classification are very different from those found in prototypical Kariera systems. The distinctions found in the Gunwinjgu system are identical to those found

in Aranda systems (the first cousin is a second preference spouse in most, if not all, Aranda classifications). It would be flying in the face of reality to describe the Gunwinjgu classifications within the cousin class as Kariera.

The available evidence indicates that the Gaagudju affinal kin terms follow a patterning similar to that of the Gunwinjgu. In G0, the primary kin terms relating to the cousin class are *na-woma'gaali* 'husband', *njing-goma'gaali* 'wife', and *gu'beengga* 'cousin'. P.B and other consultants were quite specific that spouses could not be termed *gu'beengga*, and that conversely people termed *gu'beengga* were not first preference spouses. Rather there were individuals who were termed *na-woma'gaali/njing-goma'gaali*, who were the appropriate spouses. Given the population collapse which affected the Gaagudju (1.1), there were simply insufficient people with a primary affiliation to Gaagudju to make any definitive statements as to how people came to be termed *na-woma'gaali/njing-goma'gaali* within a Gaagudju-based system of classification.

Among people with a primary affiliation to Gunwinjgu, P.B used these terms as translations for the term *gakkali*. However it is not certain that *na-woma'gaali/njing-goma'gaali* have precisely the same reference as *gakkali*. The available evidence would in fact indicate that the Gaagudju affinal terms were more narrowly affinal in range than the Oenpelli Gunwinjgu terms discussed. With *na-woma'gaali/njing-goma'gaali*, I asked P.B to make a reverse translation, and give their Gunwinjgu equivalents. She gave as equivalents the specifically affinal Gunwinjgu terms *na-gobeng* 'husband' and *ngal-gobeng* 'wife'. While she stated that *gakkali* was also an acceptable equivalent on further questioning, it would appear that the Gaagudju terms are strongly focussed on actual affinal relationships, unlike *gakkali* which appears to focus more widely on potential affinal relationships. The preceding example on the variable use of the terms of course demonstrates that *na-woma'gaali* and *njing-goma'gaali* are not absolutely restricted to actual affinal relationships.

I do not have direct information on the usage of the other Gaagudju affinal terms. It appears from P.B's comments that the term *nji-n-'daa-ma-ngi=da* 'mWF' was restricted to actual affinal relationships. The indirect evidence of the structure of the primary affinal relationship terms in Gaagudju would suggest that they too were strongly focussed on actual affinal relationships. As I have described (3.2) the primary Gaagudju affinal terms are compounds specifically describing the giving of a woman's daughter. It would appear most unlikely that these terms were used in anything beyond a very narrow range around actual affinal relationships.

Apart from people with a primary affiliation to Gunwinjgu, there were about half a dozen people with primary affiliations to Gaagudju and Amurdak, who were classified by P.B as cousins. These people were the children of Amurdak and Garik women classified as aunts by P.B. The relationships were all classificatory, as no genealogical links were posited. These people were therefore genealogically distant from P.B, though they were often "close" in terms of life history, especially

especially in relation to common working experience on the buffalo country. In all cases the primary life history connections were via Gaagudju and Amurdak people, and not through Gunwinjgu people. As such the classification of these people constitutes the best available information on specifically Gaagudju classifications in the cousin class, assuming that P.B continued with the classifications that had existed among the Gaagudju community on the buffalo country (1.1).

The patterning of P.B's classification is best illustrated by an example which involves two men who were "close", though not genealogically "close", brothers to one another. Both were equally "distant" from P.B in terms of all available genealogical and life history evidence. One man who she was the child of a "distant" aunt she referred to as *na-woma'gaali*. The other man who was the child of a "mid-range" uncle and a very "distant" aunt she referred to as *gu'beengga*. When I asked her about the variation between the two men she replied that any *gu'beengga* could alternatively be classified as *na-woma'gaali*. I do not know the particular factors which caused her to use the alternate classification in the particular case exemplified here. She otherwise classified the Gaagudju and Amurdak people in the cousin category as *gu'beengga*.

It would therefore appear that the Gaagudju system of affinal kin classification involved a similar spouse = cross cousin superclassing to that found in the Gunwinjgu system. Within this spouse = cross cousin superclass, there appears to have been a class of first preference spouses. This class of first preference spouses was constructed quite differently from that found in Kariera systems, as genealogically distant cross-cousins were not the first preference spouses. The available evidence does not elucidate the exact basis for determination of the first preference spouses within the cousin class. Given that *-modjarrkdorriinj* was operative among the Gaagudju (3.3), the class of first preference spouses would at least have included the FZDDD.

In summary then it would appear that the Gaagudju and Gunwinjgu kin systems cannot be strictly classified in terms of the Aranda/Kariera dichotomy. Any such classification would have to show a number of splits. The Gaagudju and Oenpelli Gunwinjgu kin systems would show an Aranda classification in  $G\pm 2$ . The Gundjeyhmi kin system would show either an Aranda or a Kariera classification in  $G\pm 2$ . The Barunga Mayali classification would show a Kariera classification in  $G\pm 2$ . All of the systems would show a Kariera superclassing of spouse = cross cousin. However in none of the systems, do the distinctions in preferentiality made among the range of possible spouses within this superclass correspond to the distinctions in preferentiality among possible spouses found within the spouse = cross cousin class in prototypical Kariera systems. The exact basis of its determination in Gaagudju is not now recoverable. Among the Gunwinjgu systems, the basis is the prototypical Aranda distinction between first and second cousins.

Any dichotomous Aranda/Kariera classification of these kin systems would have at least two undesirable results. Firstly it would imply that there were major categorial differences between the various

Gunwinjgu classifications, a suggestion which lacks any empirical support. Secondly it would fail to recognise that the Gunwinjgu systems, at least, irreducibly show both Kariera and Aranda patterns. As Heath states (Heath, Merlan & Rumsey 1982 : 5) "Our demonstration of multiple coexisting subsystems, not necessarily isomorphic to each other or even related by patterns of neutralisation, will make it difficult to continue applying simple typological classifications to the 'kinship system' of any particular society.". In this connection Heath also states (ibid : 2) "I would add that ... Australian kinship is a complicated matter, and we want to insist that this complexity must be recognised".

Salient among the complexities of the Gaagudju and Gunwinjgu kin systems are the unusual facts of the *-modjarrkdorriinj* skewing to be accounted for. The *-modjarrkdorriinj* skewing provides the first preference spouse among Oenpelli Gunwinjgu, and probably did so throughout the Kakadu - Oenpelli region (3.3). Systems of kin classification and marriage preferences are usually understood to be connected in most Aboriginal societies. Consequently it is desirable that any analysis of kin systems in the Kakadu - Oenpelli area should comprehend the *-modjarrkdorriinj* skewing within its purview.

The central fact about the *-modjarrkdorriinj* skewing is that it provides a close or actual FZDDD as the spouse of first preference. This central fact is clearly to be understood in terms of the strong preference for marriage of young women to older men, which is found generally throughout Australia. The Berndts correlate the status of FZDDD and MBDDD as preferred spouses (3.2) with a desire for young wives, "Informants' insistence ... reflects the fact that ageing men prefer young wives, and so welcome mechanisms to ensure this, hence the marriages with m.b.d.d.d and with m.b.d.son's.d." (Elkin, Berndt & Berndt 1951 : 281). As the *-modjarrkdorriinj* skewing is concerned with close, and usually actual, relations a FZDDD would almost certainly always be considerably younger than a male EGO.

Therefore, it would appear that social conditions form an important part of the motivation for the *-modjarrkdorriinj* skewing. The importance of social and economic conditions in understanding kin systems is made most explicitly with general reference by Bourdieu (1977 : 35 - 36) "To treat kin relationships as something people make, and with which they do something, is not merely to substitute a 'functionalist' for a 'structuralist' interpretation, ... ; it is radically to question the implicit theory of practice which causes the anthropological tradition to see kin relationships 'in the form of an object or an intuition', as Marx puts it, rather than in the form of the practices which produce, reproduce, and use them by reference to necessarily practical functions. The same is true, a fortiori, of affinal relationships : it is only when one records these relationships as a *fait accompli*, *post festum*, as the anthropologist does when he draws up a genealogy, that one can forget that they are the product of strategies (conscious or unconscious) oriented towards the satisfaction of material and symbolic interests and organised by reference to a determinate set of economic and social conditions."

However, while the general pattern of marriage between older men and younger women constitutes the general pre-condition for the *-modjarrkdorriinj* skewing, it does not explain why the skewing exists in its particular form. As mentioned, the preference for marriage between older men and younger women is found generally throughout Australia, without being accompanied by structural analogues of the skewing. Nor indeed do any of the other immediately salient, social conditions relating to marriage appear to determine the form of the skewing in any directly causal sense.

In addition to gerontocratic marriage practices, the region was also characterised by polygynous marriage practices. Nowadays older men are largely unable to achieve polygyny, owing to a variety of socio-economic changes which are too complicated to present here. However even now polygyny is not unknown. Historically it was a salient characteristic of marriage practices in the region. Spencer cites an example of a man with 6 wives (Spencer 1914 : 11). Within the memory of my consultants there were a number of men who had multiple wives. It is clear from the nature of my consultants' references to these men that the possession of multiple wives was traditionally an important element in the construction of a man of high status in the region. Without the *-modjarrkdorriinj* skewing, a man's FZD would presumably be available to him as a spouse. Consequently this could put a MMMBS in competition with a younger MBS. However marriage to a FZD is not likely to have been a particularly frequent, as women in this category will often be older than a male EGO (see Table 3.6). Therefore it is unlikely that this was a factor of great significance. Further, as with gerontocratic marriage, polygynous marriage is generally characteristic of Australia.

Another social factor immediately concerning marriage practices in the region is the preference, discussed in (2.5), for marriage to people who are "close" in geographical terms. Given a general pattern of geographically close marriage, an actual or "close" FZDDD is likely to belong to a clan which is geographically close to that of a male EGO. As discussed in (2.5) this factor appears to be most important in a woman's first marriage. This particular preference relates partly to the desirability of easy contact between a young wife and her parents (Berndt & Berndt 1970 : 95). It also relates partly to the desire on the part of the young wife's G+1 relatives to have her husband close by so that he may perform the services owing to them. The Berndts (1970 : 97) quote the following statement from a dispute about the potential marriage of a young girl to a geographically "distant" husband by the girl's father "She wasn't born in the south, where you come from, but here in the north among us. We don't want her to go to another country where she can't give meat and such things to her fathers."

These preferences would in turn appear to be directly correlated with the fact that the pre-contact lifestyle in the region was, as the Berndts (1970 : 101 - 104) describe it, "semi-nomadic". Owing to the comparative abundance of resources in the region, people moved across much more circumscribed areas than in the desert for example. As such the preference for geographically close marriage partners would appear to have a fairly

strong economic basis. This analysis is supported by the fact that the same preference for geographically close marriage is reported from elsewhere in tropical northern Australia (Cape Keerweer - Sutton 1978 : 106, North-eastern Arnhemland - Warner 1958 : 29, South-western Arnhemland - Merlan p.c.). However the fact that the preference for geographically close marriage is so widespread, means that it cannot be taken to be directly causal of the form of the skewing. This is highlighted by the fact that in the case of the Wik peoples of Cape Keerweer, the first preference spouse is the actual MYBD (McConnel 1934 : 332), and in the case of the Yolngu, the first preference spouse is the actual MBD (Warner 1958 : 64).

It also appears that the practice of "mother-in-law bestowal" (Shapiro 1981 : Ch.4), may be of relevance to an understanding of the skewing. None of the available literature on kinship practices in the Kakadu - Oenpelli region directly discusses mother-in-law bestowal. I did not encounter any evidence of its operation in my own fieldwork. However, this is not of significance, given the alterations that had occurred in bestowal and marriage practices by the late 1980's. This is especially so in relation to "long term" marriage and bestowal contracts, such as *-modjarrkdorrinj*. The age disparity between potential spouses under *-modjarrkdorrinj* is likely to be considerable, given that they are ideally actual genealogical kin. Consequently there is likely to be a considerable period between the promise and the actualisation of a marriage under *-modjarrkdorrinj*.

Elsewhere in Arnhemland, long term marriage contracts of this nature tend to involve mother-in-law bestowal (Shapiro 1981). In the Kakadu - Oenpelli region, we have already seen (3.3) that the Berndts present *-modjarrkdorrinj* from the perspective of the potential mother-in-law (1970 : 95) "Women seem to emphasise the matrilineal 'side' more than men do [in choosing sons-in-law]. In general, we found that they were most likely to cite as an ideal union one in which a woman gives her first daughter to her actual mother's mother's eldest brother's eldest son". As such it is a reasonable hypothesis that *-modjarrkdorrinj* correlates with the practice of long term marriage contracts involving mother-in-law bestowal. Further research is required to test this hypothesis. However even if *-modjarrkdorrinj* should prove to correlate with this practice, this would not be directly causal of the form of the skewing. As with the other practices so far discussed, it is attested in other areas with quite different kin systems.

In a general social sense, the *-modjarrkdorrinj* skewing may be viewed as correlating chiefly with the preference for gerontocratic marriage. It also conforms to the preference for geographically close marriage, and may have facilitated polygyny to some minor degree. It may also have correlated with the practice of long term marriage contracts characterised by mother-in-law bestowal. However given that all of these practices are found generally, either through tropical Australia, or throughout Australia generally, they are not directly causal of the form of the skewing. Rather, following Keen (1982), it appears that the particular form of the skewing should be understood as correlating more directly with the structural properties of the overall kin systems. The fact that the

skewing is concerned actual genealogical kin, at least as an ideal, is of considerable importance. This suggests that the nature of the correlations between the age differences and the marriage possibilities likely to be found within a kin system requires examination.

Berndt & Berndt (1970 : 94) state "The ideal spouse ... is a gagali [gakkali], ... Relatives a man calls by the term gagali include MMBDD, FFZSD, FZDDD and MBDDD". Table 3.6 presents the average age differences between a male EGO and spouses in these categories, following Keen's (1982 : 636) estimate of a 40 year age difference between father and child, and a 25 year difference between mother and child. Table 3.6 also includes estimates for the age differences between a male EGO and spouses in the second choice *ganjok* first cross-cousin category: FZD and MBD. Under the models presented in Table 3.6, FFZSD and FZD are not probable spouses, as they will frequently be older than a male EGO. Conversely a MBDDD is not a likely spouse because she will tend to be very much younger than a male EGO (average 65 years younger). Both, the MBD and MMBDD are likely to be about 15 years younger than a male EGO, and as such would constitute suitable spouses. The FZDDD is likely to be about 35 years younger than a male EGO. From the viewpoint of gerontocratic marriage, an average difference of 35 years would appear to provide a desirable age difference. It would allow a 50 year old man to claim a 15 year old wife.

However the mere existence of an average difference of 35 years does not of itself explain why the FZDDD is singled out by the skewing, as has already been mentioned. There is, for example, an average difference of 40 years between a male EGO and his MBDD. If age differences were the only factor, then the MBDD would also appear to be a reasonable candidate for skewing. There appear to be two critical factors about the FZDDD. Firstly she belongs to a generation which is harmonic with that of the male EGO. Preferential spouses presumably always belong to harmonic generations. Secondly, and perhaps most importantly, according to Keen (1982 : 637) "A model of marriage between a man and his FZDDD in each generation shows that the age difference between such persons is reproduced at each generation." Therefore, in terms of the kin system as a reproducible system, the FZDDD appears to be the ideal spouse for the purposes of reproducing a system of desired age differences.

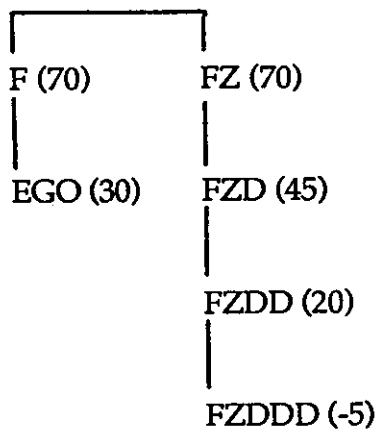
Within an Aranda kin classification, the choice of FZDDD as the preferential spouse is easily accommodated. In an Aranda system, the usual first preference spouse, the MMBDD belongs to the FMB patriline, as she is also the FMBSD. The FZDDD also belongs to this patriline, as she is also the FMBSSSD. Within the FMB patriline, she is therefore the G-2 harmonic equivalent of the usual first preference spouse, the FMBSD. In some Aranda classifications, the FMBSD and the FMBSSSD are classified by the same terms. The Gidjingali, who are discussed by Keen (1982 : 624), follow this pattern. Consequently the choice of the FZDDD as the first preference spouse would not present significant problems in Aranda classifications.

However it is not so easily accommodated under the Gunwinjgu classification. Within the Gunwinjgu classification, there are

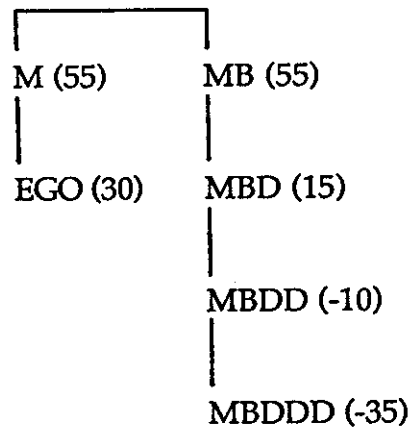


Table 3.6 : Age Differences Between Potential Spouses.

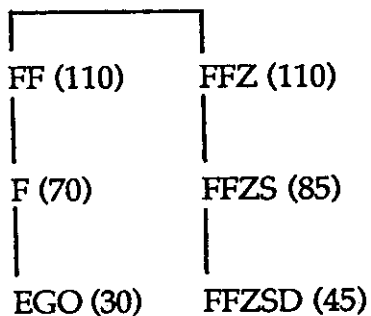
1. FZDDD : -35 years



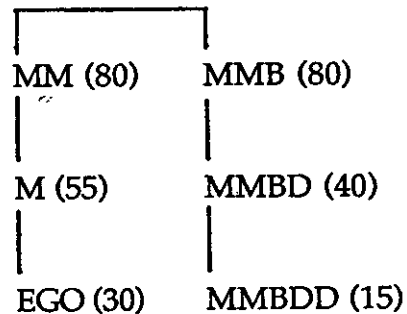
2. MBDDD : -65 years



3. FFZSD : +15 years



4. MMBDD : -15 years



(Based on a 40 year age difference between father and child, and a 25 year age difference between mother and child.)

two potential spouses in G0. The first preference spouse in G0 is the MMBDD, as in Aranda classifications. The second preference spouse in G0 is the MBD. The two potential spouses belong to different patriline. As we have seen, the MMBDD belongs to the FMB patriline, whereas the MBD belongs to the MF patriline. Leaving aside the effects of *-modjarrkdorrinj*, the spouse of absolute first preference, the FZDDD would otherwise be classified as DD by a male EGO under the Gunwinjgu system of classification. As a mDD, she belongs to the MF patriline, being also the MFSSSD. As such she is the G-2 harmonic equivalent of the second preference spouse in G0, the MBD.

Therefore, without the *-modjarrkdorrinj* skewing, there would be a considerable mismatch between the various potential spouse categories. The absolute first preference spouse in G-2, the FZDDD, would class with the second preference spouse in G0, the MBD. She would not class with the first preference spouse in G0, the MMBDD. The *-modjarrkdorrinj* skewing therefore has the effect of causing all the first preference spouses to be classed together.

In the Gaagudju system, the FZDDD is classified in the same way as in the Gunwinjgu system. That is, in the absence of *-modjarrkdorrinj*, she would be classified as DD by a male EGO, and would belong to the MF patriline. However, the *-modjarrkdorrinj* skewing cannot be motivated as specifically for the Gaagudju kin system, as it can be for the Gunwinjgu kin system. This is because the available data does not determine the basis for distinguishing between first and second preference spouses in G0. Nevertheless, it would appear to me that there are two hypotheses on the possible criteria for distinguishing first and second preference spouses in G0, and that *-modjarrkdorrinj* can be accounted for under either of these hypotheses.

One hypothesis would be that the Gaagudju criteria for distinguishing first and second preference spouses in G0 were identical to those in Gunwinjgu. Under this hypothesis *-modjarrkdorrinj* is motivated in the manner already described for Gunwinjgu. The other hypothesis would be that the Gaagudju criteria for distinguishing first and second preference spouses in G0 were different from those in Gunwinjgu. However if they were different, then there could be no obvious and direct equational relationships between categories in G-2 and the spouse categories in G0. I would suggest that it is inappropriate for the spouse of absolute first preference to be classified as belonging to a category (mDD), which is not obviously and directly equatable with the spouse categories in G0. The *-modjarrkdorrinj* skewing would therefore also be motivated under the second hypothesis, though in a more general sense than for the first.

In overall terms, I have argued that the motivations for the *-modjarrkdorrinj* skewing must be examined on several levels. In terms of the social and economic field of kin relations, it is motivated chiefly by the preference for gerontocratic marriage, and conforms to the preferences for polygyny and geographically close marriage. It may also have conformed to the practice of long term marriage contracts involving mother-in-law bestowal. However the form of the skewing itself appears

to be most directly correlated with structural factors inherent in the kin systems. Even in this respect, it is necessary to recognise that the correlation is not sufficiently direct to be termed causal. The analysis of age differences in this section, illustrated in Table 3.6, is an analysis of likely mean differences. It is not an analysis of a large database of actual differences. It is altogether likely that such an analysis would extend understanding of *-modjarrkdorrinj*.

This is especially so in relation to the continued use of the *-modjarrkdorrinj* skewing among Oenpelli Gunwinjgu speakers. In terms of present day marriage practices in Oenpelli, it is most unlikely that a man would be able to actualise a marriage with a FZDDD, even if she is skewed as the correct spouse under *-modjarrkdorrinj*. This was the situation with the only example in my genealogies where a marriage was possible under *-modjarrkdorrinj* (the female partner being old enough, and the male partner being alive). I was told that the man was too old (he was 45 - 50), and that he would not be given the girl. It might therefore be expected that the skewing would be falling into disuse, as it is doing among Gundjeyhmi speakers (3.3). The fact of its maintenance among Oenpelli Gunwinjgu speakers, suggests strongly that further examination of the kinship practices of these people is needed.

The material that is presently available, establishes that it is necessary to recognise that kin systems are to a degree autonomous structures. Further, it is also necessary to recognise that there is a degree of autonomy in the relationships that exist between particular kin systems. While not downplaying the value of reductionist analyses of kin systems, it is necessary to understand their limitations, and to elucidate the logics of particular systems.

### 3.5 The Kin Noun Possessive System.

Table 3.7 sets out the kin noun possessive paradigm, as it is to be constructed in terms of the available evidence. The elicitation of Minimal forms was unproblematic. However it proved difficult to elicit Augmented forms, and a number of the Augmented forms are not themselves attested. Rather they are posited on the basis of attested Augmented forms. In particular none of the forms in the MA paradigm are themselves attested. Rather they are posited on the basis of the AUG forms, which are attested. The form of the root in the 2nd person Augmented forms remains uncertain. The few attested forms show *nji-* as the root. However a comparison of the possessive paradigm with the basic free personal pronoun paradigm (Table 6.2) suggests that in origin the possessive forms were all compounds consisting of the appropriate pronoun and the kin noun. The 1+2 Minimal form, and the Augmented forms, other than the 2nd person forms, are still analysable in this manner. The anomalous status of the 2nd person forms suggests that the attested examples may be mistakes, and the the Augmented root should be the full pronoun form *nginja-* (Table 6.2). The Augmented paradigms require some further confirmation.

Table 3.7 : Kin Noun Possessive Paradigm.

	MIN	FUA	MUA	AUG	MA
1	<i>ngaDj-X</i>	<i>ngaa-njdja=X</i>	<i>ngaa-mana=X</i>	<i>ngaa-mba=X</i>	<i>ngaa-da=X</i>
1+2	<i>ma'naarra=X</i>	<i>ma'naa-ndja=X</i>	<i>ma'naa-mana=X</i>	<i>ma'naa-mba=X</i>	<i>ma'naa-da=X</i>
2	<i>nji-X</i>	<i>?nji-njdja=X</i>	<i>?nji-mana=X</i>	<i>?nji-mba=X</i>	<i>?nji-da=X</i>
3M	<i>nowo-X=da</i>	<i>no'woo-njdja=X</i>	<i>no'woo-mana=X</i>	<i>no'woo-mba=X</i>	<i>no'woo-da=X</i>
3F	<i>ngoyo-X=da</i>	<i>ngo'yoo-njdja=X</i>			

The Minimal forms show a variety of formal patterns. Other than the 1+2 form, they are all prefixes. The 1MIN, 3MMIN, and 3FMIN forms occur as a bound roots elsewhere in the pronominal paradigms (Table 6.2). The 2MIN form is unique to the kin possessive paradigm. The 3rd Minimal forms also involve an enclitic =*da*. An enclitic of this form is otherwise attested as a ligature (5.6.1), and as a substantiviser (6.2). It seems likely that these three forms are all historically derived from some common source.

In any referential use kin terms are obligatorily possessed. Unpossessed kin terms function as vocatives. Occurrence with this paradigm is the defining characteristic of kin nouns, as a formal part of speech class in Gaagudju (6.1). The class of kin nouns, thus formally defined, includes all the kin terms in Table 3.1. It also includes the cousin/affinal kin terms listed in (3-18).

(3-18)	<i>gu'beengga</i>	'cousin'
	<i>ma'rreegidji</i>	'mWB'
	<i>na-woma'gaali</i>	'husband'
	<i>njing-goma'gaali</i>	'wife'

It does not include the G±1 affinal kin terms. These forms are compounds which consist of a fully inflected form of the verb 'to give' and the kin noun *maaba* 'woman's child' (3.2). They indicate possession by variation in the form of the prefix complex on the verb 'to give'. Bereavement and age grading terms (3-1 & 3-2) are also not included within the formal kin noun class. However the class does include the noun in (3-19).

(3-19)	<i>gu'waalawa</i>	'mother's country'
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This particular relationship to land is therefore linguistically assimilated to a kin relationship in Gaagudju. Relationship to one's own country is not linguistically assimilated to a kin relationship in Gaagudju. The noun meaning 'country, territory' in Gaagudju is *wa'laalu* ~ *waala* (the second variant is much less frequent). This noun is in fact highly polysemous in Gaagudju. It has a range of geographical meanings 'camp, country, ground, place, territory'. It also has a range of repetition meanings 'times, etc' (8.5.6). The second set of meanings may be ignored for present purposes, as they are not synchronically relatable to the first set. Within the first set of geographical meanings, there is a construction which singles out the 'owned territory' meaning.

(3-20)	<i>yaana-ngga</i> ...= <i>nja=wa'laalu</i>	<i>ngiinja=da=wa'laalu</i>
	where-IV ...=2IO=country	2MIN=Lig=country
	'Where is your country?'	

*nang'gaarri* *ngaayi=da=wa'laalu*  
 IV.here 1MIN=Lig=country  
 'This is my country here.' (B781)

The first construction involving *wa'laalu* is an incorporation construction which classes *wa'laalu* with inalienably possessed part nouns (8.8). In this construction *wa'laalu* can mean 'camp, country, place, territory'. The second and third constructions involving *wa'laalu* are unique to this noun. They are compounds consisting of a basic pronoun, the ligature =*da* (5.6.1), and *wa'laalu*. In this particular compound construction, it appears that *wa'laalu* only has the meaning of 'owned territory'. While this construction type is not formally identical to the kin noun possessive constructions, there are obvious formal parallels. The formal similarities are almost certainly iconic of the social commonalities in the classification of kin and country.

### 3.6 Matrilineal Phratries.

Five exogamous matrilineal phratries were found among the Gaagudju speaking people. The phratry system is widespread being found among Amurdak, Garik, Giimbiyu, Gundjeyhmi, Gunwinjgu, Iwadja and Maung, as well as Gaagudju speakers. On the basis of genealogical evidence it appears that it was also found among Ngaduk speakers. To the best of my knowledge it was not found among Limilngan speakers. The phratry names found in the northern Kakadu - Oenpelli - Cobourg Peninsula area are set out in Table 3.8.

There are a number of points to be made about the morphological analysis of these phratry terms. Firstly in Amurdak, Gaagudju and Gunwinjgu, the morphemes *Warr(i)-*, *Garr(a)-* and *Yarri-* may be segmented in most of these phratry terms. In Gaagudju and Gunwinjgu these morphemes do not occur elsewhere in the language (my knowledge of Amurdak is too limited to comment on this point). It seems quite likely that these morphemes are related by diffusion. The *-djirra-* morpheme found in two of the Garik terms may also be a diffusional variant.

Only the first three phratries were historically found throughout the region. The Garik term for the fourth phratry is clearly a borrowing from Gunwinjgu, and sources from early contact list only the first three terms (Earl 1842 : 240 - 241, Spencer 1914 : 46) for the Cobourg Peninsula area. The Gaagudju term for the fourth phratry shows two variants. The longer form was used by P.B and L.D.Y, whereas the shorter version was used by N.M.

In both Gaagudju and Gunwinjgu the terms for the fifth phratry differ significantly morphologically from the terms for the other four. In both languages the names otherwise function as ordinary nouns, meaning 'white corella' and 'march fly' respectively. Berndt & Berndt (1970 : 65) report that Gunwinjgu did not regard the fifth phratry as one of theirs, but rather as Amurdak and Gaagudju. The linguistic evidence would suggest that the fifth phratry is more probably Amurdak in origin, but further investigations are required to confirm this.

Berndt & Berndt (*ibid*) also report that the following entities are the chief symbols of each of the Gunwinjgu phratries; Phatry 1 - fire,

Table 3.8 : Matrilineal Phratry Terms.

<u>Amurdak</u>	<u>Gaagudju (M)</u>	<u>Gaagudju (F)</u>	<u>Garik</u>	<u>Gunwinjgu</u>
1. warri-wudjali	Ø-yarrma'ngiiru	njing-garrma'ngiiru	man-djirra-wudjali	yarri-burrik
2. warri-arn.gurrk	Ø-yarra'ngaalbu	njing-garra'ngaalbu	man-djirra-wuli	yarri-garn.gurrk
3. warri-arninj	Ø-ya'rraadjawa	njing-ga'rraadjawa	man-balnggidj	yarri-yarninj
4. warr-ugarr	Ø-yarraba'rnaadjinggi	njing-garraba'rnaadjinggi	yarri-wurrgan	yarri-wurrgan
	~ Ø-yarraba'rnaadju	~ njing-garraba'rnaadju		
5. warri-marrangadj	djimburru'woodjbu	djimburru'woodjbu		djoned

Phratry 2 - stone, Phratry 3 - sun, Phratry 4 - freshwater or the pandanus. In Amurdak and Garik the names of phratry 1 involve the lexeme *wudjali* 'fire'. They also report that (ibid) "When we first worked in this region, up to 1950, virtually every adult could give the semi-moiety [phratry] affiliation of almost any animal or natural feature ..... Now many of them cannot." My main consultant P.B could only give phratry affiliations for a small number of animals, but she did appear to be working on the principle that everything did have a phratry affiliation in Gaagudju as well - it was just that she could not remember, or did not know them.

Perhaps the most significant point to be noted is that the linguistic evidence argues, reasonably strongly, that the phratry system is relatively old in this area. The partial similarities in terms between the languages suggest that the system diffused through the area. However the irregularities that occur (such as the irregular lenition of initial /g/ to /y/ in the Gaagudju masculine forms. 4.6.3) argue that the diffusion did not occur in any recent period.

This correlates with the anthropological evidence, such as that concerning classification of the natural world already mentioned, which also argues that the phratry system has been present in this area for a considerable time. The most socially salient classificatory system presently is the sub-section system. However this has clearly been introduced into the area since the turn of the century as Spencer did not record it at Oenpelli in 1912. Prior to the introduction of the sub-section system I would suspect that the phratry system played a role similar to that which the sub-section system now does in daily social life. In this respect it is of interest to note N.M's use of the phratry terms. N.M lives on Cobourg peninsula, an area where sub-sections do not appear to have the social salience they do in Oenpelli. The Berndts note that the sub-section system did not appear to be in use on Cobourg peninsula at the time of their early fieldwork (Elkin, Berndt & Berndt 1951 : 260). N.M also spent much of his life around Darwin, where the sub-section system is not used. When I was discussing various deceased Amurdak and Gaagudju people with him, he spontaneously classified people by their phratry, in the same circumstances where my Oenpelli consultants classified such people by sub-section.

In addition to the matrilineal phratries, Gundjeyhmi and Gunwinjgu speakers also have matrilineal moieties *ngarradjgu* and *mardgu*. However P.B denied that Gaagudju speakers had these moieties. I do not know whether Amurdak and Garik speakers had the matri-moieties.



## CHAPTER 4

## SEGMENTAL PHONOLOGY

## 4.1 The Phonemic Inventory and Orthography.

Table 4.1 presents the Gaagudju phonemic inventory in accordance with the categories in general use for Australian languages. Table 4.1 also lists the practical orthography equivalents for symbols which do not occur in the English alphabet. The following orthographic conventions should also be noted.

- (4-1) Vowel length is represented by doubling: e.g. aa = /a:/
- (4-2) Word-initial stress is not marked. All non-initial stresses are marked by an apostrophe immediately preceding the stressed syllable. Consequently any word which is not marked with an apostrophe is stressed on the first syllable.
- (4-3) A full stop is used to distinguish between the velar nasal /ŋ/, and an /n.g/ cluster.

<i>ba'rdaanga</i>	/ba'da:ŋa/	*/ba'da:ŋa/
'older brother'		

<i>maan.gul</i>	/ma:ngul/	*/ma:ŋul/
'palm sp'		

If however, the /g/ in the /n.g/ cluster occurs in a stressed syllable, then the positioning of the stress apostrophe is sufficient to distinguish /n.g/ from /ŋ/.

<i>na'ngeelawa</i>	/na'ŋe:lawa/	*/nan'ge:lawa/
'willywilly'		

<i>bardan'geeya</i>	/baɖan'ge:ya/	*/baɖa'ŋe:ya/
'old women'		

As indicated in Table 4.1, the glottal stop is only marginally a member of the Gaagudju phonemic inventory. It occurs in one morpheme only, the nominal root *ngoolhgirr* 'hot sand'. The realisation of this morpheme contrasts with the realisation of *-baalgi* 'lots'.

(4-4)	<i>ngoolhgirr</i>	[ŋɔ:lʔgɪɾ]	'hot sand'
	<i>-baalgi</i>	[ba:lgi]	'lots'

Table 4.1 : Gaagudju Phonemic Inventory.

A. Consonants.

	Bilabial	Alveolar	Retroflex	Palatal	Velar	Glottal
Stop	b	d	ɖ <rd>	ɕ <dj>	g	(2) <h>
Nasal	m	n	ɳ <rn>	ɲ <nj>	ŋ <ng>	
Lateral		l	ɭ <rl>			
Tap		ɽ <rr>				
Continuant	w		ɾ <r>	y		

B. Vowels.

	Front	Central	Back
High	i		u
Mid	e		o
Low		a	

<> = orthographic equivalent

The glottal stop is not further examined in this grammar, as it is essentially extra-systematic.

#### 4.2. Phonological Variation and Phonological Analysis.

The phonemic inventory of Gaagudju is unexceptional in both regional, and general Australian, terms (Dixon 1980). However in many other aspects of its phonology, Gaagudju diverges markedly from the patterns usually shown by Australian languages. These divergences revolve around the nature of stress in Gaagudju, and its effects. The patterning of stress in Gaagudju is altogether dissimilar to that shown by nearly all other Australian languages (Dixon 1980 : 128 - 129). In cross-linguistic terms, Gaagudju stress patterns class with those of English and other Germanic languages, and not with the stress patterns of Australian languages (5.1).

In Gaagudju, as in English, words may have very different realisations in carefully monitored slow speech from those found in relatively unmonitored faster speech. Stressed vowels and syllables are normally maintained at all speech speeds. Stressed vowels are however usually lengthened (4.5.4). Unstressed vowels, on the other hand, show a strong tendency to be reduced in faster speech, usually to [ə] but also to [ɪ]. Unstressed syllables, especially those at word boundaries, tend to be reduced or deleted. These stress related processes are complemented by a range of consonantal lenition and deletion processes, which achieve their fullest operation in faster speech.

As a consequence of these various factors, nearly all word forms in Gaagudju minimally have at least two possible realisations. The only exceptions are the few examples of monosyllabic words that occur (5-198). Many word forms have considerably more than two possible realisations. Nearly all word forms appear to have a single canonical realisation. This is the realisation given in carefully monitored slow speech. These canonical realisations showed consistency when checked. Certain verbal forms involving vowel grade apparently have two canonical realisations (4.7.2).

The other, non-canonical, realisations of a word form can, in the great majority of cases, be analysed as phonologically conditioned "fast speech" variants. However there are a considerable number of non-canonical realisations which show lexical and/or morphological conditioning. This is especially the case among the various consonantal lenition and deletion processes. Historically it appears likely that these lexicalised and morphologised processes were originally phonologically conditioned "fast speech" processes. In some cases the morphological conditioning appears to be motivated by boundary marking considerations (5.6.3). However most of the lexicalised and morphologised non-canonical variants did not have any obvious phonological, grammatical, or semantic function. Rather the most plausible hypothesis is that they were of socio-linguistic significance in pre-contact times, as the whole range of variation in word forms probably was.

The extensive range in potential realisations of word forms was very much characteristic of the two fluent Gaagudju consultants, P.B and L.D.Y. The speech of consultants with a partial knowledge of Gaagudju, showed a much smaller range of variation from the canonical realisation. These consultants spoke a variety of primary languages: Amurdak, Garik, Gunwinjgu, Iwadja and Kriol. None of these languages appear to show fast speech or lenition processes of equivalent frequency to those found in Gaagudju. There was also variation between the two fluent speakers. P.B showed a greater tendency to reduce and elide unstressed vowels and syllables than L.D.Y did. It would seem not unlikely that control over, and usage of, the lenition and fast speech processes also served to differentiate between partial and fluent speakers, and to differentiate among fluent speakers in pre-contact times.

It is, of course, also necessary to bear in mind the limitations of the database, which the following description is based upon. Many forms, especially those relating to the more esoteric or traditional aspects of culture, were not encountered in other than carefully monitored slow speech. As such the database does not include a full range of variation. Further, it is also necessary to recognise that speech speed cannot in fact simply be divided into "slow" and "fast". Speech speed exhibits a considerable range. There is insufficient material to determine whether this range should be analysed into discrete quanta, or as a continuum with prototypical foci, or by some other analysis. It is undoubtedly the case that further material would lead to revisions in the description presented here.

Nevertheless, even the limited material presently available, shows a range of variation which extends well beyond that commonly found in the great majority of Australian languages. The ensuing description focuses on this range of variation. The description does not attempt to account for the entire range of variation found within the available data. Rather I only attempt to account for apparent regularities within the range of variation. In the discussion of each regularity, the apparent exceptions to that regularity are also listed. Readers wishing to test the validity of the analyses presented in the grammar are advised to refer to Appendix 2 (Verbal paradigms).

Any analysis of the range of variation found in Gaagudju must begin with an examination of the nature of bound relationships. Bound relationships can be divided into two major classes in Gaagudju: affixal relationships (symbolised by the hyphen -) and clitic relationships (symbolised by the equals sign =). Phonologically these two classes are distinguished by three factors.

- (4-5) Morphemes in a clitic relationship can be separated by a pause in slow speech. Morphemes in an affixal relationship cannot be separated by a pause in any environment.
- (4-6) All morphologically and lexically dependent rules take affixation as their domain. This includes the stress placement rules, the vowel

lengthening rule, and a large number of morpho-phonemic rules (5.1.2, 5.1.3 & 5.3.3).

- (4-7) The full set of phonotactic constraints on morpheme structure takes affixation as its domain. Clisis shows a subset of these constraints (5.3.3).

Morphologically and lexically the two relationships are distinguished by two factors. Firstly affixal relationships are always derivationally prior to clitic relationships. Secondly clitic relationships are productive, whereas affixal relationships are largely unproductive (Ch's 6 & 7). It should be noted that the division between affixation and clisis must, strictly speaking, be analysed as a prototypical division, rather than a categorial division. The great majority of morphological boundaries can be unambiguously classified with respect to the criteria that define the distinction. However the status of boundaries in nominal compounds and reduplications with respect to the division is somewhat problematic. On the presently available evidence, I classify them as clitic boundaries (5.6.1 & 5.6.2).

As we will see, the distinction between affixation and clisis in Gaagudju corresponds to the traditional distinction between the lexicon and syntax. Affixal relationships are clearly lexical in nature. The highly idiosyncratic nature of many of the phonological rules affecting them demonstrates this. The status of relationships of clisis is less immediately obvious. Two different classes of morphemes are found in clitic relationships. One class consists of nominal and verbal forms which can otherwise freely occur as independent words. The other class consists of those morphemes which only occur in clitic relationships: the enclitics.

It is the status of the other constructions involving enclitics that is most open to debate, particularly with reference to the status of the enclitics themselves. As might be expected enclitics show an ambiguous status with respect to the criteria which usually serve to differentiate free and bound forms: independent occurrence, stress and phonotactics. The prototypical difference between the two classes is obviously that free forms are independent phonologically, whereas bound forms are dependent.

The ambiguous status of enclitics appears perhaps most clearly with respect to this prototypical criterion. Enclitics can occur independently. However the independent occurrence of enclitics is different in nature to the independent occurrence of other forms. Enclitics do not occur independently in the normal course of events. Rather they do so when they occur as after-thoughts. As such they tend to be characteristic of slow uncertain speech, and not of slow carefully monitored speech. Even when phonologically independent, enclitics cannot occur freely in the clause. They have to occur immediately adjacent to their host (see 8.4 for the exceptions), and they have to occur with respect to one another in accordance with the order required by morphological templates. Given that Gaagudju is a strongly non-configurational language (9.1), these configurational constraints are of

considerable significance. They argue that the phonologically independent occurrence of enclitics can, not unreasonably, be described as indirect enclisis.

With respect to stress, free forms prototypically have an independent stress, whereas bound forms lack stress. All monosyllabic enclitics lack stress. Most polysyllabic enclitics have an independent stress. However there are two which do not.

(4-8)      =*mana*            'MUA'            =*mani*            '1+2IO'

With respect to phonotactics, free and bound forms generally show different phonotactic possibilities. In terms of phonotactics enclitics are more similar to affixes. There are no enclitics greater than 2 syllables in length. The same restriction is found with affixes, whereas nominal and verbal roots greater than 2 syllables in length occur with considerable frequency. A number of enclitics have initial nasal-stop clusters, a phonotactic pattern found in affixes, but not in nominal or verbal roots (with one exception. 5.3.4). Also while enclitics are not restricted by the full range of phonotactic constraints on morphemes, they are restricted by a significant subset of them (5.3.3).

I would argue that the generality of the evidence shows that the lexical entries of enclitics should indicate that they are bound forms. This is partly because they are more similar to affixes in terms of their phonotactic patternings. However more importantly it is because they lack the privilege of true independent occurrence. If the enclitics are analysed as bound forms, then the question becomes whether they are lexically or syntactically enclitised to their host.

In Gaagudju the evidence indicates that cliticisation is a syntactic relationship. Firstly, as we will see (8.2), the majority of clitic constructions must be analysed as phrasal in nature. As such it is necessary to accept that the majority of clitic relationships arise syntactically in any case. Secondly, there are no lexically or morphologically conditioned phonological rules which operate across clitic boundaries. Thirdly, nearly all forms which have undergone the complete range of affixation are potential phonological words (5.6). Of forms which have not undergone the full range of affixation, only noun roots and particles constitute potential phonological words. Consequently relationships of clisis nearly always involve at least one form which could be an independent phonological word.

I am not presently certain how the difference between "direct" and "indirect" encliticisation should be formalised.

(4-9)	<i>a'rree-ya=nu</i>	<i>a'rree-ya ...=nu</i>
	1A.FU-go=3MIO	1A.FU-go ...=3MIO
	'I will go to him.'	'I will go...to him.'

Presumably any formalisation will involve pragmatics, as the difference between the two structures is pragmatic, and not truth-functional

(the notation ...=, with the three dots and the equals sign is used hereafter to indicate indirect enclisis).

Analysing clisis as a syntactic relationship, and affixation as a lexical relationship, is generally well-motivated in terms of the overall data. As mentioned, the distinction between the two is the major distinction in bound relationships found in Gaagudju. It is therefore appropriate that any modelling of the Gaagudju phonological system should mark this distinction in a salient manner. This in turn raises the question of exactly which models should be adopted in the phonological description of Gaagudju. With respect to question of the lexicon and syntax, the model which I have adopted is that of Lieber (1981).

In addition to the usual types of phonological rules, Lieber's framework also includes two other types of rules. One of these is the morpholexical rule, which has the following characteristics (Lieber 1981 : 42).

- (4-10) Morpholexical rules are predicates which define sets of ordered pairs of lexical items, both of which are listed in the permanent lexicon. The relationships defined by morpholexical rules mimic the sorts of relationships defined by more productive morphological processes.
- (4-11) Morpholexical rules are purely classificatory in nature. Unlike other rules of word formation, they do not change category, alter sub-categorisation, or add to, change or subtract from semantic content, however that is characterised. They merely define the limits of a class of items, and specify relatedness between pairs of those items.
- (4-12) It is purely arbitrary whether or not any given lexical item conforms to the specifications of a lexical class as defined by its morpholexical rules.

Morpholexical rules essentially relate stem variants. There are a number of situations in Gaagudju, where the lexicalised nature of phonological relationships can be most accurately captured by the use of morpholexical rules. The other type of rule found in Lieber's framework is a string dependent rule. String dependent rules are phonological rules whose operation must be triggered by a lexically marked diacritic (Lieber 1981 : 201). In Lieber's theory diacritics may have [+], [-] or [±] values.

In Gaagudju string dependent rules do not generally apply in an all or nothing fashion. Rather the occurrence of a particular variant must usually be described in terms of a percentage. I have suggested that these percentages were of socio-linguistic significance in pre-contact times. Therefore it would probably be more accurate to assign the triggering diacritics a percentage value in Gaagudju, rather than simple plus or minus values. However the socio-linguistic status of variable rules in Gaagudju is obviously

hypothetical. Consequently I have followed Lieber, and assigned diacritics either a [+] value, a [-] value, or a [±] value. The [±] value indicates that a particular variant occurs in some, but not all, the tokens of a form. String dependent rules are subject to the following constraints (Lieber 1981 : 203).

- (4-13) No string dependent rule can be assigned lexical entry information.
- (4-14) String dependent rules must follow lexical structure in a block, and therefore must be structure preserving.
- (4-15) String dependent rules must be local.

The constraint on string dependent rules in (4-13) means that they must be taken to apply after affixation is complete.

The importance of lexical and morphological factors to phonological analysis in Gaagudju suggests that the theory of lexical phonology (K. Mohanan 1986) might also be of use. Lexical phonology divides phonology into a number of relationally ordered domains. The principal division is between the lexical and post-lexical modules (K. Mohanan 1986 : 8). This division corresponds to the distinction between morphological affixation and syntactic clisis in Gaagudju. The lexical module, or lexicon, is further sub-divided into domains called strata, and the application of phonological rules is to be described in terms of these strata (K. Mohanan 1986 : 21).

However there is a significant problem with the application of lexical phonology to Gaagudju. There is no clearcut phonological motivation for lexical strata. There are a number of phonological rules which show morphological conditioning in Gaagudju. However these rules may all be applied in a single block (5.3.3 & 5.7), and consequently they do not provide evidence for strata. In the absence of clearcut phonological evidence for lexical strata, I do not adopt the theory of lexical phonology. I do however make use of the term "post-lexical", as it is a useful cover term for the phonological processes involved in clisis and phonetic implementation.

### 4.3 Feature Specification.

As the ensuing description is presented in terms of theories that have developed in the generative paradigm based on 'The Sound Pattern of English' (Chomsky & Halle 1968, hereafter SPE), the feature system adopted is an SPE based system. Table 4.2 sets out the full feature specification for the segmental inventory of Gaagudju. Table 4.2 also sets out a post-lexical specification for the major vowel allophones. The feature specification system illustrated in Table 4.2 departs from the usual SPE pattern in one significant respect. Following recent developments in SPE feature theory (Avery & Rice 1989, Sagey 1986, Van der Hulst 1989), I have made extensive use of monovalent specifications.





The extent to which use can be made of monovalent specification is the subject of some debate. Some proponents of monovalent specification propose that all features are monovalent (Avery & Rice 1989 : 180 - 181, Van der Hulst : 255). Other proponents propose that only certain categories of features are monovalent (Sagey 1986 : 273). All proponents of monovalent specification theory agree that features falling broadly within the traditional category of "place" features are monovalent in nature. It is among the category of features falling broadly within the traditional category of "manner" features that debate over the applicability of monovalent specification arises.

This debate revolves critically around the concepts of contour and complex segments. As defined by Sagey (1986 : 69), contour and complex segments are segments where multiple specifications from a single feature category are all linked to a single skeletal timing slot (e.g. a single timing slot is linked to two place features: [+coronal] and [+labial]; or to both [+nasal] and [-nasal]). The two types of segments differ with respect to the phonological ordering of the multiple specifications. In contour segments, the multiple specifications are phonologically ordered. In complex segments, the multiple specifications are unordered phonologically.

The evidence establishing whether the specifications are phonologically ordered or not comes from "edge effects". If a segment which bears both [+nasal] and [-nasal] specifications, behaves in the same way as nasals with respect to rules that apply before nasals, but not with respect to rules that apply after nasals, then the two specifications are ordered with [+nasal] preceding [-nasal]. The segment will then be a contour segment rather than a complex segment. If the segment behaves in the same way as nasals with respect to both types of rules, then the two specifications are unordered, and the segment is a complex segment. As Steriade (1990 : 395fn5) points out, if segments such as pre-nasalised stops are analysed as contour segments, then features such as [nasal] must be bivalent. Under a monovalent specification of [nasal], pre-nasalised stops could not be distinguished from plain nasals. Both would simply bear a [+nasal] specification.

However it is a moot question whether contour segments do indeed exist as phonological entities. Lombardi (1990) provides detailed evidence from edge effects that affricates are not contour segments consisting of an ordered specification of [-continuant] followed by [+continuant]. Rather they are complex segments, with these two specifications are unordered. Further as Lombardi (1990 : 378) notes, it is not possible for both the [+] and [-] values of a feature to be attached unordered to a single timing slot. Therefore she suggests that [+continuant] and [-continuant] must be understood as two distinct monovalent features such as [stop] (= [-continuant]) and [continuant] (= [+continuant]). Lombardi (1990 : 409 - 410) suggests that the phonetic realisation of complex segments is constrained by a rule which requires the least sonorous specification to occur first (5-115 & 5-116). Specifications of equal sonority do not appear to be phonetically ordered in any consistent sense (Sagey 1986 : 123 - 125).

Lombardi (1990 : 376fn2) also notes that Mester (1986 : 45) claims that pre-nasalised stops are complex segments, rather than contour segments. However there are certain problems with the application of a complex segment analysis to pre-nasalised stops. As Lombardi (1990 : 410) herself mentions, pre-nasalised stops do not conform to the putative universal requiring the least sonorous specification to be phonetically realised first. Secondly, there is the problem of the existence of pre-stopped nasals, which occur in a number of Australian languages. Whatever their respective phonological statuses, pre-stopped nasals and pre-nasalised stops certainly contrast at the level of phonetic realisation, specifically in terms of their respective orderings.

In the absence of a detailed examination of the phonological statuses of pre-nasalised stops and of pre-stopped nasals, I follow traditional practice and analyse [nasal] as a bivalent feature. I also analyse the other prototypical manner features [consonantal] and [sonorant] as bivalent, in the absence of clear evidence that they are monovalent. I follow Lombardi (1990 : 378), in proposing two monovalent manner features [stop] and [continuant], rather than a single bivalent [ $\pm$ continuant] feature. However I make one significant departure from Lombardi's proposal. The laterals /l/ and /rl/, and the tap /rr/ are not specified as either [continuant] or [stop]. The status of laterals and taps with respect to continuancy distinctions is problematic cross-linguistically (Chomsky & Halle 1968 : 318). I suggest that these problems may be resolved by not specifying laterals and taps for continuancy. As we will see, lenition patterns among the apicals in Gaagudju provide language-specific evidence that taps are intermediate between stops and continuants, in terms of continuancy (4.6.2).

The manner features [lateral] and [tap], themselves present something of a problem. They can only occur with the coronal and apical articulators respectively. Therefore, they should receive a monovalent [ $\emptyset$ ] specification with respect to the other articulators. In order to avoid positing three specifications [+ , - ,  $\emptyset$ ] for a single feature, I also analyse them as monovalent in all cases. All other features are analysed as monovalent, because they are place features.

The exact interpretation of monovalent specification is also open to some debate. Van der Hulst (1989 : 255) states "'Lacking F' is not, then, a phonological prime; it cannot spread, delete, be inserted or be used to identify a class of segments." A [ $\emptyset$ ] value is obviously inherently incapable of spreading, deleting, or being inserted. However Van der Hulst does not provide any principled explanation as to why it cannot be used to identify a class of segments. In the absence of any such principled explanation, I will be using [ $\emptyset$ ] specifications to identify classes, when this appears to be the most satisfactory way of identifying that class.

In addition to the issues involving monovalent specification, there are also a number of minor departures from the usual SPE patterns. However before examining these minor departures, it is helpful to present the categorial relationships that exist among the features. Categorial relationships

among features have generally been represented in terms of feature geometry theory (Clements 1985). However I will not be directly following a feature geometry approach in the ensuing analysis. Rather I will be adopting the co-indexation analysis of Hayes (1990). Hayes proposes a co-indexation analysis in order to resolve problems relating to diphthongisation, which present fundamental problems to feature geometry theory (ibid : 34 - 37).

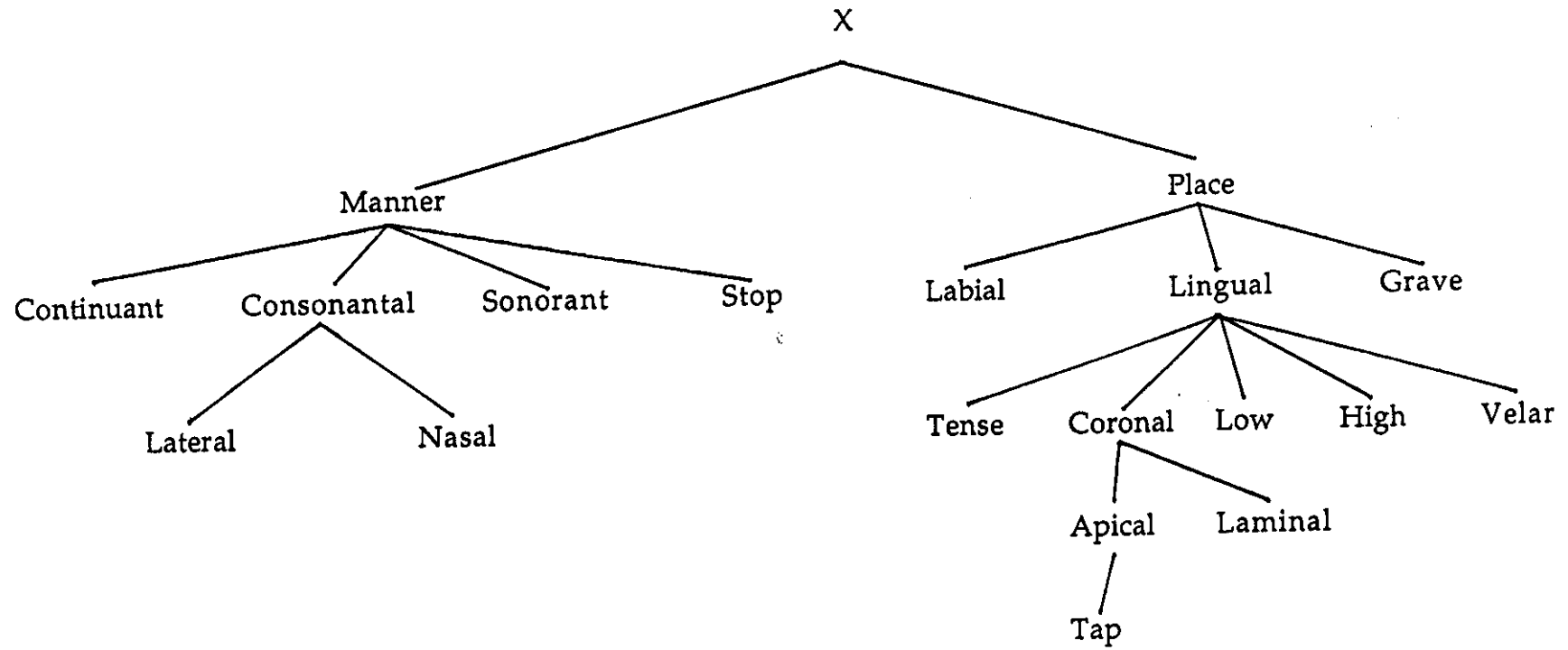
Nevertheless categorial relationships are most easily comprehended in a feature geometry representation. Consequently Table 4.3 presents a feature geometry tree based on categorial relationships that exist among the features in Table 4.2. The actual determination of categorial relationships has been, and continues to be, the subject of much debate. While categorisation is primarily phonological, there is no denying that it has been powerfully metaphorically influenced by anatomically-based categorisation of the vocal tract. This is a reflection of the essentially articulatory nature of SPE-based approaches to features.

As nearly all of the features used in this description are articulatory in nature, I have essentially followed the anatomical approach of Browman & Goldstein (1989), in organising the tree in Table 4.3. In particular, I have followed Browman & Goldstein (ibid: 224 - 225), in positing a lingual feature, which specifies that a segment is articulated with the tongue. I would suggest that a lingual feature is of general application to Australian languages, though providing full evidence for this hypothesis is beyond the scope of this grammar. However it would for example, explain the recurrent association between /ng/ and /a/ in Australian languages (Dixon 1980 : 189). Under an analysis with a lingual feature, /ng/ is the [+consonantal] segment most similar to /a/ (both being positively characterised as [+lingual] and [+grave]).

The lingual articulator is naturally superordinate to the two tongue height features. I have followed McCawley (1972 : 525) in defining as [high] any segment "whose primary constriction or closure is above a line drawn from the rear of the alveolar ridge to the uvula". Consequently retroflex consonants are [high] (Pulleyblank 1989 : 384 also argues that retroflexes are [high]). The lingual articulator is superordinate to all the vowels, and to the coronal and velar articulators. The coronal articulator is in turn superordinate to the apical and laminal articulators (see Butcher Ms for an analysis of the nature of the apical and laminal articulators in Australian languages). I have followed Mester & Ito (1989 : 288) in analysing the front vowels as [coronal], and the back vowels as [labial]. Dixon (1980 : 187) provides argumentation for this type of analysis generally within Australian languages. As we will see, this analysis of the non-low vowels is of importance in understanding the phenomenon of vowel grade (4.7.2).

The exact representation of the manner of articulation features in terms of feature geometry remains problematic. As the feature [consonantal] appears to be of considerable significance in the phonology of Gaagudju, I have analysed a number of the other features [lateral], [nasal] and [obstruent], as its dependents. I have analysed the feature [tap] as a dependent of [apical], given that it is possible only with this articulator.

Table 4.3 : Categorical Relations.



There are two features whose categorial classing presents particular problems: [grave] and [tense]. [grave] differs from all the other features, in that it is an acoustically defined feature (Jakobson, Fant & Halle 1963), and consequently it is not immediately obvious how it is to be integrated into an essentially articulatory system. In categorial terms it clearly patterns with the place articulatory features. Therefore I have assigned it to the place node. The feature [tense] has been much criticised. Lass (1984 : 92) states "As far as I can tell there are no qualities attributable to [tense] that can't be reduced to the traditional dimensions of height, backness and duration. The feature [±tense] can probably be discarded." In part the problems raised by Lass relate to problems inherent in an articulatory analysis of vowels. Lieberman & Blumstein (1988 : 164 - 183) survey a range of evidence which shows that an articulatory approach is inadequate. Rather it appears that vowels are better analysed as particular acoustic targets, which are achievable by a range of articulations.

However such an acoustic analysis is not available for Gaagudju, and consequently it is necessary to fall back on an articulatory analysis. Within an articulatory analysis, [tense] does not appear to be reducible in the manner suggested by Lass. Of the parameters suggested by Lass, backness appears simply to be irrelevant in Gaagudju. Height, despite initial appearances, is also irrelevant. It is true that vowels are tense preceding palatals and the velar stop, all of which are [+high] consonants. However they are invariably lax when preceding the velar nasal /ng/, which is also presumably [+high] on any phonological analysis. This cannot be accommodated within any analysis of tense allophones as being higher than their lax counterparts.

The final parameter suggested by Lass, duration, is undoubtedly relevant. Duration can reasonably be viewed as a relevant factor in explaining why vowels are for example tense before palatals, but are conversely lax in closed syllables, other than those closed by palatals. However there are two reasons for not equating [tense] with length. Firstly it is clearly quite a different phenomenon from lexically specified vowel length (4.5.4). Secondly [tense] vowels differ from their lax counterparts in quality, as well as quantity. A characterisation of this difference in quality is given in SPE (1968 : 324) "One of the differences between tense and lax vowels is that the former are executed with a greater deviation from the neutral or rest position of the vocal tract than are the latter." Tense vowels in Gaagudju do indeed appear to involve a greater peripherality, as suggested by SPE. In the absence of any other well-motivated analysis of this distinction in both quantity and quality, I will continue to use the feature [tense]. I have analysed [tense] as a dependent of [lingual], as it appears to be chiefly relevant to the vowels.

In addition to the minor variations in the features which are present in Table 4.2, there is one minor variation of absence. The feature [syllabic] is not included in the specification system, and consequently the high vowel ~ semivowel combinations *i* ~ *y* and *u* ~ *w* are simply analysed as allophonic variants conditioned by syllabic position. A number of linguists

have proposed that [syllabic] should be removed from the feature inventory - Durand (1990 : 207), Kiparsky (1987 : 37 - 46). Goldsmith (1990 : 150 - 154) has argued that the maintenance of [syllabic] may be necessary. This is on the basis of work by Guerssel (1986) on Berber, where it is necessary to distinguish between segments which must appear as high vowels, and segments which can appear as either high vowels or as glides. However Guerssel himself argues that the contrast in Berber can be accounted for by lexical pre-attachment of some segments to syllable nucleus position. These pre-attached segments are necessarily realised as high vowels. Segments which are not pre-attached may be realised as either high vowels or glides depending on the syllabification rules.

As there is no definitive argument for the maintenance of the feature [syllabic], I do not propose to adopt it. Indeed as we will see, there is evidence in Gaagudju which specifically suggests that the semivowels should not be phonologically differentiated from the high vowels (5.3.2 & 5.5). However I will continue to use the terms vowel and semi-vowel, as these are familiar. By vowel, I mean a [-consonantal] segment attached to a syllable nucleus position. By semivowel, I mean a [-consonantal] segment attached to a non-nuclear syllabic position.

#### 4.4 Lexical Specification.

Most phonological theories accept the premise that basic lexical forms do not bear redundant feature specifications (Goldsmith 1990 : 243). This premise is usually modelled in terms of underspecification theory, with default rules supplying the redundant specifications later in the derivational process. Mohanan (1991) criticises both the fundamental premise, and modellings proposed by one of the two major classes of underspecification theories: radical underspecification theories. Radical underspecification theories prohibit the underlying specification of both values of a feature. The other major class of underspecification theories are contrastive underspecification theories, which permit both values of a feature to be specified underlyingly.

In relation to the basic premise, Mohanan (1991 : 306) points out that the dependency between syllable structure and segment structure inherently involves some redundancy, as each is partially predictable from the other. His criticism of radical underspecification theories focusses on two aspects. The first of these is the types of rules that such theories require. The default specification rules of underspecification theory are structure-building rules. Mohanan shows that underspecification theories also require either structure-changing rules or constraints. Further Mohanan (1991 : 292) argues that structure-changing rules or constraints can also do the work of structure-building rules. Consequently structure-building rules are redundant, and with them radical underspecification.

However, epenthetic segments appear to present a problem for this line of argumentation. Mohanan does not detail how epenthetic segments

would receive specification under a system which involved either or both of structure-changing rules and constraints, but not structure-building rules. It is not immediately obvious that either structure-changing rules or constraints could supply the necessary specifications. This is particularly so, given the fact that epenthetic segments vary language-specifically (Mohanani 1991 : 318, Abaglo & Archangeli 1989). Consequently structure-building rules and radical underspecification theories may not be universally redundant in phonological theory.

Nevertheless, Mohanani's critique undoubtedly raises a number of important questions which require resolution in relation to underspecification. The determination of a principled basis for choice among rule types is one of these. Another important issue is the relationship between markedness and underspecification. Context-sensitive theories of radical underspecification propose that the value specified in underlying representations is universally the marked value. Context-free theories of radical underspecification propose that underlying specifications vary language-specifically (Abaglo & Archangeli 1989). Mohanani (1991 : 307 - 321) agrees with Abaglo & Archangeli that there is no universal correlation between markedness and underlying specification. The strongest evidence against such a correlation comes from the fact that the values of epenthetic segments and neutralised segments vary language-specifically.

Markedness appears to be a factor of some importance in the phonology of Gaagudju. Markedness relations among the place features, and in terms of sonority, play an important role in determining syllable and morpheme structures, and in motivating morpho-phonemic rules (5.3.3 & 5.5). In particular, the contrast between unmarked [coronal] places of articulation and marked [grave] places of articulation is of significance. Paradis & Prunet (1989 : 319) argue that the unmarked coronal specification is universally unspecified underlyingly. However in Gaagudju, as we will see, there is a contrast between segments which are underlyingly unspecified for place of articulation, and those which are specified for [coronal] places of articulation, including the unmarked [coronal] feature [apical] (5.4). Therefore I concur with Mohanani, and Abaglo & Archangeli, in not modelling markedness relationships by underspecification.

I make use of underspecification theory to model segments such as the archiphonemes DJ and N (5.3.3), which appear to lack any underlying specification for manner of articulation and place of articulation respectively. It is possible to make a more extensive use of context-free radical underspecification, but this does not appear to offer any appreciable advantage in Gaagudju. The generalisations about phonological processes in Gaagudju relate to markedness, rather than to feature specifications. The use of a largely monovalent feature system renders the other major class of underspecification theories, contrastive underspecification theories, essentially redundant.

As a final point in a consideration of the role of features in the description of Gaagudju phonology, it should be noted that not all



phonological rules are formalised in a feature framework. A number of the phonological rules of Gaagudju affect a single phoneme in a highly specific environment. Presentation of these rules in generalising autosegmental feature framework is of little or no advantage. Consequently these highly specific rules in a traditional, atheoretical formalism. They could all be translated be translated into an autosegmental formalism.

#### 4.5 Phonemic Contrasts.

##### 4.5.1 The Apicals.

The contrasts between the various apical phonemes tend to be obscured by lenition (4.6.1). The following (sub-)minimal pairs show that the manner and place articulations set out in Table 4.1 are contrastive.

(4-16)	d : rd	<i>maada</i> 'yesterday'	<i>maarda</i> 'cheek'
(4-17)	n : rn	<i>ga'naangga</i> 'high ground'	<i>ga'rnaagarli</i> 'MMB'
(4-18)	l : rl	<i>ba'laa-bu</i> 'talk-Aux.IMP'	<i>ba'rlaa-bu</i> 'sing-Aux.IMP'
(4-19)	rr : r	$\emptyset$ - <i>djaarra</i> 'he went down'	<i>djaara</i> 'beard'
(4-20)	d : l	<i>nga'daambirr</i> 'chest'	<i>nga'laambirr</i> 'cough'
(4-21)	d : rr	<i>baada</i> 'leg'	<i>baarra</i> 'truly'
(4-22)	rd : rl	<i>ga'rdaaba</i> 'Search.IMP'	<i>ga'rlaa-ba</i> 'Put in-Aux.IMP'
(4-23)	rd : r	<i>gaardarr</i> 'tree sp'	<i>gaararr</i> 'pine tree'

##### 4.5.2 Retroflexion.

In terms of feature specification, I do not propose a feature [retroflex] to characterise the class of apicals traditionally known as retroflexes. Under the feature specification proposed in (4.3), the retroflexes are distinguished from alveolars by being specified as [+high]. Nevertheless I use the term "retroflex" to refer to the class of [+apical, +high] segments, as it is both traditional and a convenient cover term. Retroflexion is contrastive morpheme-medially and morpheme-finally for stops, nasals, and laterals in Gaagudju. The morpheme-medial contrast is exemplified in (4-16) - (4-23). The morpheme-final contrast is rare. The alveolar stop does not occur morpheme-finally, and there are only three examples of morpheme-final retroflex stops (all in compound verb roots, which cannot occur word-finally. Table 5.1). The nasals and the laterals are uncommon morpheme-finally

(Table 5.1). However the following pairs establish that the distribution of alveolars and retroflexes is not predictable.

(4-24)	n : rn	<i>marlan-</i>	'to become dark'	<i>maardarn</i>	'few'
(4-25)	l : rl	<i>dji'baardal</i>	'tree sp'	<i>maarlari</i>	'leaf'

Retroflexion is usually distinguishable by a fairly clear [r] off-glide on the preceding vowel. Vowels also tend to be slightly longer before retroflexes, than before alveolars. Distinguishing alveolars and retroflexes is chiefly problematic when they occur as the initial consonant in a stressed syllable. The vowel position preceding the stressed syllable is the position par excellence for reduction and centralisation of vowels (4.7.3). Consequently the [r] off-glide and the length distinction tend to be lost, and it is frequently only in more careful speech that the nature of a following apical consonant can be determined.

There is no apical contrast morpheme-initially in Gaagudju, as is common in Australian languages (Dixon 1980 : 167). The evidence from cliticisation and prefixation suggests that a morpheme-initial apical will be retroflex, if the following consonant is retroflex. Otherwise morpheme-initial apicals are alveolar. The form *deernmi* 'again, as well' is frequently virtually cliticised to the preceding word. When it so occurs the initial consonant is usually clearly retroflexed.

(4-26) /djaarli deernmi deernmi djaarli ba'raa-ga/  
 [dʒa:li dɛ:ŋmi ədɛ:ŋmi dʒa:li bə'rɑ:-gə]  
 'Bring me some meat as well.' (193)

(4-27) /ma-'naan-ma deernmi/  
 [mɑ-'nɑ:n-mɑ dɛ:ŋmi]  
 'Are you going to get it as well?' (258)

As the phonetic transcription of its second occurrence in (4-26) indicates *deernmi* sometimes takes the form [ə'dɛ:ŋmi] with an initial unstressed vowel, which could be taken to indicate that its canonical form is *a'rdeernmi*. However this is not the case as it never has an initial vowel in citation, whereas words such as *a'moordiyu* [ə'mɔ:ɖiyu] 'Amurdak' (a language name) occur with an initial unstressed vowel in citation forms.

The form *deernmi* may be contrasted with *naawu*. *naawu* functions both as the 3rd Minimal Masculine pronoun, and as the Masculine form of the Dative enclitic (9.9). When *naawu* is cliticised, the initial apical is invariably alveolar. The form *niinjɖja* 'just' also occurs virtually cliticised, like *deernmi*, though somewhat less frequently. When it does so occur the initial consonant is alveolar. There are a few apical-initial stems which take prefixes.

(4-28)	<i>-la'birri</i>	'younger sibling'	<i>na</i>	'to burn (intr)'
	<i>nawa</i>	'to put'	<i>ni</i>	'to sit'
	<i>ni</i>	'to burn (tr)'		

The initial apical is alveolar when these stems take a prefix. It may be noted that in none of these stems is the initial apical followed by a retroflex consonant (there are no retroflex-initial verbal suffixes). While the realisation patterns illustrated in (4-26 - 4-28) are suggestive of a particular distribution of retroflexes and alveolars, it must be recognised that they are not conclusive. The majority of morpheme-initial apicals are not attested with a preceding vowel, and as such their status remains indeterminate. Consequently I do not attempt to mark the status of morpheme-initial apicals in phonetic transcriptions elsewhere in this grammar. They are otherwise transcribed as alveolars, partly because (4-26 - 4-28) suggest that this is the more common articulation, and partly because alveolars are unmarked with respect to retroflexes.

#### 4.5.3 The Vowels.

The vowels show the greatest range of variation of all segments in Gaagudju. The variations revolve around the mid and central vowels. The following minimal, and sub-minimal, pairs establish that the cardinal vowels and the mid vowels are phonemically contrastive. The pairs are drawn from forms which are only minimally affected by the variations in vowel realisations.

(4-29)	a : i	<i>raada</i>	<i>raadi</i>
		'bullant'	'louse'
(4-30)	a : u	<i>a'rree-ya</i>	<i>a'rree-yu</i>
		'I will go'	'I will camp'
(4-31)	a : e	<i>arr-'djaa-dji</i>	<i>barr'djeedji</i>
		'I stand'	'tree sp'
(4-32)	a : o	<i>gaala</i>	<i>goolo</i>
		'okay'	'bamboo'
(4-33)	i : u	<i>miiri</i>	<i>miiru</i>
		'well'	'curlew'
(4-34)	i : e	<i>biibi</i>	<i>bebe-'beebe</i>
		'MF'	'spirit name'
(4-35)	u : o	<i>Ø-ii-wu</i>	<i>iiwo</i>
		'She gave it to him'	'particle (9.13)'
(4-36)	e : o	<i>geedjawa</i>	<i>-goodji</i>
		'truly'	'cold'

## 4.5.4 Vowel Length and Stress.

The distinction between long and short vowels, and the distinction between stressed and unstressed syllables, are of central importance in the phonology of Gaagudju. Short vowels, whether stressed or unstressed, are frequently reduced to schwa [ə] (4.7.3). Unstressed syllables with short vowels at word boundaries are frequently deleted (4.7.4). Long cardinal vowels in stressed syllables tend to be replaced by the corresponding mid vowels (4.7.2). The phonotactic distribution of some vowel phonemes is largely conditioned by stress (4.7.6).

Vowel length and stress are intimately connected in Gaagudju. Most long vowels are stressed, and conversely nearly all stressed vowels are long. However length and stress do not completely overlap. There are a considerable number of unstressed long vowels which arise from lenition (4.6.3). There are two roots involving unstressed long vowels, which do not apparently arise from lenition.

- |        |                        |               |
|--------|------------------------|---------------|
| (4-37) | <i>ga'djaaraama</i>    | 'to undo'     |
| (4-38) | <i>gunganaa'woordo</i> | 'fishing net' |

There are also a small number of roots with a stressed short vowel. These roots are listed in (4-39).

- |        |                        |                         |
|--------|------------------------|-------------------------|
| (4-39) | <i>ambal-ambal</i>     | 'grass sp'              |
|        | <i>ba'rdaba</i>        | 'and then'              |
|        | <i>bard'banawarr</i>   | 'jabiru'                |
|        | <i>-burri</i>          | 'mend.PP'               |
|        | <i>dja'marrabarday</i> | 'brolga'                |
|        | <i>gada</i>            | 'but'                   |
|        | <i>i'bardbi</i>        | 'Negative'              |
|        | <i>-la'birri</i>       | 'younger sibling (add)' |
|        | <i>-warrgi</i>         | 'die.PR'                |

The following sub-minimal pairs show that length is contrastive for the cardinal vowels.

- |        |                    |                       |
|--------|--------------------|-----------------------|
| (4-40) | <i>Ø-warrgi</i>    | <i>maarrgi</i>        |
|        | 'he is dying'      | 'to suck blood'       |
| (4-41) | <i>na-la'birri</i> | <i>birri'biirriyu</i> |
|        | 'younger brother'  | 'club'                |
| (4-42) | <i>Ø-an-'burri</i> | <i>buurri</i>         |
|        | 'he mended it'     | 'rope'                |

However the overall evidence suggests that the contrast between the pairs in (4-40) - (4-42) should not be analysed in underlying terms as an opposition in vowel length. This evidence is both language-internal and

cross-linguistic in nature. The language-internal evidence comes from the patterns of stress placement in verbal paradigms (5.1.2). This factor argues that length in stressed vowels results from the application of a rule lengthening stressed vowels. The language-internal evidence for the stress lengthening rule is reviewed in (5.1.3).

Under the stress lengthening analysis, the underlying contrast between the sub-minimal pairs in (4-40) - (4-42) is not one of vowel length. Rather there is a small group of roots which are lexically marked with a diacritic which prohibits the application of the stress lengthening rule. This small group of roots contrasts with all other roots. Analysing the contrast in this manner also correlates with the cross-linguistic evidence. In cross-linguistic terms the virtual absence of stressed short vowels, and the concomitant fact that virtually every word has one or more stressed long vowels are highly unusual. Positing an underlying length opposition would fail to account for the anomalous nature of the length contrast in Gaagudju. The analysis proposed, of a stress lengthening rule with lexically marked exceptions, directly accounts for the anomaly.

#### 4.6 Consonantal Variation.

##### 4.6.1 Lateral Stopping

The alveolar lateral /l/ has a free variant stopped realisation [ld]. This realisation is found when /l/ occurs in an unstressed syllable, and following consonant is the tap /rr/. It is not possible to say if the retroflex lateral /rl/ also shows stopped allophones. There are no examples of /rlVrr/ sequences in the available data.

(4-43) *roolorr* [rɔ:l(d)ɔɾ]  
'spring'

(4-44) *roolo* [rɔ:lɔ] ~ \*[rɔ:lɔɾ]  
'stringybark'

As a comparison of (4-43) and (4-44) shows, the [ld] variant does not occur unless there is a following /rr/. It is not attested if there is an intervening consonant.

(4-45) *ga'boolbirr* [gə'bo:lɔɾ] ~ \*[gə'bo:lɔɾɾ]  
'sun'

(4-46) *Ø-an-galabarr'woodji-gi* [ən-gələbər'wɔ:dʒi-gi] ~  
3IA-3ME-lock up-PP \*[ən-gələbər'wɔ:dʒi-gi]  
'he locked him up.'

There are no examples of lateral stopping when the lateral is in a stressed syllable.

- (4-47) *bi'laarra* [bɪ'lɑ:ɾɑ] ~ \*[bɪ'ldɑ:ɾɑ]  
'spear'

It is also uncommon when the tap is in a stressed syllable, though lateral stopping does occur in this environment.

- (4-48) Ø-*bula'rraa-ba-njdji* [bəldə'ɾɑ:-bə-ŋdʒi]  
3IA-shake-Aux-PR  
'He is shaking.' (B124)

The [ld] forms showed varying degrees of frequency both between and within the speech of individuals. They were characteristic of the speech of P.B. She consistently used the [ld] alternates for 'spring' and 'river', and used them frequently with the other terms above. L.D.Y did not in general use the [ld] forms. In phonetic terms, the lateral stopping allophony appears to be reasonably well motivated. It assimilates the lateral to the following tap. The stopped allophone [ld] and the tap are both characterised phonetically by brief closure. The stopped allophone represents a departure from the canonical plain lateral allophone [l]. Stressed syllables generally show a minimal departure from canonical realisations (4.2). Consequently the non-appearance of stopped allophones in stressed syllables also appears to be well motivated. The lateral stopping allophony may be described in terms of the following phonetic implementation rule.

- (4-49) /l/ -> [ld]/(\*)\_Vrr (The notation (\*) is intended to indicate the constraint against the allophone occurring in a stressed syllable.)

There is one exception to the rule in (4-49). The word *u'luunggulu* 'old woman' is frequently realised as [ʉ'ldʉ:ŋgʉldʉ]. However, this word is a borrowing from Amurdak, and Amurdak speakers pronounce it with [ld] realisations. There is another lexeme for 'old woman', *boordo*. This form conforms to the general phonotactic patterns of Gaagudju, and as such is presumably the native form. On the other hand, the form *u'luunggulu* departs from the phonotactic patterns of Gaagudju. The initial /u/ is only found in three other lexemes: *ubarr* 'a ceremony name', *ulu'buulu* 'great-grandparent', and *urro'moolbuy* 'dream'. It appears likely that these three lexemes are also borrowings from Amurdak. The stressed long /u/ vowel of *u'luunggulu* is also unusual in Gaagudju (4.7.2). As such *u'luunggulu* may be analysed as a form which is perceptibly foreign to the lexicon of Gaagudju. It is not uncommon for perceptibly foreign lexemes to display exceptional

phonological behaviour. Consequently I analyse the appearance of [ld] allophones in *u'luunggulu* as resulting from a lexically marked exception.

#### 4.6.2 Lenition of the Apicals.

The apicals are affected by four separate lenition processes. Two of these are most conveniently represented as a sequence. The first lenition in the sequence is of the retroflex stop to a retroflex tap, in intervocalic position. This lenition produces a retroflex tap which is auditorily distinguishable from an alveolar tap. The alveolar stop does not lenite, possibly because the contrast between a stop and a tap is phonemically contrastive in the alveolars. The second lenition is of either of the taps to the retroflex continuant in intervocalic position. The lenition of the alveolar tap does not result in an alveolar continuant, contrasting with the retroflex continuant. One consequence of this sequence of lenitions is that a surface intervocalic retroflex continuant could be the realisation of three different underlying phonemes - a retroflex stop, an alveolar tap, or a retroflex continuant. The rules for this sequence of lenitions are set out in (4-50 & 4-51).

- |        |                                      |          |   |
|--------|--------------------------------------|----------|---|
| (4-50) | [d]<br>+apical<br>+high<br>-sonorant | -><br>-> | [ɖ] /V_V<br>+apical<br>+high<br>+sonorant<br>+tap |
| (4-51) | [ɖ, ɖ̥]<br>+apical<br><br>+tap       | -><br>-> | [r] /V_V<br>+apical<br>+continuant                |

Corresponding to the lenition set out in (4-51), there is a fortition. The retroflex continuant /r/ can be realised as a retroflex tap in word-initial position.

- |        |                                       |           |
|--------|---------------------------------------|-----------|
| (4-52) | <i>raanggin</i><br>'paperbark' (B577) | [ɖa:ŋgin] |
|--------|---------------------------------------|-----------|

This is the only example of a fortition process in Gaagudju. The rule for this fortition is set out in (4-53).

- |        |  |          |  |
|--------|--|----------|--|
| (4-53) | [r]<br>+apical<br>+continuant<br>+high | -><br>-> | [ɖ]/#_<br>+apical<br><br>+high<br>+tap |
|--------|--|----------|--|

The alveolar tap undergoes a quite distinct lenition process in word-final position. In this position the tap can be realised as a voiced tap [ɾ], a voiceless tap [ɽ], or it can be completely deleted [Ø]. As such it appears that the deletion should be analysed as the ultimate stage in a lenition sequence. The fact that this lenition process occurs in word-final position would appear to relate to the fact that the tap is the only consonant which occurs in word-final position with any reasonable frequency in Gaagudju (5.3.1). Syllables in word-final position are usually unstressed. However this does not appear to be the relevant factor in this case. The *ma'naarr* 'that' demonstrative (6-128) irregularly takes stress on its final syllable, which is closed by the tap. The word-final tap in forms from the *ma'naarr* paradigm undergoes the same lenition processes as other word-final taps. The lenition and deletion of word-final taps is however congruent with the general pattern of reduction of unstressed syllables at word boundaries, found in Gaagudju (4.7.4).

In word-final position the voiced tap realisation is largely confined to carefully monitored speech, with the voiceless tap realisation probably being the commonest realisation in conversational speech. Even when the tap has been deleted, there are usually surface indications of its underlying presence. The non-low vowels show lax allophones, rather than the tense allophones usually found in word final position (4.7.3). The final vowel is also slightly longer.

(4-54)     *gan'gee-gan.gi*                             [gan'ge:-gangi]  
          'high country' (A608)

(4-55)     *gaan.girr*                                     ['gæ:ngɪɾ] ~ ['gæ:ngɪɽ] ~ ['gæ:ngɪ:]  
          'skin' (A650)

(4-54) and (4-55) illustrate a sub-minimal pair contrast between [gangi], which is a realisation of *-gan.gi*, and ['gæ:ngɪ:], which is a realisation of *gaan.girr*. For some lexemes there is variation between speakers as to whether a final tap is present. My main consultant P.B used the following forms for 'river', and for 'long ago'.

(4-56)     *ra'baalarr*                             [rə'ba:ldaɾ] ~ [rə'ba:lda:]  
          'river' (162) (this form has the [ld] cluster characteristic of P.B's  
          speech in /IVrr/ sequences. 4.6.1)

(4-57)     *ba'rraangirr*                             [bə'ɾæ:ngɪɾ] ~ [bə'ɾæ:ngɪ:]  
          'long ago' (A664)

However both L.D.Y and N.M used forms without a final tap.



- (4-58) *ra'baala* [rə'bɑ:lə] L.D.Y [rə'bɑ:ldə] N.M.<sup>1</sup>  
 (4-59) *ba'rraanggi* [bə'ɾɑ:ŋgi] L.D.Y [bə'ɾɑ:ŋgi] N.M

The lexeme *goonggi(rr)* 'pandanus spiralis' also showed variation in the presence of a final tap.

- (4-60) *goonggirr* ['gɔ:ŋgɪɾ] ~ ['gɔ:ŋgɪ:] P.B & L.D.Y  
 (4-61) *goonggi* ['gɔ:ŋgi] N.M

The differences between the various consultants may reflect dialectal groupings within the pre-contact Gaagudju speech community. Alternatively, and perhaps more probably, they may reflect particular surviving examples of a range of lexical and social conditionings on the lenition/deletion patterns affecting the tap in word-final position. The post-lexical phonetic implementation rules leniting the tap word-finally are set out in (4-62 & 4-63).

(4-62) [ɾ] -> [ɾ̥]/\_#

(4-63) [ɾ] -> Ø/\_#

There are some examples where /rr/ is deleted, when it occurs as a syllable coda in an unstressed word-initial syllable.

- (4-64) *arr-djardaga'rdeega-ni='goodo* [a:-ɟɪɟaga'ðe:gə-nə='gɔ:do]  
 1A-play-PI=DUR  
 'I was playing.' (352)

The few available examples all involve the 1st Absolute prefix *arr-*. They all involve complete lenition, and do not appear to show the intermediate voiceless tap stage. Unstressed word-initial syllables are particularly likely to undergo general lenition processes. As such it is not possible to be certain that the same reduction process is involved, as the word-final lenition.

The retroflex continuant also undergoes a complete lenition process, when it is in syllable coda position. The distribution of this process is quite different from that shown by the complete lenition of the tap. The continuant is found in syllable coda position only in five morphemes.

- (4-65) *biirdja* 'leech', *djoordju* 'duck sp', *liirdjili* 'urine',  
*mandjalabordju* 'boordju' 'tree sp', *boorgyi* 'still'

<sup>1</sup>N.M. used the [ld] allophone in this token, because he repeated the word after P.B. who uses the variant with a final /rr/.

It may be observed that the five occurrences involve consonant clusters. In the forms *biirdja* 'leech' and *liirdjili* 'urine' there is a surface indication of the underlying presence of the continuant, even when it is completely lenited. /i/ shows a tense allophone preceding laminals (4.7.1 & 4.7.3). However the realisation of the lenited form of *biirdja* is [bɪ:ɟə] and not [bɪ:ɟə], which would be the realisation of a form \**biidja*. The post-lexical phonetic implementation rule deleting the retroflex continuant is set out in (4-66).

(4-66) [r] -> Ø/\_C

#### 4.6.3 Lenition of the Velar Stop.

The velar stop lenites to /y/ following /i/. Otherwise it either lenites to /w/, or undergoes complete lenition. The lenition patterns of the velar stop show a particularly complex and wide range of conditionings. Consequently the phonological status of the lenition patterns varies across virtually the entire possible range, from entirely lexicalised variants to variants related by optional fast speech processes. As such lenition of the velar stop cannot be treated as a unitary phenomenon, but rather must be analysed as a set of related phenomena. Among the various factors conditioning the lenition patterns, morphological factors appear to be the most important. The relevant morphological conditionings are set out in (4-67).

- (4-67) Morpheme-initially in verbal prefixes  
 Morpheme-initially in class-marked nominal roots  
 Morpheme-initially in compound verb roots  
 Morpheme-initially in simple verb roots and verbal suffixes  
 Morpheme-medially in nominal roots and compound verb roots

There is a morpho-phonotactic environment common to these morphological categories. In none of them does the velar stop occur in the initial position of the relevant affixal morphological templates: the nominal template (6-23), and the verbal template (7-1). Velar stops which are template-initial: those which occur in certain verbal prefix positions, in non-class marked nominal roots, and in verbal imperatives, do not undergo lenition. It would therefore appear that the non-occurrence of lenition can be understood as a signal indicating a syntactic word boundary (5.6.3).

There are two velar stop initial verbal prefixes; the directional prefix *ga-* 'here', and the absolutive prefix *gu-* '3IV'. The *gu-* prefix occurs template-initially (7-1). It does not undergo lenition. The *ga-* 'here' prefix, on the other hand, does not normally occur in template-initial position. It shows lenited forms when it is not template-initial, as illustrated by the following paradigm.

(4-68) intransitive *ga-* 'here' Irrealis

	Underlying	Attested
1A	<i>arr-</i> + <i>ga-n-</i>	<i>arr-ga-n-</i>
2A	<i>njiN-</i> + <i>ga-n-</i>	<i>njing-ga-n-</i>
1+2A	<i>marra-</i> + <i>ga-n-</i>	<i>marra-a-n-</i>
3IA	<i>i-</i> + <i>ga-n-</i>	<i>i-ya-n-</i>
3IIA	<i>njiN-</i> + <i>ga-n-</i>	<i>njing-ga-n-</i>
3IIIA	<i>ma-</i> + <i>ga-n-</i>	<i>ma-ga-n-</i>
3IVA	<i>gu-</i> + <i>ga-n-</i>	<i>gu-wa-n-</i> ~ <i>gu-ga-n-</i>

In the 1+2A, 3IA, 3IIIA, and 3IVA forms, the initial velar of the *ga-* 'here' verbal prefix occurs intervocally. The 3IA form *i-ya-n-* shows the regular lenition to /y/ following /i/. However a comparison of the 1+2A, and 3IIIA forms shows that the occurrence of lenited forms is not phonologically predictable. The 3IVA form shows unpredictable variation. *ga-* 'here' also shows lenited variants when it occurs word-initially, provided that it is not template-initial, as illustrated by (4-69) and (4-70).

(4-69)	Underlying	Attested
	$\emptyset$ - <i>ga-ba'djee-gi</i>	$\emptyset$ - <i>a-ba'djee-gi</i>
	3IA-here-crawl-PP	
	'He crawled here.'	

(4-70)	<i>njing-ga-ba'djee-gi</i>
	3IIA-here-crawl-PP
	'She crawled here.'

There is however one situation where *ga-* is template-initial. In addition to having a directional 'here' meaning, the *ga-* prefix also functions as the ergative prefix in combinations involving a 3rd person ergative and a 1st or 1+2 person absolutive (7.5.2). In the combination '3E-1+2A' *ga-marra-*, the *ga-* ergative prefix precedes the *marra-* absolutive prefix (this is an irregular ordering. 7-42). The *ga-* prefix in this particular combination does not undergo lenition (i.e. *ga-marra-* is not realised as \*[ $\text{a-m}\text{a}\text{r}\text{a}$ ]). As stated, the generality of the evidence indicates that the relevant parameter is the template-initial occurrence of *ga-*, rather than its having a pronominal as opposed to a directional function.

Morpheme-initial velar stop in class-marked nominal roots usually undergoes lenition when it occurs intervocally. Disyllabic adjective roots with an initial velar stop, do not however undergo lenition.

(4-71)		-gooli 'raw'
	Class I	na-'gooli
	Class II	njing-'gooli
	Class III/IV	nang-'gooli

Velar stop initial adjective roots greater than 2 syllables in length undergo complete lenition.

(4-72)		-gardambarn'geengi 'black'
	Class I	na-ardambarn'geengi
	Class II	njing-gardambarn'geengi
	Class III/IV	nang-gardambarn'geengi

Class marked kin nouns and most human status adjectives, with an initial velar stop, show lenition to /w/

(4-73)	njing-'goombardi	'mD, wBD'	na-'woombardi	'mS, wBS'
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However the four gender variable phratry adjectives show an irregular lenition of word initial /g/ to /y/.

(4-74)	Feminine	Masculine.
	njing-garrma'ngiiru	Ø-yarrma'ngiiru
	njing-ga'rraadjawa	Ø-ya'rraadjawa
	njing-garraba'rnaadjinggi	Ø-yarraba'rnaadjinggi
	njing-garra'ngaalbu	Ø-yarra'ngaalbu

Lenition among verbal prefixes and class-marked nominal roots is essentially lexicalised. Only the '3IVA-here-FU' form *gu-wa-n- ~ gu-ga-n-*, illustrated in (4-68), shows any variation. The distribution of lenition in compound verb roots is also essentially lexicalised. Nearly all compound verb roots with an initial velar stop undergo complete lenition.

(4-75)	Underlying	Attested
	Ø-arra-go'ree-garra	Ø-arro-o'ree-garra
	3IA-1E-see-Aux.PP	
	'I saw him.'	

Complete lenition results in the creation of a long vowel. Long vowels arising from lenition invariably take the quality of the second vowel. This may be formalised according to the rule in (4-76).

(4-76)	$V_1V_2 \rightarrow V_2V_2$
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There are some compound verb roots which do not ever undergo lenition (e.g. *ga'lamarr-wa* 'to be jealous'). There is also one situation where

compound verb roots systematically fail to undergo lenition. Word-initial velar stops in positive imperative forms do not undergo lenition.

(4-77)	Underlying <i>Ø-garla-'baanggi</i> 3IA-put on-Aux.PR 'He is putting it on.'	Usual Attestation <i>Ø-arla-'baanggi</i>
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(4-78)	<i>garla-'baanggi</i> put on-Aux.IMP 'Put it on!'	<i>garla-'baanggi</i>
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Word-initial velar stops in positive imperative forms are not strictly template-initial. Positive imperatives may take a directional prefix *ba(ra)-* 'here', and undergo lenition when this prefix is added.

(4-79)	Underlying <i>ba-go'ree-garra</i> here-look-Aux.IMP 'Look here/at me!'	Usual Attestation <i>bo-o'ree-garra</i>
--------	---	--

However this is the only prefix position in positive imperative verbal complexes (the evidence is against positing pronominal prefix positions filled by  $\emptyset$ - in positive imperative verbal complexes. 7.9). Consequently in the great majority of positive imperative forms based on a velar stop initial compound verb root, the velar stop is word-initial. As such it does not appear unreasonable to analyse the non-application of lenition word-initially in positive imperatives as being essentially the same boundary marking phenomenon found with template-initial velar stops.

The lenition patterns found with compound verb roots are generally similar to those found with verbal prefixes and class-marked nominal roots. However compound verb roots show a greater range of variation. While they normally show complete lenition, they are also rarely attested in unlenited forms, or in forms lenited to /w/.

(4-80)	Underlying <i>Ø-ga'rdeenj-bimi</i> 3IA-fall-Aux.PP 'He fell down.'	Usual Attestation <i>Ø-a'rdeenj-bimi</i>  [gə'de:ŋ-bimi] (A225)
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(4-81)	<i>Ø-arra-ga'lee-bi</i> 3IVA-1E-call out-Aux.PP 'I called out.'	<i>Ø-arra-a'lee-bi</i>  [əɾa-gə'le:-bi] (179)
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- (4-82) *ma-ga'rdeenj-bimi*                      *ma-a'rdeenj-bimi*  
 3IIIA-fall-Aux.PP  
 'It fell.'    [mɑ-wɑ'de:j-bimi] (184)
- (4-83) *arr-ga-go'ree-garra*                      *arr-go-o'ree-garra*  
 1A-3E-see-Aux.PP  
 'He saw me.'                                      [gɑ-wɔ're:-gəɾɑ] (93) (the initial  
 unstressed syllable has been lost- a common phenomenon 4.7.4)

The available data does not reveal the factors which control the appearance of these rare variant realisations. They were never given in elicitation sessions focussing on the canonical forms of words (i.e. it appears that complete lenition is canonical). However my principal consultant P.B appeared to treat them as acceptable forms when questioned about them, and did not offer lenited versions as corrections. As such it appears that lenition of the velar stop must be analysed as an optional, though standardly occurring, process with compound verb roots. As (4-77 & 4-78) demonstrate the potential occurrence of lenition is linguistically contrastive, at least in terms of surface realisations.

Morpheme-initial velar stops in simple verb roots and verbal suffixes undergo lenition patterns similar to those found with compound verb roots. Most simple verb roots with an initial velar stop undergo complete lenition, as does the only verbal suffix with an initial velar stop *-gi*. As elsewhere there are complex lexical conditionings on the occurrence of morpheme-medial lenition. For example, the initial velar in the simple verb root *ga* 'to take' does not undergo lenition when the verb functions as a main verb. However it does undergo lenition when it functions as an auxiliary. Conversely the initial velar in the simple verb root *garra* 'to have' is lenited when it functions as a main verb, but is not lenited in most cases when it functions as an auxiliary.

Simple verb roots and verbal suffixes are also similar to compound verb roots, in that unlenited forms, or forms lenited to /w/ are attested. However the distribution of unlenited forms, forms lenited to /w/, and completely lenited forms differs from that found with compound verb roots. Firstly it appears that unlenited forms are the canonical forms with simple verbs, and the verbal suffix *-gi*. Unlenited forms were characteristically given in very slow speech responses to elicitation focussing on the canonical forms of words.

Secondly the potentiality for lenition is not generally linguistically contrastive, as it is with compound verb roots. There are only two velar stop initial simple verb roots which occur as independent main verbs; *ga* 'to take' and *garra* 'to have'. As *ga* 'to take' does not undergo lenition in its independent function, there is no possibility of contrast for this verb. However *garra* 'to have' which does undergo lenition, shows a non-lenited positive imperative.

- (4-84) *gaarra=nga aardi* [gə:ɾi=ŋə a:ɖi]  
 have.IMP=1IO swag  
 'Keep the swag for me!' (C60)

As such the potentiality for lenition is contrastive for this simple verb. However simple verb roots which are found only as auxiliaries, and the verbal suffix *-gi*, cannot occur initially in an imperative form. As such no possibility of linguistic contrastiveness exists for these morphemes.

Lenition of the velar stop morpheme-medially in nominal roots and compound verb roots (the velar stop does not occur medially in other morphemes) must also be analysed as an optional non-contrastive process. As with simple verbs and verbal suffixes, it appears that unlenited variants are the canonical forms. They were the forms given in carefully monitored speech. The velar stop is completely lenited in the following environment morpheme-medially.

- (4-85) a\_a

There are two exceptions.

- (4-86) *djardaga'rdega* 'to play'  
 (4-87) *geegirr* 'all'

The /e/ vowel in (4-86), at least, almost certainly derives by vowel grade from an underlying /a/ (4.7.2). Morpheme-medial lenition is lexically conditioned, as the lenition of the velar stop generally is. There are a number of forms which fulfil the phonological criterion, but which have not been observed to undergo the lenition.

- (4-88) *bagarna-wa* 'to chase' *gaaga* 'grandmother'

While lenition of the velar stop is an optional non-contrastive process morpheme-medially, and generally morpheme-initially in simple verb roots and verbal suffixes, it cannot simply be described as a fast speech process in these circumstances. The lenited variants were the normal realisations in other than quite slow careful speech, though the unlenited variants did occur at conversational speech speeds. These lenition patterns may be contrasted with another lenition pattern affecting the velar stop, which is a prototypical fast speech process. The fast speech lenition of the velar stop is a purely phonological process, unaffected by morphological or lexical factors.

- |        |   |  |
|--------|---|--|
| (4-89) | Underlying<br><i>garla-'baanggi</i><br>put on-Aux.IMP<br>'Put it on!' | Usual Attestation<br><i>garla-'baanggi</i><br><br>[a]ə-'ba:ŋgi] (B906) |
|--------|---|--|

As illustrated in (4-78 & 4-84) the velar stop does not normally lenite initially in positive imperative forms. However in fast speech lenited positive imperative forms are occasionally attested, as in (4-89). It appears that any word-initial velar stop may be lenited in fast speech. Lenition of the velar stop is also attested following consonants in fast speech.

- (4-90)     *baalgi=mba*                             [bɛ:lə=mba]  
           'lots=AUG' (22)
- (4-91)     ∅-*nj-djal-ga'bee-ngga-ri*             [ɲdɔlwa'bɛ:ŋgəri]  
           3IA-1E.IRR-drop off-Aux-Aug-P  
           'I did not drop him off.' (B713)

Post-consonantal lenition is uncommon, and the conditioning factors are not known. It is likely that post-consonantal lenition is only possible when the preceding consonant is a non-nasal sonorant. It is not attested following nasals (*ngg* is a particularly frequent cluster. Table 5.2). These fast speech lenitions appear to conform to the general pattern of fast speech phenomenon. They are attested reducing unstressed, rather than stressed, syllables (4.7.4).

The general patterning of velar stop lenitions tends to suggest that they should be understood as a sequence *g* → *w* → ∅. This is especially suggested by the occurrence of *g* ~ *w* ~ ∅ alternate realisations with a compound verb root such as *ga'rdanj-bimi* 'to fall' (4-80 & 4-82). However the overall evidence establishes that this is not tenable. Firstly underlying /*w*/ never undergoes lenition, even though there are a reasonable number of examples of its occurrence in the appropriate environments. Secondly it is only compound verb roots which show the triple alternation *g* ~ *w* ~ ∅. Otherwise an alternation of either *g* ~ ∅, or an alternation of *g* ~ *w* is found. The *g* ~ *w* alternation is in fact found only with the auxiliary verb root *gama*. All other forms show only the *g* ~ ∅ alternation. It is therefore necessary to analyse *g* → ∅, and *g* → *w*, as two separate lenition processes.

While the two major lenition patterns do not appear to be related as a sequence, there is some evidence from both compound and simple verb roots that the *g* → *y* lenition, found after /*i*/, results from a *g* → *w* → *y* sequence. The '3IA-3FE' and '3IIIA-3FE' prefix combinations have the forms ∅-*iDJ*- and *m-iDJ*- respectively, with a final DJ morphophoneme. The resultant forms before a velar stop initial stem should be ∅-*idj*- and *m-idj*- respectively (5.3.3). These are the forms found before the simple verb root *ga*- 'to take', in its non-leniting main verb function.

- (4-92)     ∅-*iidj-ga-ngga*  
           3IA-3FE-take-PP  
           'She took him.'



The consonant cluster /djg/ should not be affected by lenition. However the standard form found with leniting verb roots does show lenition.

- (4-93) *Ø-i-yo'ree-garra*  
3IA-3FE-see-Aux.PP  
'She saw him.'

Two rare variants are also attested.

- (4-94) *Ø-i-go'ree-garra*                      *Ø-i-wo'ree-garra* (104)

These variants would suggest that the /djg/ cluster is reduced to /g/ before leniting roots. The resulting /g/ then undergoes a g → w → y lenition sequence.

The phonological modelling of the lexicalised lenition of the velar stop presents certain interesting issues. The major point of interest is that the phonological status of the lenition appears to show an inverse correlation with its lexical status. It is innermost lenitions that are less lexical in nature. The outermost lenitions are the most obviously lexical in nature. Within Lieber's model of the lexicon, the strongly lexical nature of outermost lenitions may be accounted for by the following morpholexical rules.

- (4-95) *Ø* Lenition Class                      -gX ~ -X  
(4-96) w Lenition Class                      -gX ~ -wX  
(4-97) y Lenition Class                      -gX ~ -yX

These morpholexical rules account for the lenition patterns found among verbal prefixes and class-marked nominals. Lenition patterns found in this class of morphemes are invariant and obligatory. The one exception is the '3IVA-here-IRR' form *gu-wa-n-* ~ *gu-ga-n-*, illustrated in (4-68). The lenition patterns which are found with the other classes of morphemes may be accounted for by the following string dependent rules.

- (4-98) g → Ø / {V, Ø-} \_ [+L1]  
(4-99) g → w / {V, Ø-} \_ [+L2]  
(4-100) g → y / i \_ [+L3]

These rules are very similar to the morpholexical rules in (4-95 - 4-97). However there are certain differences between the two types of rules which appear to capture the important differences between the two classes of morphemes. Firstly lenition appears to be optional in all other situations. It is

certainly optional with simple verbs, within nominal and verbal roots, and with verbal suffixes. It appears likely that it is also optional with all compound verb roots, though this hypothesis cannot be fully tested on the presently available data. This optionality may be accommodated within a string dependent analysis, by giving a [ $\pm$ ] value to the relevant diacritic (in fact a percentage value. 4.2). Under a morpholexical analysis, there would necessarily be a considerable increase in the number of individual items listed in the lexicon.

Secondly this optional lenition applies in an all or nothing manner, in the available data. Either all the velar stops in a morpheme show lenition, or none do.

(4-101)	<i>djardaga'rdega</i> 'to play' (both lenite)	<i>ma'rdaagardaga</i> 'lizard sp' (neither lenite)
(4-102)	<i>garaga</i> 'to be ashamed' (both lenite)	<i>gordobarraga</i> 'to clear off' (neither lenite)
(4-103)	<i>njing-goma'gaali</i> II-spouse 'wife'	<i>na-woma'gaali</i> I-spouse 'husband'

As (4-103) shows, obligatory lenition behaves differently, with only the morpheme-initial velar stop being lenited. This is not a major consideration, as only ten morphemes in the data have more than one velar stop. Nevertheless an analysis which can capture this generalisation is somewhat to be preferred over one that does not. The string dependent rule analysis predicts this state of affairs, because the diacritic is a property of the whole morpheme. Under a morpholexical analysis, it would simply be an accidental fact. The string dependent rules in (4-98 - 4-100) operate over morphemes, and not over the total word. Thus while a compound verb root may show lenition, its auxiliary may not, and vice versa.

(4-104)	<i>go'rdo-garra</i> 'to deprive'	<i>arr-go-o'rdoo-garra</i> 1A-3E-deprive-Aux.PP 'He deprived me of it.'
(4-105)	<i>ga'rda-gama</i> 'to break'	$\emptyset$ - <i>arra-ga'rdee-wama</i> 3IVA-1E-break-Aux.PP 'I broke it up.'

It is of course the case that both the compound verb, and the auxiliary, and also a verbal suffix, can be lenited. Lieber provisionally posits a Multiple Application Constraint on the operation of string dependent rules (1981 : 173).

- (4-106) No word formation process, e.g. insertion of a given morpheme into a lexical tree, or string dependent rule, can apply iteratively to its own output.

I would argue that the string dependent rules in (4-98 - 4-100) are unaffected by this constraint. Their domain is restricted to the morpheme. Their application to a number of different morphemes does not therefore constitute iterative application to their own output.

#### 4.6.4 Lenition of the Velar Nasal.

The velar nasal lenites on a pattern very similar to that shown by the velar stop morpheme-medially. It undergoes lexically conditioned complete lenition. This lenition is particularly frequently attested in the following morphemes, or morpheme combinations.

- (4-107) *ngaDJ-* '1st possessive', *nga-na-* '1A-2E-', *nga'meena* 'what', *ngame'neega* 'why', *gardanganj'ngara* 'to swim', *nji-nga-n-* '3IIA/2A-3ME-IRR-', *ma-nga-n-* '3IIIA-3ME-IRR-', *gu-nga-n-* '3IVA-3ME-IRR'

As these examples illustrate the lenition is usually restricted to the following phonological environment.

- (4-108) {#, a}\_a

The two Irrealis prefix complexes *nji-nga-n-* and *gu-nga-n-* are the only exceptions. These two complexes reduce to [ɲɪn] and [gɔn] respectively (with short vowels). The lenition is also restricted to unstressed syllables.

- (4-109) *nganj-'ngiirla* [ŋəŋ-'ŋɪ:|ə] ~ [əŋ-'ŋɪ:|ə]  
1MIN-aunt  
'My aunt'

- (4-110) *ngaanj-ma* ['ŋə:ŋ-mə] ~ \*['ə:ŋ-mə]  
1MIN-PRM  
'I, me'

*ngaDJ-* frequently undergoes lenition when it occurs as unstressed prefix, as in (4-109). It is never lenited when it occurs as a stressed root form, as in (4-110). The same situation holds for the three Irrealis prefix complexes. These are never reduced when stressed. There is a minimal pair contrasting /ng/ and Ø in stressed syllables.

- (4-111) *ngaardi* 'head'      *aardi* 'possessions'

The phonological conditionings do not however fully predict the occurrence of the velar nasal lenition.

- (4-112) *nga'laararr* [ŋa'la:raɽ] ~ [a'la:raɽ] 'liver'  
 (4-113) *nga'laambirr* [ŋa'la:mbɪɽ] ~ \*[a'la:mbɪɽ] 'cough'

While lenition has been recorded with *nga'lararr* 'liver', it has not been recorded with *nga'lambirr* 'cough'. There are a number of other forms where lenition has not been recorded, even though the structural description of the lenition is satisfied. Like the other lexicalised lenition processes, I analyse lenition of the velar nasal as resulting from the operation of a string dependent rule.

- (4-114) /ng/ -> Ø/\_V[+NG]

#### 4.6.5 Lenition of the Palatal Stop.

The palatal stop lenites to the palatal continuant. The lenition is morphologically restricted to initial position in a verb root, or a verbal affix. The majority of /dj/ initial verb roots and verbal affixes undergo lenition. However some do not, and there does not appear to be any independent way of predicting whether a form will undergo lenition or not. As such the lenition is also lexically conditioned. The one systematic exception to lenition occurs with positive imperatives. /dj/ does not undergo lenition in positive imperatives. The same phenomenon is found with the velar stop (4-78 & 4-84). It appears that the non-lenition of /dj/ in imperatives can be understood in the same way as the non-lenition of the velar stop in imperatives: as a signal indicating the boundary of the imperative verbal template (5.6.3).

The palatal stop lenites in two separate, though related, phonological environments. When it is underlyingly in word-initial or intervocalic position, lenition is obligatory, provided the morpheme undergoes lenition. The palatal stop may also lenite if occurs in word-initial position as the result of other processes.

- (4-115) *nj-djoorrnggoma* [yɔ:ɽŋgoma]  
 3IIA-go in.PP  
 'She went in.'

Various forms in the paradigms of a number of /dj/ initial verbs involve extrasyllabic nasal prefixes, such as the Absolutive prefix *nj*- '3IIA' in (4-115). This extrasyllabic prefix may be deleted in non-connected speech (5.3.4). The initial /dj/ of the verb then becomes word-initial, and may undergo lenition. However this lenition is an optional fast speech process.

The string dependent rule for the lenition of the palatal stop is set out in (4-116).

(4-116) /dj/ → Ø / {V, Ø-}\_ [+Lam]

#### 4.6.6 Length and Voicing in Stops.

Gaagudju is unlike the majority of languages in the Top End, in that it lacks a distinction between a fortis and a lenis series of stops. The principal correlates of the distinction between the two series are length and voicing. Fortis stops are long and/or voiceless, whereas lenis stops are short and/or voiced (Butcher : to appear). Neither length nor voicing is distinctive in Gaagudju. On initial and provisional investigations it does not appear that length is a significant parameter phonetically for stops in Gaagudju. Voicing does appear to be a significant phonetic parameter. It appeared to me that stops were generally voiced in Gaagudju. The one situation where stops were fairly consistently voiceless, at least for my main consultant P.B, was immediately following a stressed vowel.

Appendix 4 contains diagrams showing tokens of the lexeme *maagarr* 'lower leg' given by P.B, N.M and L.D.Y In token (App3-1) P.B produced the medial velar stop with 130cs of essentially voiceless closure. This is the type of realisation usually characteristic of fortis stops word-medially. In token (App3-2) she produced it with 135cs of closure. There is some initial voicing in this closure, a pattern which is less characteristic of fortis stops generally. Token (App3-3) from N.M shows a basically similar pattern with 95cs of largely voiceless closure. However token (App3-4) from L.D.Y, the other fluent speaker, shows a completely different pattern. The medial velar stop does not have a stop realisation at all, but instead is realised as an approximant of 90cs duration. Approximant realisations are characteristic of lenis stops, and are never found with fortis stops.

Stops in Gaagudju therefore show a range of realisations extending across the spectrum which serves to distinguish lenis stops from fortis stops in many of the neighbouring languages. It seems likely that there was considerable dialectal and idiolectal variation in the exact realisation patterns shown by stops. It also seems likely that speech speed would be an important variable, with approximant realisations increasing in frequency in faster speech.

#### 4.7 Vocalic Variation.

##### 4.7.1 Realisation Patterns of Long Vowels.

The principal complications in the description of long vowel realisation patterns arise in analysing the distribution of mid-vowel realisations. The assignment of cardinal vowel and diphthongal realisations to phonemes is unproblematic.

(4-117)

- [ɔ] This is the usual realisation of /u/. /u/ is only very infrequently found as a long vowel, owing to the operation of vowel grade (4.7.2).
- [i] This is the invariant realisation of /i/ when followed by a laminal.
- [ɪ] This is the usual realisation of /i/ found elsewhere.
- [ə] This is the usual realisation of /a/.
- [əi] This is the fast speech realisation of /a/ in syllables closed by a laminal.
- [ɔi] This is the fast speech realisation of /o/ in syllables closed by a laminal

In many cases stressed long vowels, which are underlyingly cardinal in quality, alter quality to the corresponding mid vowel (i.e. 'aa -> 'ee, 'ii -> 'ee, 'uu -> 'oo). This is the phenomenon of vowel grade (4.7.2). Vowel grade is a partially productive process in Gaagudju. However it shows extensive lexical and morphological conditioning. These mid-vowel realisations were given by consultants as the canonical realisations of the particular word forms involved.

The contrastive mid-vowel realisations, resulting from the operation of vowel grade, were not the only mid-vowel realisations shown by cardinal vowels. Both the /i/ and /a/ phonemes also show non-contrastive mid-vowel realisations when long. In less carefully monitored speech /i/ tends to be realised as [ɛ], when followed by an apical consonant, provided that it is not in a word-initial syllable.

- (4-118) *nang-'giirdi* [naŋ-'giɪdi ~ naŋ-'gɛdi]  
'IV-wet'
- (4-119) *giini* [gi:ni]  
'nose'
- (4-120) *nj-dju'rriinj-dji=nu='giini* [ŋ-ɖɔ'ɾi:ŋ-ɖɪ=nə='gɛ:ni]  
3IVA-block-Aux.PP=3MIO=nose  
'His nose is blocked.'

A comparison of (4-119) & (4-120) illustrates the significance of the non-initial syllable requirement. In isolation the lexeme *giini* 'nose' does not appear to show a [gɛ:ni] variant. However this variant is frequently attested when it occurs encliticised, as in (4-120). In phonological terms this lowering process can be understood as an assimilation process. /i/ is a [+laminal] segment. In the presence of a following [+apical] segment, the [+laminal] feature is deleted. This leaves [+coronal] as the major place of articulation

features, which in turn specifies the [ɛ] vowel. However the constraint requiring non-initial position does not appear to have any obvious motivation. Further the lowering to [ɛ] is also found in other environments.

(4-121) *niimba* [nɛ:m̩b̩a]  
'lower back'

As such the lowering must be analysed as resulting from the operation of the string dependent rule in (4-122).

(4-122) /ii/ → [ɛ:] / [+C1]

The low vowel /a/ also shows [ɛ] realisations. These [ɛ] realisations co-occur with [æ] realisations, and may be viewed as the endpoint in a raising process affecting /a/ in less carefully monitored speech. In nearly all cases the [æ ~ ɛ] realisations are preceded by a laminal segment, and are followed by an alveolar, as in (4-123).

(4-123) *yaana* [y̥a:n̩ə ~ y̥æ:n̩ə ~ y̥ɛ:n̩ə]  
'where'

It appears that whenever /a/ occurs in this situation, then [æ ~ ɛ] realisations will occur. The [æ ~ ɛ] realisations therefore fairly clearly originated as assimilations. The actual raising was presumably most prominently conditioned by the laminal. The following alveolar was relevant in constituting part of the conditioning for the /a/ to replace its [+grave] specification with a [+coronal] specification. Initially this would have resulted in the formation of an [æ] vowel, which is [+coronal, +low]. When the raising proceeded further, then the [+low] feature was also deleted. This left a [+coronal] specification, which produced [ɛ]. However [æ ~ ɛ] realisations cannot be synchronically analysed as resulting from an assimilation. Firstly there is no obvious motivation for restricting the realisations to the particular environment described. It would seem that any neighbouring coronal segment should be capable of conditioning the [æ] realisations at least. Secondly these realisations are also found in lexemes which do not exhibit the relevant environment.

(4-124) *bi'laarra* [bɪ'l̩ə:r̩ə ~ bɪ'l̩æ:r̩ə]  
'spear'

(4-125) *-baalgi* [-b̩ə:l̩gi ~ -b̩æ:l̩gi ~ b̩ɛ:l̩gi]  
'lots'

- (4-126) *baagu* [bɑ:gu ~ bæ:gu ~ bɛ:gu]  
'wallaby'

These occurrences do not appear to be predictable. Given their apparently non-contrastive status, they are analysed as lexicalised "fast speech" variants. In formal terms I analyse them as resulting from the application of the string dependent rule in (4-127) (see also 4-176).

- (4-127) /aa/ -> [æ: ~ ɛ:]/[+C2]

Similar problems arise in analysing the distribution of the lax [ɛ] and tense [e] realisations of the /e/ phoneme. The lax [ɛ] realisation occurs in closed syllables, and when there is a following velar nasal /ng/, or a following retroflex stop /rd/. Both realisations are found before alveolars. In this environment the distribution of lax and tense allophones is not entirely predictable by phonological criteria. The distribution shows lexical and morphological conditioning, with there being a significant difference between nominals and verbs. Within nominal roots the distribution of lax and tense realisations is largely controlled by the nature of the following vowel. There are no examples of either of the two mid vowels following long /e/ in nominal roots, or indeed in any word form in Gaagudju. However all the cardinal vowels are so attested. The lax realisation is found whenever there is a following /a/.

- (4-128) *njeeda* [ɲɛ:da]  
'daylight'

- (4-129) *nga'meena* [ŋɑ'mɛ:nə]  
'what'

The tense realisation is found only when there is a following high vowel.

- (4-130) *ba'leeru* [bə'le:ru]  
'later'

- (4-131) *barr'geeli* [bær'ge:li]  
'boomerang'

However two lexemes show a non-predictable occurrence of [ɛ] when there is a following /i/.

- (4-132) *geeninjdjada* [gɛ:nɪŋdɔda]  
'two.F'



- (4-133) *garranga'rreeli* [gəɾəŋə'ɾɛ:li]  
'woman who has had a child'

These two lexemes both have somewhat unusual statuses in certain respects. *geeninjdjada* 'two.F' has a doublet *geendjada* [gɛ:nɔdɔ], which shows a regular occurrence of the lax allophone in a closed syllable. Internal reconstruction within the numeral paradigm would suggest that the short alternant, *geendjada* is historically prior (8.5.6). This may explain the contra-indicated occurrence of the [ɛ] in *geeninjdjada*. *garranga'rreeli*, in addition to the meaning 'woman who has had a child', is also used as one of the ways of referring to the female creation figures, who are so prominent in this area (Berndt & Berndt 1970 : 117 - 119, Spencer 1914 : 275 - 285). As such it has a function within esoteric, religious vocabulary. The contra-indicated occurrence of a lax allophone in this lexeme may be connected with this fact.

In verbal paradigms only the tense allophone is found, regardless of the nature of the following vowel.

- (4-134) Ø-*a'rree-nawa* [a'ɾɛ:-nəwə]  
3IA-1E-put.PP  
'I put it down.'
- (4-135) Ø-*an-'geela-bi=nu* [ən-'ge:lə-bə=nu]  
3IVA-3ME-call out-Aux.PP=3MIO  
'He called out to him.' (473)

The occurrence of a tense realisation may be related to the fact that nearly all instances of long /e/ in verbal paradigms involve vowel grade (4.7.2). The tense realisation is found in all other situations involving long /e/. In overall terms therefore, the tense realisation occurs in a wider range of environments than the lax realisation. Consequently it may be analysed as the unmarked realisation of long /e/.

The labial mid vowel /o/ shows the opposite markedness relation in the distribution of tense and lax realisations. In this case the lax realisation [ɔ] occurs in a wider range of environments, and may consequently be analysed as the unmarked realisation. The tense realisation [o] is found whenever there is a following velar stop /g/, or a following labial continuant /w/. It is usually found whenever there is a following labial stop or nasal. However if there is also a following labial vowel, then the lax realisation will usually occur.

- (4-136) *magana'boobu* [magənə'bɔ:bu]  
'banyon tree'

(4-137)	<i>garlarl'boobo</i> 'lightweight'	[gə ə]'bɔ:bɔ]
(4-138)	Ø-an-'boo-mu 3IA-3ME-hit-PP 'He hit him.'	[an-'bɔ:-mu]
(4-139)	<i>moomo</i> 'spirit'	[mɔ:mo]
(4-140)	<i>moobiyu</i> 'animal'	[mo:biyu]
(4-141)	<i>nja'noomala</i> 'boil'	[nə'no:mələ]
(4-142)	<i>ma'njoogu</i> 'bandicoot'	[mə'jo:gu]
(4-143)	<i>warn'yoowu</i> 'tree sp'	[wən'yo:wu]

(4-136) - (4-143) show that the following syllable must meet both criteria for a lax [ɔ] realisation to occur. There is one lexeme, which meets the criteria, which shows a tense [o] realisation.

(4-144)	<i>nanggamo'loobo</i> 'long time'	[nəŋgəmə'lo:bɔ]
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In this case it appears likely that the preceding /o/ vowel is relevant. *nanggamo'loobo* is the only example where there is a preceding /o/ in the relevant circumstances (there are no examples of a preceding /u/). The generalisation appears to be that a long labial vowel will have a lax realisation if it is the first of a sequence of labial vowels, and there is a following [+consonantal, +labial] segment. Otherwise a tense [o] realisation will be found. The tense realisation is also found whenever long /o/ is unstressed (all such examples arise through lenition 4.6.3). The lax realisation is found in all other situations.

The distribution of the tense and lax allophones within the two long mid vowels can largely be described in phonological terms. However I do not think that this distribution can be analysed as phonologically well-motivated in any reasonable sense. Consequently I do not analyse the distribution of these allophones in terms of phonetic implementation rules. Rather I analyse it as resulting from the following string dependent rule.

(4-145) VV [Øhigh, Ølow] -> [+tense]/[+Mid]

I accept that the analysis of the distribution of tense and lax allophones of long /e/ and /o/ in terms of the string dependent rule in (4-145), and its attendant constraint diacritic, is not an entirely happy analysis. It would be preferable to have the distribution of tense and lax allophones follow from some reasonably well-motivated phonological base. It is possible to describe the distribution of tense and lax allophones among short vowels with phonologically well-motivated rules (4-171 - 4-173). However it does not appear to be possible to do so for long vowels in Gaagudju.

The alternative would be to analyse the lax and tense forms of long vowels as separate phonemes. Two facts militate against such an analysis. Firstly there is the fact that the distribution of lax and tense allophones among short vowels is predictable in a phonologically well-motivated manner. Positing a greater number of phonemic distinctions among long vowels than among short vowels would be highly unusual in cross-linguistic terms. Secondly there is the absence of anything approaching even a sub-minimal pair. Given the limitations of the database, it is possible a (sub-)minimal pair may in fact exist. However within the terms of the presently available data, I would argue that the rule in (4-145) is to be preferred. The existence of other vowel allophony patterns which apparently require string dependent rules (4-127) provides support for a string dependent analysis.

The lax [ɔ] realisation is also found as a realisation of /u/ in one highly restricted environment.

(4-146)	<i>buu</i> hit.IMP 'Hit it!'	[bu: ~ bwo:]
(4-147)	Ø-' <i>buu-y</i> 3IA-hit-detr.PP 'He hit himself.' (B510)	[bwo:i]
(4-148)	<i>guubuy</i> 'canoe'	[gɔ:bwoi]
(4-149)	<i>gu'booyu-gu'booyu</i> 'owl sp'	[gɔ'bo:i\$u-gɔ'bo:i\$u]
(4-150)	<i>waaboy</i> 'yamstick'	[wɔ:bɔi]

In addition to the usual labial vowel realisations, a [wɔ ~ wɔ] realisation is also found after /b/. There are a number of reasons for analysing

this as a realisation of /u/. Firstly in monophthongal realisations such as (4-146), it alternates with [ɔ ~ u] realisations. It does not alternate with [ɔ ~ o] realisations, in either monophthongal or diphthongal realisations. It does not alternate with [ɔ ~ u] in diphthongal realisations. However there is a contrast between [wɔi] and [ɔi], as illustrated by (4-148 & 4-149). There is some fairly specific evidence that [wɔi] is the realisation of /uy/. (4-147) underlyingly involves the verb root *bu* 'to hit' and the Conjugation 1 detransitiviser *-y*. *bu* normally undergoes vowel grade to /oo/ (4.7.2), and the predicted detransitivised form would be \*/'boo-y/, which would be \*[bɔ:i]. The contrastive presence of rounding in the attested ['bɔwɔ:i] form shows that it must have a different phonemicisation, which is most reasonably /'buu-y/. Finally it may be noted that the cognates of (4-148) have /u/ vowels: Giimbiyu *ubunj* 'canoe' and Gunwinjgu *gubunj* 'canoe'. The [wɔ ~ wo] realisations of /u/ are apparently restricted to the diphthong /uy/, and stressed word-final position.

(4-151) *buurri* [bɔ:ɾi] ~ \*[bɔwɔ:ɾi]  
'string'

(4-152) *yaa-bu* [ya:-bu] ~ \*[ya:-bwo]  
'he went'

The [wɔ ~ wo] realisations, like a number of the other allophony patterns discussed in this section, do not appear to be phonologically well-motivated. Therefore I analyse them as resulting from the application of the string dependent rule in (4-153).

(4-153) /u/ → [wɔ ~ wo] / [+L2]

#### 4.7.2 Vowel Grade.

Vowel grade is a phenomenon whereby vowels, which are underlyingly cardinal in quality, alter quality to the corresponding mid-vowel, when long and stressed (i.e. 'aa → 'ee, 'ii → 'ee, 'uu → 'oo). The motivations for these alterations remain somewhat unclear. However the feature specification system discussed in 4.3 does provide the beginnings of a historical answer. Within a system which specifies vowels for articulators, the two mid-vowels are in a sense the unmarked vowels for their particular articulators, /e/ being [+coronal] and /o/ being [+labial]. Synchronically, long stressed vowels maintain their fully specified status in all speech varieties in Gaagudju.

Diachronically however, I suggest that they were not entirely immune to the general reduction tendencies which are evident in Gaagudju. Within the vowel set, I would propose that the active articulator is the most

saliently contrastive category, particularly the major articulator contrast between [coronal] and [labial]. Vowel grade can be understood as in origin a reduction process, which reduced contrasts to this single salient parameter. In terms of this reduction the high vowels lost their [+high] specification, and simply contrasted by their major articulators. The low vowel acquired the unmarked [+coronal] specification, in order to participate in this reduced contrastive system.

Whether or not vowel grade originated in this manner, it is now subject to a complex range of conditionings, beyond the basic phonological conditioning of being long and stressed. One of the major conditioning factors is the particular type of vowel grade. The labial vowel grade of 'uu -> 'oo is virtually exceptionless. There are only a few examples of 'uu in Gaagudju. A comparison between the two forms from the paradigm of the verb *bu* 'to hit' in (4-154 & 4-155) provides a good illustration of the nature of labial vowel grade.

(4-154) *buu* [bu:] ~ [bwo:] ~ \*[bo:]  
hit.IMP  
'Hit it!'

(4-155) Ø-an-'boo-mu [an-'bɔ:-mu] ~ \*[an-'bwo:-mu] ~ \*[an-'bɔ:-mu]  
3IA-3ME-hit-PP  
'He hit him.'

The imperative form, which involves /'uu/, shows an alternate mid vowel realisation. This mid vowel realisation is always accompanied by rounding of the preceding /b/. The mid vowel realisation in the form in (4-155) is not accompanied by rounding, nor is a cardinal vowel realisation possible. As we have seen, the alternate [wo:] sequence in (4-154) is to be phonemicised as /'uu/ (4.7.1). Even so, the occurrence of a [wo:] variant indicates the pervasiveness of the tendency for long stressed vowels to have mid vowel realisations.

The two types of coronal vowel grade show much greater variability. The most prominent factor conditioning coronal vowel grade is stress shift. Nearly all occurrences of coronal vowel grades are in syllables which bear stress as a result of stress shift. Stress shift is attested in verbal paradigms, pronominal paradigms, and in nominal reduplications. This section examines vowel grade in verbal paradigms. Vowel grade in pronominal paradigms and in nominal reduplications is examined in (6.6) and (5.6.2) respectively.

Stress shift in verbal paradigms is not invariably accompanied by coronal vowel grade. Morphological factors also play an important role. Stress shift to a syllable preceding the verbal auxiliaries and suffixes listed in (4-156), is nearly always accompanied by coronal vowel grade.

(4-156)	-gi	Tense suffix
	-ni	Tense suffix
	-ngi	Tense suffix
	-gi/-nggi/-dji-gi	Conjugation 2 detransitiviser/Auxiliary
	-ga	Auxiliary
	-ni	Auxiliary
	-ngga	Stem Augment

The phonologically disparate nature of the morphemes listed in (4-156) shows that it is not possible to phonologically condition coronal vowel grade in verbal paradigms. This is further evidenced by the fact that stress shift to a syllable preceding other verbal suffixes, which are phonologically similar to some of those in (4-156), is not accompanied by coronal vowel grade.

(4-157)	-yini	Tense suffix
	-ri	Tense suffix

In some cases it is necessary to stipulate that particular combinations do not undergo coronal vowel grade. Thus while stress shift to the syllable preceding the tense suffix *-ngi* is usually accompanied by coronal vowel grade, this does not occur if the preceding syllable is *dji*. This may be contrasted with the situation which arises when stress shifts to the first syllable of the Conjugation 2 detransitiviser/Auxiliary *-gi/-nggi/-dji-gi*. This is always accompanied by coronal vowel grade, resulting in the contrast illustrated in (4-158).

(4-158)	Underlying	Attestation
	'djii- <i>ngi</i>	'djii- <i>ngi</i>
	'djii- <i>gi</i>	'djee- <i>gi</i>

In some verbal paradigms tense conditions the appearance of coronal vowel grade. In compound verb forms involving the *-garra*, *-ma* and *-wa* auxiliaries, the Past Imperfective, Past Irrealis and Present tenses do not show vowel grade. However the Past Perfective, Future and Conditional tenses tend to do so (7.7). Compound verb stems involving the *-(ga)-ba* auxiliary also tend to show vowel grade in these tenses.

In certain verbal paradigms stress may fall on the initial syllable of the verb stem, or on a syllable in a prefix (5.1.2). Coronal vowel grade in this situation displays a degree of phonological conditioning. Coronal vowel grade normally occurs if there is a following palatal, or if one of the neighbouring vowels is /i/. The low vowel may also undergo back vowel grade, if it occurs in a prefix and one of the neighbouring vowels is /u/.

(4-159)	Underlying <i>gu-'rraa-nj-djurr-wa</i> 3IVA-1E-FU-grind-Aux 'I will grind it.'	Attested <i>go-'rroo-nj-djurr-wa</i>
(4-160)	<i>gu-'naa-n-durr-wa</i> 3IVA-2E-FU-grind-Aux 'You will grind it.'	<i>gu-'noo-n-durr-wa</i>
(4-161)	<i>gu-'rraa-ma</i> 3IVA-1E-get.FU 'I will get it.'	<i>go-'rroo-ma</i>
(4-162)	<i>gu-'naa-n-ma</i> 3IVA-2E-FU-get 'You will get it.'	<i>gu-'naa-n-ma</i>
(4-163)	<i>gu-'rraa-nj-dja</i> 3IVA-1E-FU-eat 'I will eat it.'	<i>gu-'rree-nj-dja</i>

As (4-159) - (4-163) illustrate, back vowel grade is most likely when both neighbouring vowels are /u/. There are two verb roots which show an irregular labial vowel grade of the low vowel.

(4-164)		Predicted	Attested
	'to put' <i>nawa</i>	*'neewa	'noowa
	'to drop off' <i>djal-gaba</i>	*'djeel-gaba	'djool-gaba

There also a few verb roots which show coronal vowel grade of an underlying /o/.

(4-165)		Predicted	Attested
	'to see' <i>goro-garra</i>	<i>go'roo-garra</i>	<i>go'ree-garra</i>
	'to vomit' <i>bardogordo</i>	<i>ba'rdoogordo</i>	<i>ba'rdeegordo</i>

The conditioning factors so far outlined, account for the majority of the occurrences of coronal vowel grade in verbal paradigms. In the great majority of paradigms coronal vowel grade is obligatory if conditioning factors are satisfied. However there remain a reasonable number of paradigms where both graded and non-graded forms are attested.

(4-166)	$\emptyset$ - <i>a'rraa-nga-wa</i> 3IA-1E-hear-Aux.PP 'I heard him.' (292)	$\emptyset$ - <i>a'rree-nga-wa</i> 3IA-1E-hear-Aux.PP 'I heard him.' (173)
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In cases such as (4-166), both forms appeared to equally acceptable in carefully monitored speech. Given the highly lexicalised and somewhat irregular nature of coronal vowel grade, it must be analysed as a string dependent rule. Labial vowel grade must also be analysed as a string dependent rule, though it is considerably less lexicalised in nature. The two rules are set out in (4-167) & (4-168).

(4-167) VV -> ee/'\_ [+Cor]

(4-168) VV -> oo/'\_ [+Lab]

#### 4.7.3 Realisation Patterns of Short Vowels.

The principal factors conditioning the realisation of short vowels are listed in (4-169).

- (4-169) The speed of speech.  
 The position of the syllable within the word  
 The structure of the syllable  
 The underlying vowel  
 The nature of the surrounding segments

The most important factor controlling the realisation of short vowels is speed of speech. The faster the speech speed, the more likely it is that a short vowel will be reduced. The usual reduction is to [ə], but [ɪ ~ i] realisations are also commonly found. The likelihood of a particular vowel being reduced at a particular speech speed is also affected by the other factors set out in (4-169). The positions par excellence for the reduction of vowels are in syllables immediately adjacent to a stressed syllable. Closed syllables also favour reduction. Vowels in syllables at word boundaries tend not to be reduced at slower speech speeds (see 5.6.3 on boundary markers). However at the faster speech speeds these are precisely the syllables which are most likely to be deleted and reduced (4.7.4).

The low vowel /a/ shows the greatest tendency to be reduced, with the high coronal vowel /i/ shows the next greatest frequency. The mid coronal vowel /e/ is only very rarely found as a short vowel (4.7.6), and consequently is essentially marginal to any discussion of short vowel realisation patterns. It does show some tendency to be reduced. The two labial vowels /o/ and /u/ show the greatest resistance to reduction. The nature of the following consonant is also relevant. Reduction is especially likely to occur before an apical consonant, especially if it is retroflex. These various factors may reinforce one another. Alternatively they may conflict with one another at a variety of levels. The canonical allophony for the short vowels appears to be that set out following.



- (4-170)
- /a/ This vowel is realised as a low central vowel [ə]. In syllables closed by a laminal it shows a diphthongal realisation [əi] in fast speech.
- /i/ The tense allophone [i] is found word-finally, and when there is a following laminal consonant. Otherwise the lax allophone [ɪ] occurs.
- /e/ There are only 4 examples of the short version of this vowel (4.7.6). In two examples the following consonant is laminal, and the allophone found is [e]. In the other two examples the following consonants are /n/ and /b/, and the allophone found is [ɛ]. This would suggest that /e/ shows the same patterning as /i/, with the tense allophone being found before laminals, and the lax allophone being found elsewhere.
- /o/ The tense allophone [o] is found word-finally, and before /w/. Otherwise the lax allophone [ɔ] occurs. In syllables closed by a laminal it shows a diphthongal realisation [ɔi] in fast speech.
- /u/ The tense allophone [u] is found word-finally, and before /w/. Otherwise the lax allophone [ʊ] occurs.

The lax allophones are more frequent, and I analyse them as the unmarked allophones. I analyse the tense allophones as resulting from the application of the following phonetic implementation rules.

- (4-171) V[Ølow] -> [+tense]/\_#
- (4-172) V[+coronal] -> [+tense]/\_C[+laminal]
- (4-173) V[+labial] -> [+tense]/\_[+labial, +continuant]

The low vowel also shows a tendency to be raised to [æ], when it occurs in a word-initial syllable with a laminal onset.

- (4-174) *ya-njing-'gaama-y* [yæ-nɪŋ-'gæ:mə-y] ~ [yæ-nɪŋ-'gæ:mə-y]  
 what-2E-do-PR  
 'What are you doing?'
- (4-175) *djabi'laana* [dʒæbɪ'læ:nə]  
 'billycan'

This tendency appears to be lexicalised, and consequently I analyse it as resulting from the string dependent rule in (4-176).

- (4-176) /a/ -> [æ]/C[+laminal]\_ [+C3]

The allophony described in (4-170) is maintained in all situations only in extremely carefully monitored speech, involving a virtual syllable by syllable production of word forms. In anything approaching a normal production of word forms, reduced vowel forms are found in certain environments, even in reasonably carefully monitored speech. The prototypical environment for reduction is in a word-medial syllable adjacent to a stressed syllable. All the vowels tend to be reduced in this position.

(4-177)	<i>na-ba'rdeeba</i> 'I-tall'	[nə-bə'ðe:bə]
(4-178)	<i>Ø-njaarndada</i> 'I-good'	[nə:n̩dədə]
(4-179)	<i>birnimi'rniimi</i> 'frog sp'	[bɪn̩ɪmə'n̩ɪ:mi]
(4-180)	<i>gu'maali-da</i> 'policeman'	[gʷmə:lə-də]
(4-181)	<i>modongo'loorro</i> 'pregnant'	[mɔdɔŋə'lɔ:ɾɔ]
(4-182)	<i>djoorrmoda</i> 'straight'	[dʒɔ:ɾmədə]
(4-183)	<i>bulu'rraadju</i> 'very fat'	[bʊlə'ɾaɟgu]
(4-184)	<i>djimburru'woodjbu</i> 'white corella'	[dʒɪmbəɾə'wɔɟbu]
(4-185)	<i>maadjunu</i> 'mussell'	[mə:ɟənu]

This tendency is strongest for the low vowel, where [ə] variants appear to be more common than [a] variants in these positions. The tendency is weakest for the labial vowels where the full variants appear to be more common than the [ə] variants. The coronal vowel /i/ shows more variability. It is not normally reduced when there is a neighbouring laminal consonant. It is not likely to be reduced when preceded or followed by another coronal vowel (see 4.7.5 on vowel harmony). Another environment favouring reduction is occurrence in a closed syllable.

(4-186)	<i>banda'maarrnga</i> 'water goanna'	[bændə'mə:ɾŋə]
(4-187)	<i>-ga-njdji</i> 'take-PR'	[-gə-ŋdʒi]
(4-188)	<i>nang-'goodji</i> 'IV-cold'	*[nəŋ-'gɔ:ɟi]
(4-189)	<i>nam-ba'rdeeba</i> 'IV-tall'	*[nəm-bə'ðe:bə]
(4-190)	<i>njim-ba'rdeeba</i> 'II-tall'	[ŋəm-bə'ðe:bə]
(4-191)	<i>irribin'djoori</i> 'saltwater crocodile'	[ɪɾɪbən'ɟɔ:ɾi]
(4-192)	<i>njing'gooduwa</i> 'woman'	[ŋəŋ'go:dɔwə]
(4-193)	<i>Ø-n-deerrinj-ma</i> 3IA-3ME-dream-Aux.PP 'He dreamed of him.'	*[n-de:ɾəŋ-mi]
(4-194)	<i>-gudbu'gaarra</i> 'sibling of deceased'	[-gədbɔ'gə:ɾə]
(4-195)	<i>-bu-njdji</i> 'hit-PR'	[-bə-ŋdʒi]
(4-196)	<i>iinjumbu</i> 'eagle'	*[i:ŋbambu]
(4-197)	<i>yung'gaalya</i> 'devil'	*[yəŋ'gə:lɪə]

As (4-186 - 4-197) illustrate, reduction is dependent on the nature of the coda consonant. If the coda consonant shares a place of articulation feature with the vowel, then the vowel will not be reduced. /a/ and /u/ do not reduce before a [+grave] consonant. /i/ does not reduce before a [+laminal] consonant. /e/ is only attested before laminal consonants, when it does not reduce. /o/ is essentially not attested in closed syllables, when it is short. The resistance to reduction in these cases conforms to the general

pattern, whereby doubly linked segments resist reduction (4.7.6). Under the Obligatory Contour Principle, adjacent identical specifications within a morpheme result from double linkage (Goldsmith 1990 : 23 - 24).

Therefore /i/ will share a [+laminal] specification with a following consonant. Similarly /a/ and /u/ will share a [+grave] specification with a following [+grave] consonant. This in itself is a point of some interest, as it establishes the necessity for a [+grave] specification in Gaagudju. Under the largely monovalent feature theory adopted (4.3), the resistance to reduction shown by /a/ when followed by a [+grave] consonant, cannot be attributed to the fact that /a/ and the [+grave] consonants are also [Øcoronal]. The resistance to reduction requires some positive commonality.

It is also necessary to recognise that double linkage is not the sole factor underlying resistance to reduction. Double linkage to an onset consonant does not protect a vowel from reduction. This is presumably to be related to the fact that the nucleus and coda form the rhyme constituent, and consequently the nucleus is more closely associated with the coda, than it is with the onset. Within the present framework, the restriction of the effects of double linkage to the rhyme must simply be stipulated. It cannot be derived from more general principles.

This is not to say that place of articulation relationships between vowels and onset consonants are without significance generally. The place of articulation of a following onset consonant does appear to effect the reduction patterns shown by vowels. /a/ and /i/ are particularly likely to be reduced before a following retroflex consonant.

(4-198)	<i>ba'rnaardbi</i> 'palm sp'	[bə'ŋə:ɖbi]
(4-199)	<i>ma-na-bi'rnee-wa</i> 3IIIA-2E-lose-Aux.PP 'You were lost' (287)	[mæ-na-bə'ŋe:-wə]
(4-200)	<i>ma-n-'biirna-wa</i> 3IIIA-2E-lose-Aux.PP 'He was lost.' (A538)	[mæ-n-'bɪ:ŋə-wə]
(4-201)	<i>bi'rneerrinj</i> 'saltwater goanna' (A117)	[bə'ŋe:ɾɪŋ]

The reduced variant is in fact the standard realisation before a stressed retroflex consonant in all situations for /a/ and /i/. My main consultant P.B did not normally use the full variants. The existence of an underlying /i/ in (4-199) is shown by the form in (4-200). The existence of an underlying /i/ in (4-201) was shown by the use of [bɪ'ŋe:ɾɪŋ] variants by other consultants (this lexeme is also found in other languages of the area, where it

invariably has an initial /i/ vowel). The labial vowels do not undergo reduction in this position.

(4-202) *go'rdoobarrdja*                   \*[gə'do:bəɾdʒə]  
'lily sp'

(4-203) *gu'rneembu*                   \*[gə'ne:mbu]  
'goose'

/a/, but not /i/, also shows a strong tendency to be reduced before alveolar consonants. The labial vowels again do not reduce in this environment. I do not have an explanation for these particular patterns, especially for the reduction of /i/ before retroflexes. The patterns are congruent with the general tendency for the low vowel to be the most subject to reduction, and for the labial vowels to be the most resistant. A following stressed /y/ will normally cause assimilation of a preceding /a/ or /o/ to [i].

(4-204) *ba'yaalala*                   [bi'yæ:lələ]  
'child'

(4-205) *ma-'yaa-dji*                   [mi-'yæ:-dʒi]  
3IIIA-PR-stand  
'It is standing.'

(4-206) *Ø-arra-bo'yoo-ma*           [əɾə-bi'yo:-mə]  
3IA-1E-pick up-Aux.PP  
'I picked it up.' (A250)

/u/ is not attested in this position. /a/ in fact assimilates to [i], whenever there is a following laminal continuant or stop, in an onset position.

(4-207) *Ø-arra-yongolo'djee-gi*       [əɾi-yəŋələ'dʒe:]  
3IA-1E-make-PP  
'I made it.' (A292)

(4-208) *arr-badaya'r-raa-bu-mu*       [əɾ-bədiyə'ɾə:-bɔ-mu]  
1A-tired-Aux-PP  
'I am tired.' (B30)

(4-209) *Ø-arra-dja'naa-y*           [əɾi-dʒə'na:-y]  
3IA-1E-not know-PR  
'I do not know him.'

/i/ shows an equivalent assimilatory tendency to be reduced to [ə] whenever there is a following /w/.

(4-210) *nji-'waadji-gi* [ɲə-'wə:ɟɪ-gi]  
3IIA-cry-PP  
'She cried'

(4-211) *nji-wa'laawala* [ɲə-wə'lə:wələ]  
'II-little'

At somewhat faster speech speeds /a/ also assimilates to a preceding laminal stop or continuant in an onset position.

(4-212) *Ø-ya'rraa-bu-ni* [yɪ'ɾə:-bə-ni]  
3IA-dance-Aux-PI  
'He is dancing.'

(4-213) *Ø-a'rree-yaba* [ə'ɾe:-yɪbə]  
3IA-1E-send.PP  
'I sent it.'

(4-214) *mabo'roodja* [mabə'ɾɔ:ɟɪ]  
'plant sp.'

The "fast speech" nature of this process is most strongly indicated by the allophony pattern shown in (4-214), where the assimilated allophone found in word-final position is the lax [ɪ], not the tense [i] which is usually found word-finally. The occurrence of a lax allophone word-finally is not specific to this particular assimilation process, but is part of a process of the faster speech speeds whereby lax allophones generally replace tense allophones word-finally. Another indication of the "fast speech" nature of assimilation to a preceding onset is the fact that it is most commonly attested in syllables at word boundaries. As such it forms part of the general tendency to reduce and delete unstressed syllables at word boundaries (4.7.4). Harmony of /a/ to a preceding laminal continuant or stop onset is blocked if the preceding vowel has already undergone assimilation (4-207 & 4-208).

The laminal nasal does not generally cause assimilation, either as an onset or a coda consonant.

(4-215) *ma'njoogu* [mə'ɲɔ:gu] ~ \*[mi'ɲɔ:gu]  
'bandicoot'

(4-216) *-ga-njdji* [-gə-ɲɟɪ] ~ \*[-gi-ɲɟɪ]  
'-take-PR/PI/PIRR'

- (4-217) *nganj-'ngiirla* [ŋəŋ-'ŋɪ:lə] ~ \*[ŋɪŋ-'ŋɪ:lə]  
'1MIN-aunt'
- (4-218) *∅-arra-mala'rreemanj-ma* [əɾə-mələ'ɾe:məŋ-mə] ~  
3IA-1E-turn-Aux.PP \*[əɾə-mələ'ɾe:mɪŋ-mə]  
'I turned it over'(A253)

The one situation where assimilation does arise, is with =*njdja*, the FUA number enclitic.

- (4-219) *arr-'gaa-n-u=njdja* [əɾ-'gə:-n-i=ŋdʒə]  
1A-3E-FU-give=FUA  
'They will give me.' (60)

This assimilation appears to pattern with the occasional instances of other [ɪ ~ i] realisations of short vowels. These also show an apparent morpho-phonological conditioning.

- (4-220) *nang-ga'rdaabumu* [nəŋ-gə'də:bɔmi]  
'heavy'
- (4-221) *waarra ma'gaarra ∅-djii-ri* [wə:ɾi mə'gə:ɾə dʒi:ri]  
who that.I 3IA-stand-PR  
'Who is that standing (there)?' (47)
- (4-222) *∅-marra'waarra* [mɪɾə'wə:ɾə]  
'I-big'

The occurrences of [ɪ ~ i] at word or clitic boundaries in (4-220 - 4-222) do not in fact appear to be motivated by assimilatory factors. Rather it would appear that they are to be understood as a word-boundary marking phenomenon, apparently of middle range speech speeds (5.6.3). The occurrence of [i] before =*njdja* is also possibly analysable as a boundary marking phenomenon. Apart from the assimilatory occurrences of [ɪ ~ i] discussed here, these vowels are also found as realisations of /a/ resulting from the operation of coronal vowel harmony (4.7.5). /a/ is subject not only to coronal vowel harmony, but also to labial vowel harmony, which results in an [o] realisation (4.7.5). [ɔ ~ o] realisations, which are canonically those of the /o/ phoneme, is also found in one other situation.

- (4-223) *na-woma'gaali* [nɔ-wɔmə'gə:li]  
I-spouse  
'husband'

- (4-224) *na-'woombardi*                      \*[nɔ-'wɔ:mbəɖi]  
 I-mC  
 'son'

Initial unstressed /awo/ sequences can be assimilated to [ɔwɔ] (they can in fact be further assimilated to [o:]. 5.2). Stress blocks this assimilation, as shown by (4-224). This appears to class with the other phenomena which reduce and delete unstressed syllables at word boundaries (4.7.4).

At speeds which are in the range of what is generally taken to be "fast speech", the realisations of short vowels tend to become rather indistinct. There are certain general tendencies evident. One of these is the reduction of all short vowels to [ə]. In many cases it appears that short vowels merge with a neighbouring consonant, to produce a syllabic consonant (this is obviously not possible with stops). This is most commonly attested with /a/.

- (4-225) *ma'gaarra*                              [m'gəɾə]  
 'that.I'

- (4-226) *anmarra'baalbu*                      [ənməɾ'bə:lbo]  
 'old man'

This is possibly analysable as an initial stage in the process of deleting unstressed syllables. The available data does not permit a detailed contrastive description the nature and range of truly "fast speech" phenomena in Gaagudju.

The material presented in this section has so far exemplified only unstressed short vowels. The evidence for length as opposed to stress being the critical criterion is provided by the realisation patterns of stressed short vowels, rare as these are (4.5.4). These vowels show the same reduction patterns as unstressed short vowels.

- (4-227) *ambal-ambal*                              [əmbəl-əmbəl]  
 'grass sp'

- (4-228) *bard'banawarr*                              [bəd'bənəwəɾ]  
 'jabiru'

- (4-229) *i'bardbi*                                      [ɪ'bədɓi]  
 'Negative'

- (4-230) *na-la'birri*                                      [nə-lə'biɾi] ~ [nə-lə'bəri]  
 'I-younger sibling (add)'



(4-231) *-burri* [-bʊɾi]  
'mend.PP'

/a/ is reduced in word-medial syllables (4-228 & 4-229), but resists reduction in a word-initial syllable (4-227). /i/ can also be reduced in a word-medial syllable (4-230). /u/ resists reduction (4-231).

The formal analysis of the vowel variations described in this section presents considerable problems. The chief problem was discussed in 4.2: there is insufficient data both to determine the full range of "fast speech" phenomena, and to determine how the range of "fast speech" phenomena should be analysed. These problems are of lesser significance in the formal analysis of variation in consonants or long vowels. However they loom large in the formal analysis of short vowel variation. Their significance is such that I consider any detailed formalisation to be premature, at least in terms of the depth of analysis which even the available material has undergone. Consequently I will not be presenting any detailed formalisation.

The one process which is of sufficient generality to require formalisation is the reduction of short vowels to [ə]. It is in fact not entirely clear how the reduction should be formalised. I assume that any rule should refer to markedness, as this is the central motivation for the choice of [ə] as the reduction vowel. The reduction consists of removing all marked place of articulation features. This leaves the universally unmarked place of articulation feature [+lingual], which specifies [ə]. One way to achieve this would be to have a rule deleting all place of articulation features, followed by a rule providing a default [+lingual] specification. However this would involve first deleting [+lingual], and then re-specifying it. This process seems counter-intuitive to me. Rather I would propose that all place of articulation features bear a value for markedness. I analyse [+lingual] as having a [Ø] markedness value. All other features have some positive markedness value (the exact nature of markedness hierarchies requires detailed cross-linguistic investigation). Following this proposal, the rule for the reduction is presented in the terms of Hayes' co-indexing theory (1990).

(4-232)

Nucleus
X <sub>1</sub>

Delete all positively marked Place<sub>1</sub>

The rule in (4-232) specifies that the marked place of articulation features of a segment linked to a nucleus syllabic position are deleted. The rule will not affect long vowels, as it does not accommodate doubly indexed features (double indexing = double linkage). Some further modification of this rule is probably required to account for the reduction patterns found in

closed syllables (4-186 - 4-197). As discussed, a detailed statement of its domains is also required.

#### 4.7.4 Reduction of Unstressed Syllables at Word Boundaries.

The reduction of unstressed syllables at word boundaries is a prominent feature of Gaagudju spoken at conversational speeds. It appears that there are two different processes operating on unstressed syllables, depending on their position. In word-initial position whole syllables are deleted (subject to certain qualifications concerning extra-syllabic consonants. 5-195). As discussed in (4-225) & (4-226) it is possible that this process proceeds via an initial stage reducing a syllable to a syllabic consonant (at least with [+sonorant] segments). The process is most commonly attested with word-initial syllables which are separated from the stressed syllable by at least one intervening syllable. As such prefixes are the most frequently affected items, because they are the morphemes most likely to occur in this situation. However the process is not restricted to prefixes. Reductions are attested in nominal roots.

- (4-233) *anmarra'baalbu* [mæɾə'bæ:lbʊ] 'old man' (348)  
 (4-234) *gunganaa'woordo* [ŋəna:ʷɔ:ɾo] 'fishing net'

The reduction of unstressed initial syllables immediately adjacent to the stressed syllable was uncommon. It generally appeared to require faster speech speeds than the deletion of unstressed syllables separated by an intervening syllable. It is attested with nominal roots.

- (4-235) *njing'gooduwa* [ŋɔ:dəwə] 'woman' (354)  
 (4-236) *ma'gaadja* [gə:dʒə] 'that.II' (149)

Reductions appeared to be more common with forms such as demonstratives, which tend to be destressed in speech. Word-final unstressed syllables are also subject to reduction. However it appears that a different process is involved. It appears that deletion affects individual segments rather than whole syllables, though syllabic position does appear to be relevant. By far the most commonly attested deletion in word-final syllables is that of the tap /r/ in word-final position. This deletion pattern is discussed in (4.6.2). The deletion of final segments, other than the tap, is relatively uncommon.

- (4-237) *nganj-mo'goongo* [ŋəŋ-mɔ'gɔ:ŋ] '1MIN-sister' (17)  
 (4-238) *nang'gaabirri* [nəŋgəb] 'IV.there' (45)

The reduced form in (4-238) would appear to result from the iterative application of the fast speech deletion process. This iterative application may be restricted to items such as demonstratives, which tend to

be distressed. I will not be attempting to formalise these reduction processes for the reasons discussed in the previous section, and in (4.2).

#### 4.7.5 Vowel Harmony.

There is evidence in Gaagudju for the historical operation of coronal and labial vowel harmonies. In some circumstances when preceded by long /o/, word-final /a/ assimilates to [o]. Similarly when preceded by long /e/, or occasionally long /i/, /a/ assimilates to [ɪ ~ i], in some circumstances. These harmonies appear to have been dependent on the occurrence of coronal and labial vowel grade (4.7.2). Indeed, as we will see, it appears likely that vowel grade and vowel harmony can be unified historically as different aspects of overall coronalisation and labialisation processes affecting words. Both vowel harmonies are now lexicalised. There is considerable variation in the contrastive status of the harmonies, particularly with the coronal vowel harmony.

The clearest evidence for a connection between vowel harmony and vowel grade is found in certain nominal forms.

(4-239) *i-'laawala* [ɪ-'lə:wələ] ~ [ɪ-'le:wɪli]  
'I-little'

(4-240) *na'ngeelawa* [nə'ŋe:ləwə] ~ [nə'ŋe:lɪwi]  
'willywilly'

The significance of vowel grade for coronal vowel harmony is most clearly suggested by the [ɪ-'le:wɪli] variant of *i-'laawala* 'I-little'. The status of the [ɪ ~ i] variants of these two lexemes is uncertain. They are not phonologically predictable, as it does not appear that other phonologically similar nominals show the [ɪ ~ i] variants. For example it does not appear that *-ba'rdeeba* 'tall' can be realised as \*[bə'ɖe:bi]. However consultants would not accept the [ɪ ~ i] variants in isolation. As these variants apparently lack contrastive status, it appears that they are to be understood as lexicalised fast speech variants. This may be contrasted with the situation apparently found in pronominal paradigms. Pronominal forms taking the *-mba* 'Augmented' number suffix all show vowel grade.

(4-241) *ngaa-mba* ~ *ngee-mba* [ŋə:-mba] ~ [ŋɛ:-mba]  
'1-AUG'

(4-242) *ngee-mbi-mi* [ŋɛ:-mbɪ-mi]  
'1-AUG-PRM'

As indicated by (4-242), forms showing coronal vowel grade (the basic form in the 1st person paradigm is *nga-*. Table 6.2), also show coronal vowel harmony. This includes coronal vowel harmony of the Prominence suffix *-ma* (6.6). These pronominal forms involving coronal vowel harmony appeared to be acceptable to consultants in isolation. This suggests that they are to be understood as acceptable alternate forms of these words (like the variant pronunciations of 'either' in English). Coronal vowel harmony is also found in verbal paradigms. Coronal vowel harmony of word-medial /a/ in verbal paradigms appears always to be an optional fast speech process.

- (4-243) *Ø-nee-n-da-ri* [nɛ:-n-dɪ-ri]  
 3IA-2E-IRR-eat-P  
 'You did not eat it.' (440)
- (4-244) *gu-ng-garda-'wiinjminj-ma-ngi* [gɔ-ŋ-gəɖə-'wi:ŋmin-ɪ-ŋi]  
 3IVA-1E.IRR-break-up-Aux-P  
 'I did not break it up.' (B172)

As (4-243) & (4-244) illustrate a short /a/ may harmonise to [ɪ] when preceded by a long front vowel and followed by a word-final /i/. Examples of coronal vowel harmony, such as (4-244), involving a long /i/ and another intervening front vowel are comparatively rare. Nominals do not show medial coronal harmony.

- (4-245) *-ga'deenggadi* \*[-gə'dɛ:ŋgɪdi]  
 'mature'
- (4-246) *njimalawa'deewadi* \*[ŋɪmələwə'de:wɪdi]  
 'rainbow lorikeet'

The status of coronal vowel harmony of word-final /a/ in verbal paradigms varies. In some cases, such as that of *gadja'rra-ga* 'to clean', it is an optional fast speech process

- (4-247) *gu-Ø-n-gadja'rree-ga* [gɔ-n-gəɖə're:-gə]  
 3IVA-2E-FU-clean-Aux  
 'Will you clean it?' (B195)
- (4-248) *go-ya-n-gadja'rree-ga* [gɔ-yə-n-gəɖə're:-gi]  
 3IVA-3FE-FU-clean-Aux  
 'She will clean it.' (B213).

However in other paradigms it has a contrastive function.

(4-249)	<i>nji-n-bardaba'lee-wa</i> 3IIA-3ME-sing-Aux.PP 'He sang her.' (A527)	<i>nji-n-bardaba'lee-wi</i> 2A-3ME-sing-Aux.CON 'He might sing you.' (B544)
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(4-249) illustrates a Past Perfective and a Conditional form from the paradigm of the verb *bardaba'la-wa* 'to sing someone'. The two forms are differentiated by their final vowels. This is the only contrast which distinguishes the two tenses within the paradigm of *bardaba'la-wa*, as they both take the Unmarked prefix set and a  $\emptyset$  verbal suffix (7.7 & Appendix 2). General paradigmatic patterns establish that the /a/ final form is the basic stem form (7-12). The same pattern is found in a number of other verbs with /a/ final stems.

(4-250)	Stem	
'to sing'	<i>badaba'la-wa</i>	<i>badaba'lee-wi</i> (CON)
'to throw'	<i>ba'da-gaba</i>	<i>ba'dee-gabi</i> (CON)
'to hang up'	<i>ba'rrebard-ba</i>	<i>ba'rreebard-bi</i> (CON)
'to block'	<i>gabarranga'na-gaba</i>	<i>gabarranga'nee-gabi</i> (CON)
'to undo'	<i>ga'djaraama</i>	<i>ga'djaareemi</i> (CON)
'to have'	<i>garra</i>	<i>garri</i> (CON)
'to kick'	<i>mala</i>	<i>mali</i> (CON)
'to hear'	<i>nga-wa</i>	<i>nga-wi</i> (CON)

As described for *bardaba'la-wa*, the /i/ vocalism usually serves as the distinguishing marker of the Conditional tense, especially in relation to the Past Perfective. The /i/ vocalism is found more extensively in the paradigms of number of other verbs (see Appendix 2). The /i/ vocalism in these paradigms is almost certainly historically derived by the operation of coronal vowel harmony. An examination of the forms listed in (4-253), and of the other relevant verb forms set out in Appendix 2, reveals that the /i/ vocalism is invariably accompanied by coronal vowel grade (4.7.2). However it cannot be synchronically analysed as a coronal vowel harmony. The phonemicisation of the forms in (4-250) showing /i/ vocalism is problematic.

(4-251)	$\emptyset$ -an-'miili 3IA-3ME-kick.CON 'It might kick him.' (B606)	[an-'mɪ:li]
(4-252)	$\emptyset$ -a'rree-mali 3IA-1E-kick.CON 'I might kick it.' (B710)	[a're:-mɪli]
(4-253)	<i>ga-ma'rree-mali</i> 3E-1+2A-kick.CON 'It might kick us'	[gə-mə're:-məli] (B600) ~ [gə-mə're:-mələ] (B636)

(4-251) - (4-253) illustrate the variable realisation shown by forms from the Conditional tense of *mala* 'to kick'. The Conditional tense is distinguished by potential occurrence of [ɪ ~ i] realisations, from the Past Perfective tense which does not ever show such realisations. However as (4-251) - (4-253) demonstrate, the [ɪ ~ i] realisations do not invariably occur in the Conditional. They are fairly consistently found in word-final position, whereas word-medial position tends to show [ə] realisations. There are two immediate possibilities for phonemicisation. A Conditional form *mili* can be posited, with the [ə] realisations being analysed as resulting from the general tendency to reduce short vowels, especially word-medial vowels. Alternatively a Conditional form *mali* can be posited with the [ɪ] realisations of the word-medial vowel being due to the fast speech harmony illustrated in (4-243 & 4-244). There is little to choose between these two analyses. The second alternative most directly represents the general surface patterning of verb forms showing [ɪ ~ i] vocalism. Consequently it is the phonemicisation adopted.

The labial vowel harmony is always a non-contrastive process. It is attested in verbal and pronominal paradigms. (4-254) provides a prototypical example of the occurrence of labial vowel harmony.

- (4-254) Ø-*na-ba-'boorda* [nə-bə-'bɔ:ɔ]
   
3IA-2E-tie-Aux.PP
   
'Did you tie it up?' (B61)

In (4-254) the stressed /o/ immediately precedes the unstressed /a/, which occurs word-finally in an affixal word. It appears that /a/ must occur in this environment for the harmony to operate. Otherwise the harmony is blocked, as demonstrated in (4-255 & 4-256).

- (4-255) Ø-*arra-ba-'boorda-y* \*[əɾə-bə-'bɔ:ɔ-i]
   
3IA-1E-tie-Aux-PR
   
'I am tying it up.'
- (4-256) Ø-*arra-ba-'boorda-ri* \*[əɾə-bə-'bɔ:ɔ-ri]
   
3IVA-1E-tie-Aux-PI
   
'I was tying it up.'

It also appears that the harmony is also generally blocked if the stressed /o/ is not immediately adjacent to the word-final /a/.

- (4-257) *arr-go-o'rdoo-garra* \*[əɾ-gɔ:'ɔ:-gɔɾɔ]
   
1A-3E-take off-Aux.PP
   
'He took it off me.' (B39)

However it is not blocked if the intervening vowel is an underlying /o/.

(4-258) *nji-n-'doorrngoma* [ɲɪ-n-'dɔ:ɽŋgɔmo]  
2A-FU-go in  
'You will go in.' (B60)

(4-259) *no'woogoda* [nɔ'wɔ:gɔdɔ]  
'M.one' (A85)

The long /o/ will never be more than one syllable distant from the word-final syllable, owing the constraint requiring (ante-)penultimate stress (5.1). Labial vowel harmony is not found in nominal forms, other than with pronominal forms (4-259 is a pronominal form, historically at least. 6.6).

(4-260) *moonda* [mɔ:ndɔ] ~ \*[mɔ:ndo]  
'bad'

(4-261) *moonja* [mɔ:ɲɔ] ~ \*[mɔ:ɲo]  
'mosquito'

However it does appear to have been historically operative in all classes of nominals. /a/ is only very rarely attested following long /o/ in nominal roots. In the majority of cases where the long stressed vowel in a nominal root is /o/, then all following vowels will also be /o/. It would seem likely that this phonotactic patterning has arisen historically from the phonemicisation of the labial vowel harmony in nominal roots. /u/ and /i/ are also found following long stressed /o/ in nominal roots. They do not undergo labial vowel harmony.

The overall patterning of vowel harmony in Gaagudju would suggest that it was originally an extension of vowel grade. It appears likely that vowel grade of a stressed vowel could be accompanied by a harmony on any following unstressed /a/ vowels. This harmony was probably originally a fast speech process. It has since been largely lexicalised, with a particular focus on the contrast in final vocalism for the coronal vowel harmony.

The varied lexical statuses of the harmonies necessitates the use of a variety of formalisations. The lexicalised verbal paradigmatic variations discussed in (4-250) are represented by the following morpholexical rule.

(4-262) X'Caa(Ca(C))Ca ~ X'Cee(Ca(C))Ci

The lexicalised "fast speech" variants are represented by the string dependent rules in (4-263) - (4-265).

(4-263) X'Caa(Ca(C))Ca -> X'Cee(Ci(C))Ci/\_# [+Cor H1]

(4-264) X'Cee/ii(C)(Ci(C))CaCi -> X'Cee/ii(C)(Ci(C))CIci/\_# [+Cor H2]

(4-265) X'Coo(Co(C))Ca -> X'Coo(Co(C))Co/\_# [+Lab H]

#### 4.7.6 An Overview of the Distribution of Vowel Phonemes and Allophones.

Despite the great complexity of vowel realisation patterns, certain overall patterns are observable. The most obvious of these has been prominent in the preceding description: the significance of vowel length and its interaction with stress. The system of vowel realisations appears to be fundamentally motivated by stress. Nevertheless stress is not in itself the critical control over vowel realisations. Unstressed long vowels, and diphthongs (5.2), maintain their quality, as do stressed long vowels. Stressed short vowels, on the other hand, reduce in the same way that unstressed short vowels do. However this does not mean that length should be taken to be the critical variable, at least in an unanalysable sense.

Rather in overall terms the autosegmental concept of multiple association appears to be the critical variable. Length is a particular type of multiple association: complete double association. It is the one type of multiple association which resists reduction at all levels, and therefore it must be accorded a special status. However it is also necessary to recognise that partial multiple association is also relevant. The reduction patterns shown by vowels in closed syllables demonstrate this (4-186 - 4-197). The full interaction between multiple association and reduction is a topic for further investigation in Gaagudju.

Stress and length are critical not only to the distribution of vowel realisation patterns, but also to the distribution of the vowel phonemes themselves. The vowels most prominently affected are the high labial vowel /u/, and the mid coronal vowel /e/. Owing to the operation of labial vowel grade (4.7.2), /u/ is only very rarely found as a long vowel. The converse situation holds with the mid coronal vowel /e/. It occurs as a short vowel in only four lexemes.

(4-266)	<i>ngame'neega</i>	'why'
(4-267)	<i>bardedji'liidji</i>	'lily tuber'
(4-268)	<i>bebe-'beebe</i>	'spirit name'
(4-269)	<i>gardenjdjil'maarra</i>	'dew'

It appears that there is a prohibition on the occurrence of /e/ word-finally. The base form of the reduplication in (4-268) is *bebe-*. However the vowel found in word-final position in (4-268) is /i/. This appearance of /i/ follows directly if there is a prohibition on /e/ occurring word-finally. /i/ is the vowel most similar to /e/, being its coronal vowel partner. Therefore it is the vowel that will be substituted for /e/. /e/ is essentially restricted in



occurrence to stressed syllables. Many, if not the majority, of its occurrences in this environment result from the operation of coronal vowel grade (4.7.2).

A somewhat similar situation holds for the mid labial vowel /o/. Many of its occurrences in stressed syllables result from the operation of back vowel grade. /o/ appears as a short vowel with considerably greater frequency than /e/. However the majority of its occurrences as a short vowel are adjacent to a stressed /o/, usually following a stressed /o/. As such it appears likely that the short occurrences result from the operation of labial vowel harmony (4.7.5 - the lack of short /e/ forms from coronal vowel harmony is explained by the fact that the harmony vowels to stressed /e/ is [ɪ ~ i], which is phonemically /i/).

These distributional facts tend to suggest that at some earlier stage of Gaagudju, only the three cardinal vowels were phonemically contrastive. The two mid vowels would presumably have originally been allophones found in stressed positions under vowel grade. Even synchronically the cardinal vowels show mid vowel allophones in these positions; /a/ and /i/ show [ɛ] realisations (4.7.1), and /u/ shows [wɔ ~ wɔ] realisations (4.7.1).

While multiple association and stress are the most salient variables affecting the distribution of vowel phonemes and vowel allophones, there is one other factor which to a degree cross-cuts them. This is the distribution of tense and lax vowel allophones. There are certain general patterns discernable in the distribution of tense and lax allophones. Vowels are tense in word-final position. Vowels are lax in closed syllables. The only exception involves the coronal vowels in syllables closed by laminals. The coronal vowels are invariably tense when preceding a laminal. The labial vowels are tense preceding /w/.

These general patterns all appear to be well-motivated. The occurrence of tense allophones word-finally is a boundary signal (5.6.3). The occurrence of lax allophones in closed syllables follows from the fact that vowels are presumably shorter in closed syllables. The fact that coronal vowels are tense before laminals is presumably assimilatory in nature. Lax realisations are numerically preponderant, and for most vowels appear to be the unmarked realisation. The majority of these tense realisations are found with long vowels. This fits with general patterns, as long vowels favour tense realisations. However the distribution of lax and tense allophones among long vowels does not appear to be entirely well-motivated on phonological grounds. It appears that a number of string dependent rules are required to account for their distribution (4.7.1).

## CHAPTER 5

## SUPRASEGMENTAL PHONOLOGY AND PHONOTACTICS

## 5.1 Stress

As stated in 4.2, the most salient factor differentiating the phonological patterning of Gaagudju from that of the majority of Australian languages is the nature of its stress system. The stress system of Gaagudju is more similar to that of English and the other Germanic languages than it is to that of most Australian languages. From an auditory perspective, two significantly different types of stress are discernable in Gaagudju. These two different types of stress correspond somewhat roughly to the cross-linguistic categories of primary and secondary stress.

The main auditory correlate of primary stress in Gaagudju is the shape of the pitch contour. The contour is low over syllables preceding a primary stressed syllable. It rises sharply over the primary stressed syllable. It then remains basically high, gradually falling off towards the end of the word. It would also appear that a primary stressed syllable has a greater amplitude than neighbouring unstressed syllables. Primary stressed syllables are strongly differentiated at all phonological levels from other syllables.

The main auditory correlate of secondary stress is rhythm. As far as I can determine, both disyllabic and trisyllabic rhythmic feet occur (5.6.3). These feet are initial-headed and appear to be erected left-to-right. However, the factors controlling the distribution of the two feet types are unclear. Rhythmic patterns are often obscured by the effects of primary stress and related phenomena (e.g. vowel and syllable reductions). Consequently the exact patterning of the system of secondary stress remains uncertain. Given this fact, no analysis of secondary stress is presented in this grammar, and the term "stress" should be taken to refer to primary stress, unless otherwise indicated.

Primary stress in Gaagudju differs not only in its auditory manifestations, but also in its patternings. As we will see, it displays a very complex, and frequently highly irregular, pattern of placement in Gaagudju. The placement of primary stress does show one general pattern. Primary stress must normally fall on either the penultimate or the antepenultimate syllable of a syntactic word. There is a strong numerical preference for the penultimate. As we will see in the analysis of stress placement in verbal paradigms, this pattern may be analysed as reflecting a constraint, supported by rules repairing breaches (5.1.2). For convenience, I refer to this constraint as the penultimate constraint in the ensuing discussion.

This constraint can be correlated with the formalisms of theories of metrical stress placement and extrametricality. However the status of these correlations requires careful consideration. Halle & Vergnaud (1987 : 9 - 11) propose that stress placement may be described in terms of constraints on the placement of the head of a metrical constituent with respect to the boundaries

of that metrical constituent. Metrical constituents may either be binary, ternary, or unbounded. In Gaagudju, metrical constituency is determined by the boundaries of syntactic words, and consequently metrical constituents are unbounded. However metrical constituents do not correspond exactly to syntactic words. The final syllable of syntactic words is extrametrical (Hayes 1982). Goldsmith (1990 : 194) reports that final extrametricality appears to be the rule rather than the exception cross-linguistically.

Halle & Vergnaud propose that the head of a metrical constituent must be placed either adjacent to a boundary of that constituent, or at one syllable's remove from both boundaries of that constituent (i.e. the middle syllable of a ternary constituent). The numerically preponderant penultimate placement of primary stress in Gaagudju is an example of right-headed stress placement under Halle & Vergnaud's system. However any modelling which set up penultimate stress as a basic pattern would have to analyse antepenultimate stress as resulting from lexically marked exceptions. There is such a quantity of these exceptions that it becomes altogether doubtful whether an analysis which posits penultimate stress as the basic pattern captures any significant generalisation.

Further, a system taking penultimate stress as basic, is incompatible with what can be determined of the system of secondary stress in Gaagudju. In Halle & Vergnaud's system, and indeed in systems of metrical stress placement generally, the placement of primary stress is constrained by the placement of secondary stress. Primary stress must be placed on the head of a metrical constituent defined by secondary stress. As mentioned, secondary stress feet appear to be left-headed disyllables or trisyllables erected left-to-right. A system of this nature is fundamentally incapable of generating penultimate stress in trisyllabic syntactic words.

Primary stress placement in Gaagudju therefore fails to conform fully to the predictions of metrical theories. I suggest that this reflects the fact that stress placement in Gaagudju does not conform to certain of the parameters which underlie metrical theories. Goldsmith (1990 : 170) sets out these fundamental parameters.

- (5-1) The study of stress is different in kind from the study of other phonological characteristics.
- (5-2) It is fundamentally a study of the relative prominence of syllables, and higher-level units, such as the foot.
- (5-3) The most important characteristics determining stress patterns are rhythm (i.e. alternating prominence), and sensitivity to inherent syllable (or rhyme) weight.
- (5-4) Stress representations are hierarchical.

The basic hypothesis underlying the tenets of metrical theory set out in (5-1 - 5-4), is that stress placement is not an idiosyncratic property of lexical entries. Rather it is a general property dependent on phonotactic structures, and as such is describable by an algorithm. In Gaagudju, phonotactic structures have only a limited role in determining stress placement. Rhythm does not play a part in the placement of primary stress. Neither does syllable weight, though it may have played a minor role historically (5-41 following). Stress placement in Gaagudju is in large measure an idiosyncratic property of lexical entries, and this is the fundamental aspect in which Gaagudju fails to conform to the tenets underlying metrical theories.

Nevertheless, stress placement is not entirely an idiosyncratic property of lexical entries. The penultimate constraint is a phonotactic constraint. This constraint may be most appropriately modelled by analysing the final syllables of syntactic words as extra-metrical (final extra-metrical syllables are distinguished by square brackets: [ $\sigma$ ]= extra-metrical syllable). I do not however analyse the actual penultimate or ante-penultimate placement of stress as resulting from a metrical system, for the reasons already discussed.

#### 5.1.1 Stress Placement in Nominal Roots.

The great majority of nominal roots show either penultimate or ante-penultimate stress. Disyllabic nominal roots take stress on the first syllable. Nominal roots greater than 2 syllables in length show the following distributions of penultimate and ante-penultimate stress.

(5-5)	<u>No. of syllables</u>	<u>Penultimate</u>	<u>Ante-penultimate</u>
	3	166	42
	4	61	53
	5	28	19
	6	5	5
	7	2	1

There is a strong correlation between greater length of the root and an increased likelihood of ante-penultimate stress. 3 syllable roots show 4 : 1 ratio in favour of penultimate stress. 4 and 5 syllable roots show ratios of 1.2 : 1 and 1.5 : 1 respectively. The variations in the ratios may be interpretable in terms of a tendency to place stress medially in nominal roots (5.1.4). The placement of stress does not correlate in any other way with the phonotactic structuring of nominal roots. In overall terms penultimate stress is the predominant type, by a significant numerical margin. There are a few nominal roots which show stress patterns other than (ante-)penultimate.

(5-6)	<i>dja'marrabarday</i>	'brolga'	
	<i>djo'rloorlobarray</i>	'doe kangaroo'	
	<i>geeninjdjada</i>	'two.F'	(8.5.6)

<i>-goordomalay</i>	'widow(er)'	
<i>goornmalada</i>	'tomorrow'	(6.9)
<i>gudj'boolombida</i>	'flying fox'	
<i>ma'rdaagardaga</i>	'lizard sp'	
<i>njing-'geerradama</i>	'oldest sister'	
<i>wa'laaladama</i>	'always'	(8.5.6)

Some of these roots appear historically to be derived forms, having involved clisis. These derivational relationships are discussed in the sections referred to in (5-6). It may also be noted that the form *gudj'boolombida* 'flying fox' has a synonym *galarr'geengi*, with a regular stress. The two fluent consultants, P.B. and L.D.Y., used this form. The form *gudj'boolombida* was used by N.M., a partial speaker. P.B. and L.D.Y. recognised *gudj'boolombida* as Gaagudju, but did not use it themselves.

### 5.1.2 Stress Placement in Verbs.

(5-7) sets out the general patterning of the verbal complex (see Ch.7 for a more detailed discussion).

- (5-7)     Absolutive prefixes + ergative prefixes + directional prefixes + tense prefixes + compound verb root + (auxiliary) simple verb root + (detransitiviser) simple verb root + stem augment suffix + tense suffixes

Stress shows a very complex pattern of placement in verbal forms. It may be found on almost any of the morphological categories in (5-7). Nevertheless certain general patterns are observable, and it is with these patterns that the ensuing description is chiefly concerned. These patterns appear to reflect a combination of lexical and phonological factors. Stress appears to be lexically listed for the following classes of verbal morphemes.

- (5-8)     Simple verb roots, when functioning as independent verbs.  
           Compound verb roots.  
           Directional, Ergative, and Tense prefixes  
           The two disyllabic Absolutive prefixes *ma'rra-* '1+2' and *a'rra-* '1.IRR' (Absolutive prefixes are otherwise monosyllabic).

The other morphological categories do not have any inherent lexical stress. Morphemes from these other categories may take stress. However, as we will see, it appears that stresses on morphemes in the other categories arise chiefly from the operation of repair rules. These repair rules shift the lexically listed stresses of (5-8), in order to repair breaches of the penultimate constraint (5.1). The stresses found in the morphological categories in (5-8) do not appear to be generable by any system using phonological criteria as its basis.

Further, in relation to verb stems at least, the system of lexical stress listing set out in (5-8) conforms to general patternings. A number of the languages of northern Australia have systems of verbal compounding similar to Gaagudju. Among these languages, it is usually the case that the only stressed morpheme in a verb stem is the morpheme which carries the main portion of the "lexical" meaning of that stem. Consequently a compound verb root will take stress. A simple verb root will take stress when it functions independently, but not when it functions as an auxiliary or a detransitiviser. The lexical listing system in (5-8) proposes exactly this pattern. Simple verb roots which function both independently and as auxiliaries, have two lexical entries which are differentiated phonologically as well as semantically.

- |       |                           |                                    |
|-------|---------------------------|------------------------------------|
| (5-9) | <i>garra</i><br>'to have' | <i>go'ro-garra</i><br>'to see-Aux' |
|-------|---------------------------|------------------------------------|

The simple verb root *garra* functions both independently, and as an auxiliary. The lexical entries for these two functions differ not only in meaning, but also in the fact that the auxiliary entry has no stress of its own, as shown in (5-9).

- |       |                             |                         |
|-------|-----------------------------|-------------------------|
| (5-9) | ' <i>garra</i><br>'to have' | - <i>garra</i><br>'Aux' |
|-------|-----------------------------|-------------------------|

The other potential constituents of compound verb stems, the stem augment suffix, and the detransitiviser simple verb roots, also lack stress. Compound verb roots usually take stress on the last syllable, though there is a minority of compound verb roots which take stress on the penultimate syllable.

- |        |  |  |
|--------|--|--|
| (5-10) | <i>ma'da-wa</i><br>'to rub firesticks-Aux' | <i>ga'lamarr-wa</i><br>'to be jealous-Aux' |
|--------|--|--|

There are a couple of compound verb stems which exceptionally take stress on the first syllable of the auxiliary (e.g. *ba-'borda* 'to tie'). I analyse these as reflecting an exceptional lexical listing of stress on the auxiliary. All verb stems consisting of a disyllabic simple verb take stress on the first syllable. Verb stems consisting of simple verb roots greater than 2 syllables in length show the following patterns.

(5-11)	No. of syllables	Penultimate	Ante-penultimate
	3	9	2
	4	2	9
	5	8	0

The morphological analysis of verb stems which are greater than 2 syllables in length presents considerable problems in Gaagudju (7.2). It is

likely that the great majority of verb roots, enumerated as simple verb roots in (5-11), derive historically from old compound stems. Consequently most of the stress placements attested are probably explicable in terms of old morphological boundaries, especially those found in verb roots greater than 3 syllables in length. Nevertheless the placement of stress is not synchronically predictable in any meaningful sense.

Given that a number of classes of verbal morphemes have an inherent lexical stress, verbal forms may involve more than one lexical stress. Multiple lexical stresses are subject to reduction in Gaagudju. There are two rules which reduce multiple stresses within verbal forms. One reduction rule applies to stresses in adjacent syllables. It deletes the stresses on the right. Adjacent stresses chiefly arise when a mono- or di-syllabic verb stem takes one of the stressed prefixes.

- |        |   |   |
|--------|---|---|
| (5-12) | <i>Ø-a'rra-'garra</i> -><br><i>Ø-a'rree-garra</i><br>3IA-1E-have.PP<br>'I had him.' | <i>Ø-a'rra-'nga-wa</i> -><br><i>Ø-a'rree-nga-wa</i><br>3IA-1E-hear-Aux.PP<br>'I heard him.' |
|--------|---|---|

This is most commonly an ergative prefix, as in (5-12), but the same pattern is found with the Directional and Tense prefixes.

- |        |  |  |
|--------|--|--|
| (5-13) | <i>nji-'weegi</i><br>3IIA-go back.CON<br>'She might go back.' (B542) | <i>njing-'gee-wagi</i><br>3IIA-here-go back.CON<br>'She might come back.' (B809) |
| (5-14) | <i>nji-'yee-gi</i><br>3IIA-go-CON<br>'She might go' (216)            | <i>njim-'bee-ya-gi</i><br>3IIA-there-go-CON<br>'She might go there.' (B497)      |
| (5-15) | <i>Ø-yii-ngi</i><br>3IA-go-PR<br>'He is going.'                      | <i>nj-djaa-yi-ngi</i><br>3IIA-PR-go-PR<br>'She is going.'                        |

Rightwards reduction operates when there are three adjacent stresses.

- |        |  |
|--------|--|
| (5-16) | <i>ma'rree-ba-n-ya</i><br>1+2A-there-FU-go<br>'We will go there.' (A636) |
|--------|--|

(5-16) has three lexically listed stresses *ma'rree-'ba-n-'ya*. There are other examples of forms with three lexical stresses. These arise with combinations of the Present Tense prefix *dja-* and one of the Directional prefixes *ga-* 'here' or *ba-* 'there'. However verbal paradigms involving combinations of these prefixes show extensive lexicalisation, and no general

pattern is discernable. Readers are referred to the paradigms of 'to bring', 'to come', and 'to come back' in Appendix 2 for an illustration of the patterns found. There is one Ergative prefix which does not have an inherent lexical stress: the 3ME prefix allomorph *an-*. The portmanteau prefix *barr-* '2A.1E' also does not have an inherent lexical stress.

(5-17)	<i>Ø-an-'gaarra</i> 3IA-3ME-have.PP 'He had him.'	<i>Ø-an-'ngaa-wa</i> 3IA-3ME-hear-Aux.PP 'He heard him.'
	<i>barr-'gaarra</i> 2A.1E-have.PP 'I had you.'	<i>barr-'ngaa-wa</i> 2A.1E-hear-Aux.PP 'I heard you.'

There are three prefixes which consist of a single consonant: *n-* an allomorph of the 3ME, and *n-* and *N-* the allomorphs of the Irrealis Tense prefix. These prefixes do not have an inherent lexical stress. The other reduction rule applies to non-adjacent stresses. It deletes the stress on the left.

(5-18)	<i>nji-'na-n-ma'da-wa -&gt;</i> <i>nji-na-n-ma'daa-wa</i> 3IIA-2E-FU-rub-Aux 'You will rub firesticks' (B740)	<i>gu-'nga-n-ga'lamarr-wa -&gt;</i> <i>gu-nga-n-ga'leemarr-wa</i> 3IVA-3ME-FU-jealous-Aux 'He will be jealous.' (B867)
--------	--	---

The rightwards and leftwards reduction rules are formalised in (5-19 & 5-20).

(5-20) Rightwards Reduction.      'σ'σ      ->    'σσ

(5-21) Leftwards Reduction      'σσ(\*)'σ    ->    σσ(\*)'σ

In cross-linguistic terms, the rightwards reduction rule can be characterised as a stress clash rule. As Goldsmith (1990 : 192) notes, rules reducing adjacent stresses are common cross-linguistically. However in language specific terms, the rightwards reduction rule is unusual in that it does not correlate with the penultimate constraint. Preservation of the leftmost stress is inherently less likely to conform to the penultimate constraint (see 5-28 & 5-29 following). On the other hand, preservation of the rightmost stress is inherently more likely to conform to the penultimate constraint. Consequently the leftwards reduction rule does conform to the language specific patterning of Gaagudju.

Leftwards reduction has in fact a wider domain than rightwards reduction. It operates both lexically and post-lexically. Leftwards reduction is obligatory within the lexicon. Consequently syntactic words, which are the output of the lexicon (5.6), bear only one stress, with a few exceptions. However within the post-lexical module, syntactic words may be bound



together by clisis to form a single phonological word, which thereby has multiple stresses (5.6). Leftwards reduction is an optional process in this type of phonological word. The optional post-lexical operation of leftwards reduction is examined in (5.6.3), which also considers the few exceptional examples of syntactic words with multiple stresses.

While leftwards reduction conforms to the penultimate constraint, the system of lexical listing and reduction rules so far described, would generate a considerable number of forms with stresses that failed to conform to the penultimate constraint. These stresses could be on either the fourth- or fifth-to-last syllables, or on the last syllable. The great majority of these stress placements are on the fourth- or fifth-to-last syllables.

- |        |   |   |
|--------|---|---|
| (5-22) | a) $\emptyset$ - <i>arra-ma'rree-wa</i><br>3IA-1E-wait for-Aux.PP<br>'I waited for him.' (A237) | b) $\emptyset$ - <i>arra-ma'rree-wa-ri</i><br>3IA-1E-wait for-Aux-PI<br>'I was waiting for him.' (A303) |
| (5-23) | a) $\emptyset$ - <i>an-ga'leemarr-wa</i><br>3IVA-3ME-jealous-Aux.PP<br>'I was jealous.' (A49)   | b) $\emptyset$ - <i>an-galamarr-'waa-ri</i><br>3IVA-3ME-jealous-Aux-PI<br>'I used to be jealous.' (413) |

(5-22a & 5-23a) illustrate the stress placements that are generated for the paradigms of the verbs *ma'rra-wa* 'to wait for' and *ga'lamarr-wa* 'to be jealous' by the lexical listing and reduction rules. In the case of *ma'rra-wa*, the presence of the Tense suffix *-ri* has no effect on stress placement. (5-22b) has an acceptable ante-penultimate stress. However in the case of *ga'lamarr-wa*, the presence of the suffix *-ri* does affect stress placement. If there were no alteration in stress placement, then (5-23b) would have the fourth-to-last stress placement shown in (5-24).

- (5-24) \* $\emptyset$ -*an-ga'leemarr-wa-ri*

In order to avoid this unacceptable stress placement, stress is shifted two syllables to the right. The critical point about (5-23b) is that it shows a stress placement which does not relate to the immediate phonological and/or morphological environment of that stress placement. Instead its stress placement is dependent on the placement that would have occurred under the lexical listing and reduction rules. In other words rightwards stress shift is categorisable as a repair operation, motivated solely by breaches of the penultimate constraint (Goldsmith 1990 : 319 - 331). The following examples provide further evidence that rightwards stress shift is a repair rule, entirely independent of the immediate phonological and/or morphological environment of the resulting stress placement.

- |        |   |   |
|--------|---|---|
| (5-25) | a) $\emptyset$ - <i>ng-ga'rla-ba</i><br>3IA-1E.FU-put in-Aux<br>'I will put it in.' (B49) | b) $\emptyset$ - <i>ng-garla-ba-ng'gaa-ri</i><br>3IA-1E.IRR-put in-Aux-Aug-P<br>'I did not put it in.' (B490) |
|--------|---|---|

- |        |  |  |
|--------|--|--|
| (5-26) | a) <i>gu-na-ya'rraangga-ba</i><br>3IVA-2E-build-Aux.PP<br>'You built it.' (A353)   | b) <i>gu-na-yarrangga-'bee-ngga-ri</i><br>3IVA-2E-build-Aux-Aug-PI<br>'You were building it.' (A241) |
| (5-27) | a) <i>ma-nga-n-go'ree-garra</i><br>3IIIA-3ME-FU-see-Aux<br>'He will see it.' (501) | b) <i>ma-nga-n-goro-ga'rra-ri</i><br>3IIIA-3ME-IRR-see-Aux-P<br>'He did not see it.' (A67)           |

As with (5-22a), (5-25a - 5-27a) illustrate the stress placements that are generated for the paradigms of these verbs by the lexical listing and reduction rules. (5-25b - 5-27b) show that stress shifts two syllables to the right, regardless of the phonological and morphological environment. Some verbal forms show an interaction of the rightwards reduction rule and the rightwards shift rule.

- |        |   |   |
|--------|---|---|
| (5-28) | a) <i>nj-djaa-ba-nggi</i><br>3IIA-go out-Aux-Aux.PP<br>'She went out' (A367)    | b) <i>njing-ga-ya-'bee-nggi</i><br>3IIA-here-go out-Aux-Aux.PP<br>'She came out' (A143) |
| (5-29) | a) $\emptyset$ - <i>yoorrnggoma-y</i><br>3IA-go in-PR<br>'He is going in' (B72) | b) <i>nj-dja-yorr'nggooma-y</i><br>3IIA-PR-go in-PR<br>'She is going in' (B149)         |

(5-28b & 5-29b) each involve two lexical stresses, as illustrated in (5-30).

- |        |                              |                              |
|--------|------------------------------|------------------------------|
| (5-30) | <i>njing-'ga-'ya-ba-nggi</i> | <i>nj-'dja-'yorrnggoma-y</i> |
|--------|------------------------------|------------------------------|

As these two forms involve adjacent stresses, the rightwards reduction rule deletes the righthand stress, yielding the forms in (5-31).

- |        |                             |                             |
|--------|-----------------------------|-----------------------------|
| (5-31) | <i>njing-'ga-ya-ba-nggi</i> | <i>nj-'dja-yorrnggoma-y</i> |
|--------|-----------------------------|-----------------------------|

These two forms would show an unacceptable fourth-to-last stress. The actual forms show a standard penultimate stress, resulting from a rightwards stress shift of two syllables. The following pairs of forms provide particularly interesting examples of the effects of the reduction and shift rules.

- |        |   |   |
|--------|---|---|
| (5-32) | a) $\emptyset$ - <i>naa-n-daba</i><br>3IA-2E-FU-send<br>'You will send it.' (B799)  | b) $\emptyset$ - <i>na-a-n-'deeba</i><br>3IA-2E-here-FU-send<br>'You will send it here.' (B913) |
| (5-33) | a) <i>ma-'naa-n-ga-njdji</i><br>3IIIA-2E-IRR-take-P<br>'You did not take it' (C151) | b) <i>ma-na-a-n-'gaa-njdji</i><br>3IIIA-2E-here-IRR-take-P<br>'You did not bring it.' (C157)    |

The underlying phonological structure of these forms is that set out in (5-34 & 5-35).

(5-34) a)  $\emptyset$ -*'na-n-daba*                                  b)  $\emptyset$ -*'na-'ga-n-'daba*

(5-35) a) *ma-'na-n-'ga-njdji*                                  b) *ma-'na-'ga-n-'ga-njdji*

After the operation of the reduction and shift rules, the forms listed in (5-36 & 5-37) result.

(5-36) a)  $\emptyset$ -*'na-n-daba*                                  b)  $\emptyset$ -*na-ga-n-'daba*

(5-37) a) *ma-'na-n-ga-njdji*                                  b) *ma-na-ga-n-'ga-njdji*

These forms also undergo lenition (4.6.3), vowel lengthening (5.1.3), and vowel grade (4.7.2), to produce the attested forms. The rightwards stress shift pattern is formalised as a rule in (5-38).

(5-38)  $(\sigma^*)'\sigma\sigma(\sigma)[\sigma]^*$                                    $\rightarrow$   $(\sigma^*)\sigma\sigma'\sigma(\sigma)[\sigma]^*$

Corresponding to the rightwards stress shift rule, there is also a leftwards stress shift rule. This rule repairs breaches which arise when the lexical listing and reduction rules generate a form with stress on the final syllable. This situation arises when a monosyllabic verb takes a prefix which lacks an inherent lexical stress.

(5-39) a) *\*njim-'buu*                                  b) *njeem-bu*  
           3IIA-went    3IIA-went.  
           'She went.'                                        'She went.'

(5-39a) is the form that the lexical placement and reduction rules would generate. The attested form (5-39b) shows stress on the Absolutive prefix, resulting from leftwards stress shift. The leftwards stress shift rule is formalised in (5-40).

(5-40)  $*\sigma'[\sigma]^*$      $\rightarrow$   $*'\sigma[\sigma]^*$

The lexical listing, reduction, and shift rules generate the majority of verbal stress placements. There remains a number of sets of verbal forms, whose stress placements must be generated with the use of special lexical markings. One such set of verbal forms shows stress on the final syllable, in contravention of the penultimate constraint. This set of verbal forms may be divided into two subsets. One subset consists of forms where a monosyllabic verb involves the -y detransitiviser simple verb (9.6.1).

- |        |   |   |
|--------|---|---|
| (5-41) | a) <i>arr-'buu-y</i><br>1A-hit-detr.PP<br>'I hit myself.' | b) <i>*aarr-bu-y</i><br>1A-hit-detr.PP<br>'I hit myself.' |
|--------|---|---|

These forms conform to the structural description of the leftwards stress shift rule, but do not undergo it. This subset is paralleled by another subset of verbal forms involving the Tense suffix *-y*.

- |        |  |   |
|--------|--|---|
| (5-42) | a) $\emptyset$ - <i>a'rree-dja-wa-y</i><br>3IA-1E-dislike-Aux-PR<br>'I dislike him.' | b) $\emptyset$ - <i>arra-dja'naa-y</i><br>3IA-1E-not know-PR<br>'I don't know him.' |
|--------|--|---|

(5-42a) shows the standard stress placement for disyllabic verbs with an Ergative prefix (5-12). The stress placement in (5-42b) appears to result from the operation of rightwards stress shift. As a comparison of (5-42a & 5-42b) shows, the operation of rightwards stress shift is not synchronically predictable with *-y* Tense suffix forms. I analyse the exceptional final stress in this set of forms as resulting from the fact that their final syllables are specially lexically marked as metrical.

It would appear to be of significance that all forms with a final stress have a coda /y/ in the final syllable. Conversely, this is the only environment where /y/ may occur as a coda: word-finally in a syntactic word (5.4 - the other semivowel /w/ cannot occur as a coda). This suggests that there was historically a connection between the occurrence of /y/ as a coda, and word-final stress. I suggest that this class of forms take final stress because historically they involved an exceptional class of word-final, heavy syllables. Cross-linguistically, it is quite usual for heavy syllables to take stress, regardless of their position (Goldsmith 1990 : 177 - 180). The unusual fact about Gaagudju is that it appears that only [-consonantal] codas counted as morae in the determination of syllable weight. There is no evidence that [+consonantal] codas had any effect on syllable weight. Consequently the only heavy syllables were those word-final syllables with /y/ in the coda.

I do not suggest that this heavy syllable analysis should be maintained synchronically. It is based on very limited evidence, and it shows lexicalisation in any case. Further, there are other sets of verbal forms involving the *-y* detransitiviser which show unusual stress placements. This argues that stress placements involving this detransitiviser are generally lexicalised.

- |        |  |  |
|--------|--|--|
| (5-43) | a) <i>i-n-'daarn-bu-y</i><br>3IA-FU-finish-Aux-detr<br>'It will finish.' | b) <i>i-n-darn-'buu-yi-ni</i><br>3IA-IRR-finish-Aux-detr-P<br>'It did not finish.' (428) |
|--------|--|--|

The lexical listing and reduction rules would generate a fourth-to-last stress placement in (5-43b) *i-n-'darn-bu-yi-ni*. This form meets the structural description of the rightwards shift rule, and so the predicted stress

in (5-43b) would be *i-n-darn-bu-'yi-ni*. However the attested form shows a shift of only syllable to the right. This pattern is also found with another form involving the *-y* simple verb.

- |        |   |  |
|--------|---|--|
| (5-44) | a) <i>i-n-deema</i><br>3IA-FU-get up<br>'He will get up.' (409) | b) <i>i-n-da'maa-yini</i><br>3IA-IRR-get up-P<br>'He was going to get up.' (409) |
|--------|---|--|

The verb *djama* 'to get up' takes the Past Imperfective/Past Irrealis form of the *-y* verb as its Past Imperfective/Past Irrealis Tense suffix (see 7.7). I analyse the stress pattern in these two forms as resulting from a string dependent rule shifting stress one syllable to the right. This rule is formalised in (5-45).

- (5-45)  $(\sigma^*)'\sigma\sigma\sigma[\sigma]^*$   $\rightarrow$   $(\sigma^*)\sigma\sigma'\sigma[\sigma]^*/[+R1]$

A stress shift of one syllable to the right is in fact quite commonly found in verbal forms involving the *-y* simple verb. However the other examples of stress shift of one syllable to the right differ in two important aspects from that formalised in the [+R1] rule. Firstly the stress shift occurs, despite the fact that there is no breach of the penultimate constraint to motivate it.

- |        |  |  |
|--------|--|--|
| (5-46) | a) $\emptyset$ - <i>nja-n-ba'gaarna-wa</i><br>3IA-3ME-FU-chase-Aux<br>'He will chase him.' (A83)     | b) <i>i-n-baga'rnaa-wa-y=mana</i><br>3IA-FU-chase-Aux-detr=MUA<br>'They will chase each other.' (B390)           |
| (5-47) | a) $\emptyset$ - <i>n-da-baga'rnaa-wa-y</i><br>3IA-3ME-PR-chase-Aux-PR<br>'He is chasing him.' (179) | b) $\emptyset$ - <i>bagarna-'waa-y=mana</i><br>3IA-chase-Aux-detr.PR-MUA<br>'They are chasing each other.' (A80) |

The verb *bagarna-wa* 'to chase' has an irregular stress paradigm (7-55). The Future and Past Perfective take ante-penultimate stress, whereas the other tenses take penultimate stress. A comparison of the detransitivised forms in (5-46b & 5-47b) with their transitive counterparts in (5-46a & 5-47a) shows that stress has shifted one syllable to the right (5-47b also involves a lexical marking of the final syllable as metrical). This stress shift is not motivated by the penultimate constraint, as the detransitivised forms would show perfectly acceptable stress without it. This pattern is also found when the *-y* verb functions as an auxiliary.

- |        |   |   |
|--------|---|---|
| (5-48) | a) <i>nj-djo-ordongo'loo-wa-y</i><br>2A-PR-sway-Aux-Aux.PR<br>'You are swaying.' (B794) | b) <i>njing-gordongolo-'waa-ya</i><br>2A-sway-Aux-Aux.CON<br>'You might sway.' (B756) |
|--------|---|---|

The verb *gordongo'lo-wa-y* 'to sway' takes the *-y* simple verb as a second Auxiliary. This stress shift pattern is also found with the other detransitiviser, the *-gi* simple verb.

- |        |  |   |
|--------|--|---|
| (5-49) | a) $\emptyset$ - <i>arro-o'doo-biri</i><br>3IVA-1E-cut-Aux.PP<br>'I cut it.' | b) <i>arr-godo-bi'ree-gi</i><br>1A-cut-Aux-detr.PP<br>'I cut myself.' |
|--------|--|---|

(5-49b) shows the stress placement generated in the detransitivised verb *godo-bi'ri-gi* 'to cut oneself' by the lexical listing, reduction, and general shift rules.

- |        |  |   |
|--------|--|---|
| (5-50) | a) <i>i-n-godo-biri-'gee-ni</i><br>3IA-IRR-cut-Aux-detr-P<br>'He nearly cut himself.' (A552) | b) <i>njing-godo-biri-'gee-ya</i><br>2A-cut-Aux-detr-CON<br>'You might cut yourself.' (361) |
|--------|--|---|

As (5-50a & b) demonstrate, stress shifts one syllable to the right in forms involving a substantive Tense suffix, even though there would be no breach of the penultimate constraint without the shift. All verb stems with penultimate stress, involving the *-gi* simple verb show this pattern of stress shifting. This pattern is also commonly found with the Tense suffix *-ngi*.

- |        |   |   |
|--------|---|---|
| (5-51) | a) <i>i-n-'baadji</i><br>3IA-FU-crawl<br>'He will crawl.' (367) | b) <i>i-n-ba'djii-ngi</i><br>3IA-IRR-crawl-P<br>'He did not crawl.' (453) |
|--------|---|---|

This pattern is formalised as a string dependent rule in (5-52).

- |        |                                       |  |
|--------|---------------------------------------|--|
| (5-52) | $(\sigma^*)'\sigma(\sigma)[\sigma]^*$ | -> $(\sigma^*)\sigma'(\sigma)[\sigma]^*/[+R2]$ |
|--------|---------------------------------------|--|

If stress shifts to the final syllable as in (5-47b), then this syllable will be lexically marked as metrical. As mentioned the [+R2] rightwards shift rule differs from the [+R1] rule (5-45), in that it is not a repair rule. It also differs from the [+R1] rule in its ordering. The [+R1] rule operates before the general rightwards stress shift rule. The [+R2] rule operates after the general rightwards stress shift rule, as a comparison of (5-49 & 5-50) shows. In terms of phonological motivation, it may be noted that the [+R2] rule will generate penultimate stress in the great majority of cases. Penultimate stress is the numerically preferred stress placement in Gaagudju (5.1). Corresponding to the [+R2] rule, there is a rule which shifts stress one syllable to the left. This rule operates chiefly in three specific environments. One of these is when a monosyllabic transitive verb takes the 1+2 prefix *marra-*.

- |        |  |   |
|--------|--|---|
| (5-53) | a) $\emptyset$ - <i>ma'rree-ma</i><br>3IA-1+2E-get.FU<br>'We will get it.' | b) $\emptyset$ - <i>meerra-ma</i><br>3IA-1+2E-get.FU<br>'We will get it.' |
|--------|--|---|

(5-53a) illustrates the stress placement generated by the standard rules. The attested forms show stress shift one syllable to the left. The second environment for leftwards stress shift involves trisyllabic transitive verbs. Past Perfective forms of these verbs involving the 3rd person Ergative prefixes show ante-penultimate stress, regardless of the basic stress placement of the verb.

- |        |   |   |
|--------|---|---|
| (5-54) | a) * $\emptyset$ -an-ga'lee-bi<br>3IVA-3ME-call out-Aux.PP<br>'I called out.' | b) $\emptyset$ -an-'geela-bi<br>3IVA-3ME-call out-Aux.PP<br>'I called out.' (473) |
|--------|---|---|

As with (5-53), the predicted form is (5-54a), with the attested form showing a shift one syllable to the left. The third environment involves trisyllabic intransitive verbs. Future forms of these verbs involving 2nd or 3rd person Absolutives show ante-penultimate stress, regardless of the basic stress placement of the verb.

- |        |  |  |
|--------|--|--|
| (5-55) | a) *i-n-da'rraa-bu<br>3IA-FU-dance-Aux<br>'He will dance.' | b) i-n-'daarra-bu<br>3IA-FU-dance-Aux<br>'He will dance.' (A589) |
|--------|--|--|

(5-55) shows the same pattern as (5-53 & 5-54). This leftwards stress shift pattern is formalised by the string dependent rule in (5-56).

- |        |                                     |  |
|--------|-------------------------------------|--|
| (5-56) | $(\sigma^*)\sigma'\sigma[\sigma]^*$ | -> $(\sigma^*)'\sigma\sigma[\sigma]^*/[+L1]$ |
|--------|-------------------------------------|--|

The limited occurrence of the [+L1] rule probably correlates with the fact that it alters a numerically preferred penultimate stress to a less preferred ante-penultimate stress.

### 5.1.3 The Stress Lengthening Rule.

In (4.5.4) I proposed that there was essentially no underlying vowel length contrast in Gaagudju. Rather I suggested that apart from a couple of exceptions (4-37 & 4-38), and the long vowels which arise from the operation of consonantal lenition (4.6.3), all long vowels in Gaagudju result from the rule in (5-57) which lengthens short stressed vowels.

- |        |                                  |
|--------|----------------------------------|
| (5-57) | $V_1 \rightarrow V_1V_1/'(C)\_C$ |
|--------|----------------------------------|

This rule can be motivated on both language-internal and language-external grounds. The language-internal evidence is most saliently provided by the patterns of stress placement in the verbal paradigms. As described in (5.1.2), the placement of stress in verbal paradigms shows

considerable variability. The distribution of long vowels co-varies with stress placement.

In describing the variable positioning of long stressed vowels in verbal paradigms it is necessary to posit stress as an underlying factor. The variable positioning does not appear to be phonologically motivated in all cases. However when it does appear to be so motivated, the motivation clearly relates to considerations of stress and not to considerations of length (5.1). The evidence shows that the converse holds if length is taken to be the basic factor: there is positive evidence against positing length as an underlying factor. If length was posited as an underlying factor, then it would be necessary to set up a complicated array of rules in order to account for the attested patterns.

Firstly it would be necessary to set up a rule which shortened de-stressed long vowels. It is not clear how such a rule would be formulated. It would not be possible to set up a rule which simply shortened unstressed long vowels. Unstressed long vowels arising from lenition are not shortened in Gaagudju. The rule would have to be formulated as some kind of addition to the operation of the various stress shift rules. Secondly it would still be necessary to set up a stress lengthening rule in order to account for the occurrence of long stressed vowels in affixes. The alternative would be to list all potentially stress-bearing affixes with both long and short variants in the lexicon. Some mechanism which ensured that the long variant was the variant chosen when the affix was stressed would then be required. The language-internal evidence therefore appears to demonstrate fairly conclusively that length should not be posited underlyingly.

The language-external evidence also argues in the same direction. If length was posited underlyingly, then Gaagudju would show a highly unusual distribution of vowel length in cross-linguistic terms. Virtually all words would contain a long vowel, and virtually all stressed vowels would be long. Under the stress-lengthening analysis, Gaagudju shows a normal underlying pattern. Finally it should be noted that by underlyingly specifying length, the relationship between length and stress would lack formal recognition. The stress-lengthening rule proposed in (5-57), therefore appears to be the most satisfactory way of accounting for the relationship between stress and length in Gaagudju. As discussed in (4.5.4), there are a few forms which bear a lexical diacritic prohibiting the application of the stress-lengthening rule.

#### 5.1.4 Historical Development of the Stress System.

The preceding description has established that the stress system of Gaagudju differs considerably from the stress systems generally found in Australian languages. There is however some limited language-internal evidence which suggests that Gaagudju had a stress system of the general Australian type historically. In order to place this evidence in context, I will briefly describe the stress system which is characteristic of the Gunwinjguan



languages spoken to the south and east of Gaagudju. These languages show a stress system of the general Australian type. They also have highly productive affixal compounding and reduplication systems, which are structurally very similar to the unproductive affixal compounding and reduplication morphology of Gaagudju.

Among the Gunwinjguan languages, stress is quite different in nature to that found in Gaagudju. Stress is essentially a rhythmic phenomenon. Stressed syllables are not strongly differentiated from unstressed syllables, and stressed vowels are not long in a lexically contrastive sense. Among the Gunwinjguan languages, stress has a delimitative function (Trubetzkoy 1969 : 27). Typically the first syllable of the two major constituents of the verbal complex has a stress: the verb, and the prefix complex (provided it is polysyllabic). Similarly the two halves of a reduplication are each independently stressed (5.6.2).

There is one verbal paradigm in Gaagudju which shows evidence of a delimitative rhythm-based stress system of this type.

(5-58)	<u>Attested</u>	<u>Predicted</u>
1E	<i>Ø-arra-'burri</i>	<i>Ø-a'rraa-burri</i>
1+2E	Not attested	
2E	<i>gu-na-'burri</i>	<i>gu-'naa-burri</i>
3ME	<i>Ø-an-'burri</i>	<i>Ø-an-'boorri</i>
3FE	<i>nj-dji-'burri</i>	<i>nj-djee-burri</i>

The forms in (5-58) are from the Past Perfective paradigm of the verb *burri*, which means 'to make string by rubbing fibre on the thigh, to mend clothes, to spear fish'. Apart from having these diverse and highly specific meanings, it also has a rather irregular tense paradigm. Its other tense forms are *bu'rree-ngi* PI/PIRR/PI, *bu'rroo-ya* FU/CON. All of these facts establish fairly conclusively that *burri* is an indigenous verb of considerable antiquity in Gaagudju. As such it seems altogether unlikely that its Past Perfective stress pattern, as exemplified in (5-58), could arise from borrowing. Rather I would argue that it is better understood as an irregular survival from an earlier stress pattern. This stress pattern would appear to have been of the type which occurs synchronically in the Gunwinjguan languages, with the first syllable of the verb being marked by a delimitative rhythm stress.

The course of development from a delimitative rhythm system to the system synchronically attested is uncertain. Somewhat speculatively, I would suggest that the initial development related to the delimitative function of the earlier stress system. As mentioned, Gaagudju differs from the Gunwinjguan languages not only in its stress system, but also in the fact that its affixal compounding and reduplication systems are unproductive and less morphologically transparent (these two facts are no doubt related). There is no evidence as to when these systems became unproductive, but the degree of lexicalisation suggests that it is not a recent development. At some point after these systems had become unproductive and less morphologically

transparent, stress could no longer be analysed as having a meaningful delimitative function. Consequently multiple stresses within affixal forms were reduced. This reduction process appears to have been somewhat unusual in nature.

(5-59)	<u>Reconstruction</u> - <i>'wala-'wala</i> 'little'	<u>Attested</u> <i>-wa'laa-wala</i> 'little'
	$\emptyset$ - <i>'arra-'garra-y</i> 'I have it.'	$\emptyset$ - <i>a'r-raa-garra-y</i> 'I have it.'

Rather than simply deleting extraneous stresses, it appears as though the stresses were somehow merged. The exact motivation for this remains mysterious. In (5.1.1) it was noted that there appeared to be an overall tendency for nominal roots to be medially stressed. This may be related to the apparent "merger" process in some manner. I would assume that at this stage Gaagudju still had rhythmically based stress. I would argue that the penultimate constraint was operative as a rhythmically based constraint at this time, most likely requiring penultimate stress. The "merger" process would create many stress placements which failed to conform to this constraint. Therefore rightwards stress shift would have operated, also as a rhythmically based process. This is why it shifts stress two syllables to the right (i.e. it shifts stress rightwards by one rhythmic foot). The other major turning point in the history of stress in Gaagudju was when stress ceased to be a rhythmically based system. Instead it became critically associated with length, with a number of apparently related changes involving a significant differentiation between stressed and unstressed syllables at all phonological levels.

## 5.2 Syllable Structures.

There is a considerable literature on the nature of syllabification. This literature may be broadly divided into two approaches : the "template" approach (Halle & Vergnaud 1980, Cairns & Feinstein 1982, Selkirk 1984), and the "rule" approach (Steriade 1982, Hyman 1985, Kaye, Lowenstamm & Vergnaud 1990). "Template" approaches account for syllable structures in terms of more or less complicated templates. "Rule" approaches account for syllable structures in terms of interactions between various generating and constraining rules. There are of course significant differences within each of these approaches, especially within the "rule" approach.

I will, in general, be following a rule approach because it is more constrained, and therefore more explanatory than a template approach, which is essentially descriptive. However, as we will see, there is one environment where the template-based concept of an extrasyllabic position captures certain important facts about the distribution of homorganic nasal-stop clusters

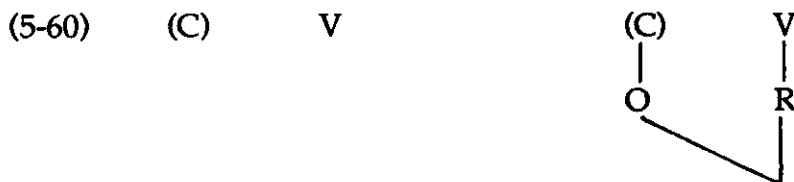
(5.3.4). The particular rule approach I will be following is that of Steriade (1982). Of the various rule approaches, Steriade is the most surface oriented and accessible to generalist linguists.

Hyman (1985) principally differs from Steriade in that he posits a skeleton of weight-bearing units, to some extent equivalent to the traditional notion of the mora, rather than the skeleton of segmental units proposed by most analysts. Hyman proposes this skeleton in order to account for certain complicated syllabification patterns found in the West African language Gokana. There is no appreciable advantage to diverging from the usual segmental skeleton in Gaagudju. Consequently I will not be following Hyman, though the ensuing description could easily be translated into his framework.

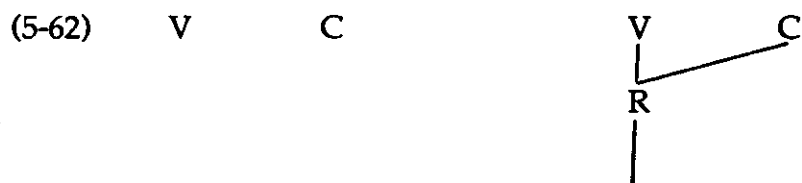
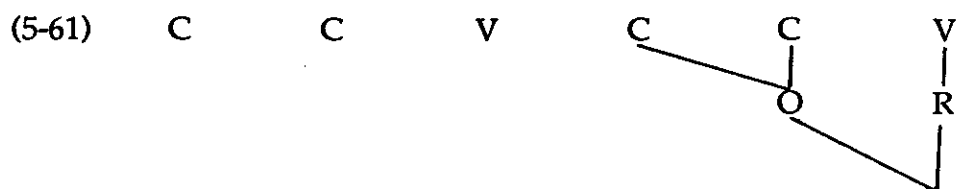
The rule approach of Kaye, Lowenstamm & Vergnaud (1990) is from the perspective of dependency phonology. The authors present a complex account of syllable structures based on various relationships of government between adjacent segments. They raise many interesting issues concerning the relationships between the various types of consonant clusters that may occur within words. However their methodology appears to have some fundamental problems. Among their principal claims are the non-existence of both the syllable and the coda as constituents within their syllabic theory (ibid : 200 - 201). Consequently there can be no tautosyllabic coda consonant clusters. In order to account for the many apparent cases of such clusters, the authors are obliged to resort to the device of empty syllabic nuclei on an extensive scale. As Kaye (1990 : 327) admits, there are significant problems with this type of conceptualisation of empty syllabic nuclei.

Further the claim that there are no tautosyllabic coda consonant clusters implies that the apparent examples of such clusters are not in essence different from hetero-syllabic consonant clusters. This is again fundamentally problematic, as tautosyllabic coda clusters and hetero-syllabic clusters display quite different phonological patternings in many languages. Given these problems, and others which the authors themselves admit (ibid : 226), I will not be following a dependency based approach.

The great majority of syllables in Gaagudju can be accounted for by a combination of simple syllable-generating rules, and sonority constraints on possible tautosyllabic combinations. Steriade (1982 : 76 - 84) presents the following universal rule for syllabification.



This universal syllabification rule may be supplemented by two other rules; an onset building rule, and a coda building rule.



The presence or absence of these two rules, their relative ordering, and their binary or unbounded character, are all determined language-specifically. The coda rule normally applies once in Gaagudju. In certain circumstances it may apply twice (5.4). The onset building rule applies only to nasal segments licensed by an extrasyllabic licenser (5.3.4 & 5.4). The combination of the universal syllabification rule and the coda rule generates the following syllable types (ignoring vowel length for the moment).

(5-63)	Nucleus	<i>a\$'rdaa\$dji</i>	'inside'
(5-64)	Onset + Nucleus	<i>buu</i>	'big river'
(5-65)	Nucleus + Coda	<i>arn\$'bii\$wu</i>	'rifle'
(5-66)	Onset + Nucleus + Coda	<i>noonj\$bu</i>	'grass'

The two nucleus-initial syllables have a very restricted occurrence lexically, as predicted by the universal syllabification rule in (5-60). Neither is attested as monosyllabic word (5.6). They occur chiefly in initial position in affixal morphological templates (6-23 & 7-1). There is one example where a nucleus-initial syllable occurs medially in an affixal template.

(5-67)	<i>waayu</i> 'shadow'	<i>waa\$yu-\$i-\$'waa\$yu</i> 'ghost'
--------	--------------------------	--

The reduplication in (5-67) is on a non-productive template involving the ligature *iDj-* (5.6.2). Nucleus-initial syllables do however occur with some reasonable frequency post-lexically. The two high vowels are commonly attached to non-nuclear syllabic positions in Gaagudju. In many cases, high vowels attached to these positions do not have phonetic semivowel realisations post-lexically. Rather they form diphthongs, long vowels, or are deleted. As the high vowels are normally attached to an onset position, this results in the creation of a nucleus-initial syllable. This is most frequent with the coronal high vowel. /y/ deletes if both neighbouring vowels are coronal.

- (5-68) *miiyingu* [mi:\$ɪŋu] ~ [mi:ŋu]  
'bushfire'
- (5-69) *liying'giirnmī* [li:\$ɪŋ'gɪ:ŋmi] ~ [li:ŋ'gɪ:ŋmi]  
'tree sp'
- (5-70) *garn'deeyi* [gən'de:\$i]  
'goose-crest'
- (5-71) *nji-'yee-gi* [ni-\$e:-gi]  
2A-go-CON  
'You might go.' (A601)

In Gaagudju there is a contrast between /i)iyi/ and /ii/ morpheme-medially. The sequence /i)iyi/ may be realised either with a syllable boundary [i(:)\$ɪ] or as a long vowel [i:]. In neither realisation is the long vowel [i:] appreciably longer than the standard realisation of /ii/. In other words Gaagudju does not appear to have overlong vowels phonetically. Given that the vowels in (5-68 & 5-69) are not overlong, it must be the case that one of the tokens of the coronal high vowel is post-lexically deleted. A comparison of the possible realisations for (5-70 & 5-71) shows that the onset /y/ is the first token to be deleted. Its underlying presence is indicated by the potential occurrence of a syllable boundary. This potential for the occurrence of a syllable boundary in the realisation of /i)iyi/ is the factor which categorially distinguishes it from /ii/. The second realisation of *miiyingu* 'bushfire' [mi:ŋu], involves a deletion of a further token of the coronal high vowel. However there is no evidence as to which token is deleted. The occurrence of a tense allophone [i:] in the second realisations of (5-68 & 5-69) is also distinctive in these particular cases. /ii/ is realised by the lax allophone [ɪ:], when it precedes the velar nasal (4.7.1 & 4.7.3). /y/ also deletes if it is preceded by a long coronal vowel.

- (5-72) *ma-marlan-ma-'gee-ya* [mɑ-mɑ|ən-mə-'ge:-\$ɑ]  
3IIIA-dark-Aux-detr-CON  
'It might get dark.' (B427)

In other environments /y/ merges with the preceding vowel to produce either a long vowel or a diphthong, depending on the nature of the preceding vowel.

- (5-73) *maardiyu* [mɑ:ɔi:\$u]  
'point'

(5-74)	<i>gaayu</i> 'Negative'	[ga:ɪ\$u]
(5-75)	<i>gooyu</i> 'mother'	[gɔ:ɪ\$u]
(5-76)	<i>waaboy</i> 'yamstick'	[wə:bɔi]
(5-77)	<i>guubuy</i> 'canoe'	[gɔ:bwɔi]

There are no examples of /y/ following short /e/, owing chiefly to the extreme rarity of short /e/ in Gaagudju (4.7.6). It is necessary to distinguish /Vy/ and /Vyi/ in Gaagudju.

(5-78)	<i>ngaadjay</i> 'hand'	[ŋa:ɔai] ~ *[ŋa:ɔai\$ɪ]
(5-79)	<i>ngaayi</i> 'I, me'	[ŋa:ɪ\$ɪ] ~ *[ŋa:i]
(5-80)	Ø-n-daa-y=mba 3IA-3ME-PR-eat.PR=AUG 'They are eating.'	[n-də:-ɪ=m\$ba] ~ *[n-də:-ɪ\$ɪ=mba]
(5-81)	<i>yaayila</i> 'corroboree stick'	[ya:ɪ\$ɪla] ~ *[ya:ɪla]
(5-82)	<i>i-n-'buu-yi-ni</i> 3IA-IRR-hit-detr-P 'They did not hit each other.' (B510)	[ɪ-n-'bwɔ:-ɪ\$ɪ-ni] ~ *[ɪ-n-'bwɔ:-ɪ\$-ni]
(5-83)	Ø-buu-y=mana 3IA-hit-detr.PR=MUA 'They are hitting each other.' (A490)	['bwɔ:-ɪ\$=mana] ~ *['bwɔ:-ɪ\$ɪ=mana]
(5-84)	<i>ngo'yoo-yirri</i> '3f-self'	[ŋɔi\$'ɔ:i\$ɪɾi] ~ *[ŋɔi\$'ɔ:i\$ɾi]
(5-85)	<i>arra-m-'bee-yi-ni</i> 1A-IRR-bite-detr-P 'I did not bite myself.' (B874)	[aɾə-m-'be:-\$ɪ-ni] ~ *[aɾə-m-'be:-ɪ-\$ni]

There is no overlap in the realisation of these /yi/ and /y/ sequences. For example, the word-final /i/ in (5-79) never merges with the preceding /y/. Indeed it can be independently reduced to [ə] in fast speech. [ŋa:i\$ə] is a fast speech realisation of *ngaayi* 'I, me'. None of the preceding forms (5-68 - 5-85) are attested with phonetic semivowel realisations in the presently available data, even in careful speech (e.g. *ngaayi* 'I, me' as something approaching [ŋa:\$yi]). However a phonetic semivowel realisation is standardly found word-initially, where it marks the distinction between /yi/ and /i/.

(5-86) *yi'rriidjbal* [yɪ'ɾi:ɟbəl] ~ [ɪ'ɾi:ɟbəl]  
'grub sp'

(5-87) *irribin'djoori* [ɪɾɪbɪn'ɟɔ:ɾi] ~ \*[yɪɾɪbɪn'ɟɔ:ɾi]  
'crocodile'

As indicated in (5-86), unstressed word-initial /y/ can be deleted preceding /i/ in fast speech, thereby resulting in a realisation identical to that of word-initial /i/. However the possibility of a [yɪ] realisation distinguishes word-initial /yi/ from word-initial /i/, where such a realisation is not possible, as shown in (5-87).

The labial high vowel differs considerably in its patterning from the coronal high vowel. It shows a more complex conditioning pattern, and is phonetically realised as a semivowel [w] with a much greater frequency. The two major factors controlling the realisation of /w/ are the nature of the neighbouring vowels, and stress. If neither of the neighbouring vowels is a labial vowel, then /w/ has a phonetic [w] semivowel realisation.

(5-88) *geedjawa* [ge:ɟa\$wə] ~ \*[ge:ɟaə\$ə]  
'truly'

(5-89) *ng-ga'rdaawi-dji* [ŋ-gə'da:\$wi-ɟi] ~  
3IVA-break-Aux.PP \*[ŋ-gə'da:ə\$ɪ-ɟi]  
'It is broken.'

(5-90) *dji'rdeewan* [ɟɪ'de:\$wən] ~ \*[ɟɪ'de:ə\$ən]  
'girl'

(5-91) *nji-n-'ngee-wi* [ni-n-'ŋe:-\$wi] ~ \*[ni-n-'ŋe:-ə\$ɪ]  
2A-3ME-hear-Aux.CON  
'He might hear you.' (B671)

If either or both of the neighbouring vowels are labial, then the realisation of /w/ depends chiefly on the placement of stress. If the /w/ precedes the stressed syllable, it is usually deleted.

(5-92) *mowi'yaanga* [mo\$ i: \$a:ŋa]  
'eddy'

(5-93) *na-wudbu'garra* [na-\$ɔdbɔ'ga:ra]  
'I-sibling of dec.'

The one exception is /w/ in a word-initial unstressed syllable, which tends to be maintained in this environment.

(5-94) *wurri'djoonggo* [wɔɾi'dʒo:ŋgo] ~ [ɔɾi'dʒo:ŋgo]  
'lily sp'

(5-95) *u'luunggulu* [ɔ'lo:ŋgɔlu] ~ \*[wɔ'lo:ŋgɔlu]  
'old woman'

This tendency to maintain word-initial /w/ is possibly to be understood in terms of maintaining the contrast that exists word-initially between /wu/ and /u/. If the /w/ occurs in a stressed syllable it is usually realised as a semivowel.

(5-96) *gululu'wara* [gɔlɔlɔ\$'wa:ra] ~ \*[gɔlɔlɔ\$a:ra]  
'jungle fowl'

(5-97) *marri'woodjonggo* [maɾi'wɔ:dʒoŋgo] ~ [maɾi'ɔ:dʒoŋgo]  
'bird sp' \* [maɾiɔ\$'ɔ:dʒoŋgo]

(5-98) *no'woo-* [no'wɔ:-] ~ [no\$'ɔ:-] ~ \*[no:-]  
'3M'

(5-99) *nowo-* [no\$ɔ-] ~ [no:-]  
'3M'

/w/ can be deleted in fast speech if there is a following labial vowel, but not apparently if there is only a preceding labial vowel. The significance of stress is most clearly demonstrated in the realisation patterns shown by the sequence /owo/, found in the two 3rd Masculine pronominal forms (Table 3.7 & Table 6.2). When the syllable containing /w/ in this form is stressed, the /w/ is only deleted in fast speech, and merger of the two syllable nuclei is not possible. However when the syllable is unstressed, deletion is obligatory, and the merger is possible. This merger and deletion pattern is also found with



unstressed [owɔ] sequences which derive from the assimilation of /awo/ (4-223).

- (5-100) *na-woma'gaali* [no-ɔmə'gɑ:li] ~ [no:mə'gɑ:li]  
'husband'

The deletion of /w/ in a stressed syllable is one of those fast speech processes which shows lexical conditioning in terms of its frequency.

- (5-101) *na-'woombardi* [nə-'wɔ:mbədi]  
I-mC  
'son'

- (5-102) *barra'woorn-ma* [bərə'wɔ:n-mə]  
stuck-Aux  
'to be stuck'

(5-101 & 5-102) illustrate the typical realisations for these items. There does not appear to be any phonological reason why deletion should be more frequent in (5-102) than in (5-101). If the /w/ is post-stress, then its realisation will depend upon the neighbouring vowels.

- (5-103) *njing'goduwa* [ŋɛŋ'gɔ:du:\$ɑ]  
'woman'
- (5-104) *warn'yoowu* [wən'yo:\$u]  
'tree sp'
- (5-105) *Ø-a'n-oowa* [ɑ'n-o:wɑ] ~ [ɑ'n-o:ɑ]  
3IA-3ME-put.PP  
'He put it.'
- (5-106) *ga'daawu* [gɑ'dɑ:ω\$u]  
'bird sp'
- (5-107) *arn'biiwu* [ən'bi:\$wu] ~ [ən'bi:\$u:] ~  
'gun'  
\*[ən'bi:ω\$u]
- (5-108) *Ø-nee-wu* [ne:-\$wu] ~ [ne:-\$u:] ~ \*[ne:-ω\$u]  
3IA-2E-give.PP  
'Did you give it to him?'

If preceded by a short /u/ it will merge to produce a long vowel [u:]. If preceded by a long /oo/, it will usually be deleted. This deletion is

apparently obligatory if the following vowel is labial, as in (5-104), but optional if the following vowel is the low vowel. There are no examples of /w/ occurring preceding a coronal vowel when it is post-stress. When /w/ occurs following a coronal vowel, it may merge with a following /u/ in fast speech. There are no examples of post-stress /w/ preceding /o/.

There is one phonological constraint on diphthongisation common to both the high vowels. Diphthongs are formed only with the full vowel realisations. [ə] does not form diphthongs.

- |         |   |  |
|---------|---|--|
| (5-109) | <i>ma'gaardawu</i><br>'lily sp'   | [mə'gɑ:ɖəwɪ] ~ [mə'gɑ:ɖəʒu:] ~<br>*[mə'gɑ:ɖəwʒu]                                 |
| (5-110) | <i>m-idj-barra'woorn-ma</i><br>3III A-3FE-stick-Aux.PP<br>'It got stuck.'             | [m-ɪɖ-bəɾə'wɔ:ŋ-mə] ~<br>[m-ɪɖ-bəɾə'ɔ:ŋ-mə] ~<br>*[m-ɪɖ-bəɾəwʒ'ɔ:ŋ-mə]           |
| (5-111) | Ø- <i>arra-yarraya'woo-bu-mu</i><br>3IVA-1E-extinguish-Aux-PP<br>'I extinguished it.' | [əɾə-yəɾəyɛ'wɔ:-bɔ-mu] ~<br>[əɾə-yəɾəyɛ'o:-bɔ-mu] ~<br>*[əɾə-ɪʒəɾəɪʒə'wɔ:-bɔ-mu] |

Given the existence of contrastive vowel length in Gaagudju (4.5.4), it is necessary to present some evidence for lexically syllabifying the diphthongs and long vowels, illustrated in the preceding examples, into both nuclear and non-nuclear positions. The evidence for the lexical syllabification pattern is distributional in nature. If all diphthongs and long vowels were syllabified as syllable nuclei, then a number of anomalies would arise. Firstly the phonetic semivowel realisations that do occur, would still have to be accounted for. Secondly it would be necessary to permit the occurrence of nucleus-initial syllables morpheme-medially. There is otherwise no evidence for the occurrence of this syllable type morpheme-medially. Thirdly these nucleus-initial syllables would always occur following either a long vowel or a diphthong. Conversely all diphthongs would either occur morpheme-finally, or be followed by a nucleus-initial syllable. Fourthly the description of vowel length would become problematic.

- |         |                                |              |
|---------|--------------------------------|--------------|
| (5-112) | <i>ngaayi</i><br>'I, me'       | ['ŋɑ:ɪʒɪ]    |
| (5-113) | <i>na'yirrirri</i><br>'ant sp' | [nɑɪʒɪ:ɾɪɾɪ] |

If all the vocalic segments in (5-112) & (5-113) were attached to syllable nucleus positions, then it would presumably be necessary to posit a nucleus consisting of three skeletal positions for (5-112), in order to account

for the difference between [a:I] and [aI]. There is no other evidence for ternary syllabic constituents in Gaagudju. The distribution of vowel length would also become problematic.

(5-114) *birri'biirriyu* [biɾɪ'bi:ɾi:u]  
'club'

As we have seen vowel length in Gaagudju is almost entirely predictable from the operation of stress placement and lenition (4.6.3 & 5.1.3). If long vowels such as the second phonetic long vowel in (5-114) were analysed as solely attached to syllable nucleus positions, then there would be a considerable number of long high vowels, whose distribution would not be predictable. There would not be an equivalent number of examples of unpredictable length among the other vowels. These anomalies do not arise under an analysis which permits the high vowels to attach syllable onset and coda positions.

The range of lexical syllables potentially generable under the syllabification rules given in (5-60 - 5-62) greatly exceeds that actually attested in Gaagudju. In order to account for the actually attested range, it is necessary to posit additional constraints on the nature of syllabification. One of the principal constraints on syllabification is the well-known sonority hierarchy. This is presented in formal terms as the Sonority Sequencing Generalisation [SSG] by Selkirk (1984 : 116).

(5-115) In any syllable, there is a segment constituting a sonority peak that is preceded and/or followed by a sequence of segments with progressively decreasing sonority values.

Selkirk (1984 : 112) makes a provisional proposal for a numerically specified English sonority hierarchy, which constrains syllable construction in accordance with the SSG. On the basis of this provisional English hierarchy, I have suggested the following provisional sonority hierarchy for the Aboriginal languages of the Top End (Harvey 1991).

(5-116)	Phoneme	Sonority Index
	a	10
	e, o	9
	i, u	8
	r	7
	l, rl, rr	6
	nasals	3
	stops	1

This hierarchy appears to be applicable to Gaagudju. Syllable construction is constrained in accordance with the following sonority index requirements.

- (5-117) A segment associated with a nucleus position must have a sonority index  $\geq 8$
- (5-118) Any segment associated with an onset or coda position must have a sonority index  $\leq 8$ .

An immediately obvious problem with the sonority index requirements given in (5-117) & (5-118) is that they do not conform to the SSG, as they permit sequences of the high vowels attached to both nuclear and non-nuclear positions. Long vowels also present another problem. Given that they are bi-segmental in nature, it is not clear how they are to be accommodated under the SSG. In general terms there is obviously a major difference between the tautosyllabic association potentialities for vowels, and those for consonants. Achieving a formal modelling of this difference requires an examination of the nature of permissible morpheme and word shapes in Gaagudju. This examination also reveals other constraints on syllable construction, involving place of articulation. Consequently a fuller examination of the nature of sonority in Gaagudju is undertaken in (5.5).

### 5.3 Morphological Structures.

#### 5.3.1 Morpheme Initial and Final Segments.

The segments found root-initially and root-finally in Gaagudju are listed in Table 5.1. The patterns shown are typical of those found generally in Australian languages (Dixon 1980 : 167 - 171). Grave consonants are the most common initial segments. Vowels and coronal consonants, other than the palatal stop, are very uncommon initially. The great majority of roots have a final open syllable. These open syllables most commonly involve one of the three cardinal vowels. The coronal mid vowel /e/ is only found morpheme-finally in compound verb roots. In all of these cases the compound verb is stressed on the final syllable of the compound verb root throughout its paradigm. As such, these examples of final /e/ almost certainly derive from the operation of vowel grade historically (4.7.5).

If a root has a final closed syllable, then the coda of that syllable must be coronal. The only common final consonant is the tap /rr/. It is found chiefly in nominal roots, and consequently is the only consonant which occurs word-finally with any frequency. There are no examples of consonant-final simple verb roots. The three classes of roots show other differences. However given the limited size of the available vocabulary, it is not possible to analyse these differences as definitively significant. A couple of the figures in Table 5.1 are skewed by historical factors. The number of /nj/ initial nominal roots is artificially high. It is likely that 14 out of the 19 /nj/ initial roots historically involve the Declensions 1 and 2 feminine prefix *njiN-* (6-24). Similarly the number of /nj/ final compound verb roots is artificially

Table 5.1 : Root Initial and Final Segments.

<u>Initial</u>			
	Nominals	Compound Verbs	Simple Verbs
g	173	34	23
m	129	14	4
b	74	25	15
dj	58	16	16
w	35	1	5
ng	31	3	1
n	21	0	4
nj	19	0	0
r	11	1	1
y	10	0	0
a	9	0	0
i	7	0	0
d	5	0	0
l	5	0	0
u	3	0	0

<u>Final</u>			
a	185	38	43
e	0	13	0
i	139	1	23
y	19	0	0
o	41	14	1
u	115	0	2
rr	51	6	0
l	17	5	0
rl	8	0	0
n	9	1	0
rn	2	2	0
nj	2	13	0
rd	0	3	0
dj	3	3	0

high. 6 out of the 13 probably involve the imperfective morpheme *-miDj-* historically (7.3).

Affixes and clitics show the same phonotactic patternings as roots. The majority of bound morphemes have an initial grave consonant. Vowels and coronal consonants are less common. All enclitics, and the great majority of affixes, have a final open syllable. Those affixes with a final closed syllable, have a coronal coda in that syllable. The only exception involves those affixes which have a final nasal archiphoneme *N-*, which lacks a place of articulation (5.4).

### 5.3.2 Morpheme-medial Consonant Clusters

Table 5.2 sets out the consonant clusters found morpheme-medially in Gaagudju. Table 5.2 is organised in accordance with the major divisions found among morpheme-medial consonant clusters in Gaagudju. The most significant division is that between homorganic nasal-stop clusters and all other cluster types. Homorganic nasal-stop clusters are the only type of homorganic clusters that occur phonemically in Gaagudju. There is one other homorganic cluster that occurs phonetically in Gaagudju: [ld]. [ld] occurs in two environments. Most commonly, it occurs as an allophone of /l/ in /IVrr/ sequences (4.6.1). It also arises in two cases when the vowel is deleted in an unstressed /IVd/ sequence.

(5-119)	<i>goornmalada</i> 'tomorrow'	[gɔːŋmələdə] ~ [gɔːŋməlda]
(5-120)	<i>gu'maali=da</i> 'forbidden/policeman'	[gɔːmaːlə=da] ~ [gɔːmaːl=da]

As we will see (5.3.4), homorganic nasal-stop clusters also differ significantly from other consonant clusters in terms of their phonotactic patterning. Within the class of homorganic nasal-stop clusters, grave nasal-stop clusters are differentiated from the coronal nasal-stop clusters by their significantly greater frequency. In fact the grave nasal-stop clusters have a much greater frequency than any of the other consonant clusters. Conversely the coronal homorganic nasal-stop clusters have quite low frequencies of occurrence. Indeed they tend to have lower frequencies than corresponding hetero-organic clusters: *nd* is less frequent than *nb*, *njdj* is less frequent than *ndj*, and *rnd* is no more common than *rnm*.

Place of articulation is also an important parameter among the hetero-organic consonant clusters. The hetero-organic clusters listed in Table 5.2 may be characterised in accordance with the two formulas set out in (5-121 & 5-122).

- (5-121) Coronal + grave  
 (5-122) Apical sonorant + laminal

Table 5.2 : Morpheme-medial Consonant Clusters

			Overall	Nominals	Verbs
ngg	<i>gaanggi</i>	'high'	45	43	2
mb	<i>giimbi</i>	'rock'	38	35	3
njdj	<i>djaanjaja</i>	'milkwood'	10	9	1
rnd	<i>-ngaarndada</i>	'good'	8	8	0
nd	<i>moonda</i>	'bad'	4	4	0
lb	<i>bal'boornay</i>	'dust'	17	15	2
ndj	<i>ngoondji</i>	'other'	15	13	2
rrg	<i>djoorrgu</i>	'wind'	15	15	0
rrb	<i>moorrbul</i>	'club'	14	10	4
rdb	<i>-boordbi</i>	'dry'	10	8	2
nb	<i>ban'biirirr</i>	'marchfly'	10	10	0
djb	<i>mi'rriidjbu</i>	'seagull'	9	9	0
rnm	<i>goornmu</i>	'morning'	8	8	0
rrm	<i>ngoormorl</i>	'fly'	7	7	0
n.g	<i>gaan.girr</i>	'skin'	6	6	0
rnb	<i>waarnboy</i>	'clapstick'	6	6	0
njm	<i>boonjman</i>	'rat'	5	3	2
lm	<i>bal'moongo</i>	'cloud'	5	5	0
djg	<i>goodjgu</i>	'brain'	4	4	0
nm	<i>man'moolbu</i>	'tree rat'	4	4	0
rndj	<i>ngaarndjil</i>	'tongue'	4	4	0
njb	<i>noonjbu</i>	'grass'	4	4	0
lg	<i>wal'giirdi</i>	'greedy'	4	3	1
lng	<i>ga'djaalnga</i>	'turtle sp'	4	4	0
rdj	<i>biirdja</i>	'leech'	4	4	0
rn.g	<i>ga'baarn.ga</i>	'swamp'	3	2	1
njg	<i>dja'naanjgu</i>	'woomera'	3	2	1
ldj	<i>-djiildja</i>	'dripping'	3	3	0
njng	<i>gardanganj'ngara</i>	'to swim'	2	1	1
rlg	<i>waarlgarr</i>	'lizard sp'	2	2	0
rrdj	<i>barr'djeedji</i>	'tree sp'	2	2	0
db	<i>-gudbu'gaarra</i>	'sibling of dec'	1	1	0
rnnng	<i>-ngaarnnga</i>	'keep on doing'	1	1	0
rlb	<i>garlarl'boobo</i>	'lightweight'	1	1	0
rrng	<i>banda'maarrnga</i>	'water goanna'	1	1	0
rny	<i>warn'yoowu</i>	'tree sp'	3	2	1
lw	<i>balwa-</i>	'to break arm'	3	2	1
ly	<i>yung'gaalya</i>	'spirit'	3	0	0
rrw	<i>garda'waarrwa</i>	'ooze'	2	1	1
ny	<i>manan'yaarr</i>	'that.II'	1	0	0

Apical consonants do not occur as the second member of a cluster, and laminals only do so when preceded by an apical. The formula in (5-122) is not strictly speaking entirely hetero-organic, as both members are coronal. As we will see there is evidence that clusters conforming to the formula in (5-122) are in certain aspects to be analysed as homorganic (5.4). The present discussion is concerned only with their hetero-organic aspects.

The class of hetero-organic consonant clusters is divided into two sub-classes. The major sub-class consists of all the clusters which consist of true consonants (i.e. [+consonantal] segments). The clusters belonging to this major sub-class all conform to a sonority constraint. The sonority of the first member of the cluster must be either greater than or equal to the sonority of the second member of the cluster. There are no phonemic clusters of true consonants where the sonority of the first member is less than that of the second member. There is one post-lexical cluster of true consonants [dɾ], where the sonority of the first member is less than that of the second. This cluster is found in a variant realisation of the lexeme *mboodaru* 'now', and arises from the deletion of the medial unstressed vowel.

(5-123) *mboodaru* [mbɔ:dəɾu] ~ [mbɔ:dɾu]  
'now'

The sonority constraint does not hold for the minor sub-class of hetero-organic clusters. This class consists of all clusters which have a semivowel as their second member. In this class of clusters, the sonority of the first member is less than that of the second member. The clusters belonging to this class are not strictly speaking sequences of consonants. Rather they are sequences of a consonant in coda position, followed by a vowel in onset position. In other words they are simply sequences of segments attached to non-nuclear syllabic positions, without being sequences of consonants. Naturally sequences of consonants are also sequences of segments attached to non-nuclear syllabic positions. As such the two types of sequences can be classed together as clusters, and I will continue to use the term "cluster" to refer to both types of sequences. I will however reserve the term "consonant cluster" for sequences of consonants.

The members of the minor sub-class of clusters are the only morpheme-medial clusters involving semi-vowels, found in Gaagudju. There are no morpheme-medial clusters which have a semi-vowel as their first member. As we will see the overall evidence suggests that there is a constraint against such morpheme-medial clusters (5.5). Clusters having /w/ as a first member would not conform to the formulas in (5-121) & (5-122), as /w/ is a [+grave] segment. However clusters consisting of /y/ and a [+grave] consonant would accord with the formula in (5-121). Clusters of this type do occur intermorphemically (5.3.3). /y/ occurs morpheme-finally in nominal roots (5-78).



The preceding analysis of consonant cluster patterns predicts a number of hetero-organic clusters, in both the major and minor sub-classes, which are not presently attested. Among these would be /nng/, /rry/, and clusters with an initial /r/ (of which only /rdj/ is presently attested, though see 5.3.4). These missing clusters are "accidental" gaps under the present analysis. Given a more complete vocabulary for Gaagudju, it is predicted that these missing clusters would be attested.

The /ny/ cluster in itself requires some discussion, given the presence of a laminal nasal phoneme /nj/ in the Gaagudju phonemic inventory. The /ny/ cluster is chiefly found in verbal complexes, where it occurs across the morpheme boundary between the prefix complex and the verb. Indeed paradigmatic comparisons between verbal complex forms constitute some of the principal evidence for the cluster. The cluster and the laminal nasal are distinguishable by vowel allophony when preceded by a front vowel. Front vowels are lax in closed syllables, other than in those closed by a laminal. Front vowels are invariably tense when preceding a laminal consonant.

(5-124) *na'rdeenjmarr* [nə'de:ɲmɑɹ]
   
'water snake'

(5-125) *njee-n-yu* [ɲe:-n-yu]
   
3IIA-FU-camp
   
'She will camp.'

The laminal nasal and the cluster also appear to be distinguishable when they are stressed.

(5-126) *ma'njoogu* [mɑ\$ɲo:gu]
   
'bandicoot'

(5-127) *ma-n-'yii-ngi* [mɑ-n\$-'yɪ-ŋɪ]
   
3IIIA-IRR-go-P
   
'It did not go.'

In careful speech it appears that there is a syllable boundary between the two members of the cluster. In the corresponding situation with /nj/, it appears that the syllable boundary precedes the nasal. It is by this criterion that the form *manan'yaarr* 'that.II', which is the only example of /ny/ occurring morpheme-medially, is phonemicised with a cluster. In careful speech it appears to be syllabified in the same way as (5-127). However it should be noted in this connection, that the contrast between (5-126 & 5-127) was by no means as clearcut as that between (5-124 & 5-125). It is quite possible that further investigations would require its revision. I did not find the cluster

and the laminal nasal to be auditorially distinguishable in other environments.

- |         |   |            |
|---------|---|------------|
| (5-128) | <i>moonja</i><br>'mosquito'                   | [mɔːŋə]    |
| (5-129) | <i>goo-n-ya</i><br>3IVA-FU-go<br>'It will go' | [gɔː-n-ya] |

The equivalent lateral cluster /ly/ is only found in three morphemes.

- |         |   |                                  |
|---------|---|----------------------------------|
| (5-130) | <i>gundjo'goolyo</i><br><i>wuulyimi</i><br><i>yung'gaalya</i> | 'spear type'<br>'axe'<br>'devil' |
|---------|---|----------------------------------|

The analysis of the lateral realisations in these three lexemes is in fact problematic. They are not preceded by a front vowel, nor are they stressed. As such they could be analysed as representing either a consonant cluster /ly/, or a segmental laminal lateral phoneme /lj/, with equal plausibility in terms of the auditory evidence. The phonotactic evidence favours the cluster analysis, and consequently it is the analysis adopted. If a segmental /lj/ phoneme was posited, it would differ significantly from the other laterals in terms of its phonotactic distribution. Both the alveolar and retroflex laterals are commonly found intervocally. They are both attested morpheme-finally, and in clusters (though not commonly for the retroflex lateral). As such their distribution is very different from that of the potential laminal lateral /lj/. On the other hand if a cluster /ly/ is posited, then its distribution is entirely congruent with that of the clusters involving semi-vowels. All of these clusters have a low frequency of occurrence, and being clusters they can naturally only occur in intervocalic position.

Apart from the the divisions that arise from the phonotactic structuring of the morpheme-medial clusters themselves, the other major division is that between nominals and verbs. Morpheme-medial clusters are only rarely found in verbs. Those that do occur are found either in compound verb roots, or in simple verb roots greater than 2 syllables in length. It is probable that nearly all simple verb roots greater than 2 syllables in length are historically analysable as compound stems (7.2). As such it seems likely that all the consonant clusters, synchronically attested within simple verb roots, historically occurred across morphological boundaries.

### 5.3.3 Inter-morphemic Consonant Clusters.

The only consonants which can occur morpheme-finally are coronals (5.3.1), with the exception of those affixes which have a final nasal

archiphoneme *N-*. The behaviour of consonant clusters involving affix-final coronals can largely be accounted for by the place of articulation and sonority constraints that were posited for morpheme-medial clusters in the preceding section (5.3.2). I will begin by examining clusters involving morpheme-final apicals. There are five verbal prefixes which have final apicals.

(5-131)	<i>an-</i> ~ <i>n-</i>	'3MERG' (Unmarked)
	<i>n-</i>	'Irrealis'
	<i>arr-</i>	'1ABS' (Unmarked)
	<i>barr-</i>	'2ABS.1ERG' (Unmarked)

The three nasal-final prefixes cause assimilation in a following morpheme-initial /dj/. The rule is formulated in (5-132).

(5-132)		$X_1-$	$X_2$
	Manner	[+nasal] <sub>1</sub>	[-sonorant] <sub>2</sub>
	Delete <sub>2</sub> , Spread <sub>1</sub>	Place 3	[+laminal] <sub>2</sub>
		[+apical] <sub>1</sub>	

This assimilation rule results in a homorganic nasal-stop cluster (see 5.3.4). The verb *djil'girdi-ga* 'to shake out' exceptionally does not undergo the assimilation rule in (5-132).

(5-133)	<i>gu-nga-n-djil'geerdi-ga</i>	* <i>gu-nga-n-dil'geerdi-ga</i>
	3IVA-3ME-FU-shake out-Aux	
	'He will shake it out.' (B919)	

I analyse this exception as resulting from the presence of a constraint diacritic. The tap-final prefixes do not affect a following /dj/. The only other coronal consonants attested following these prefixes are /r/ and /n/. /r/ deletes when preceded by any of the apical-final prefixes. /n/ deletes when preceded by a tap-final prefix, in the only available example.

(5-134)	<u>Underlying</u>	<u>Attested</u>
	<i>barr-'nee-gi</i>	<i>ba'rr-ee-gi</i>
		2A.IE-burn-CON
		'I might burn you.' (C145)

The geminate /n-n/ resulting from a combination of the nasal-final prefixes and a following /n/ is reduced. The most general rule covering these deletions and reductions is that set out in (5-135).

(5-135)	Delete $X_2$	$X_1-$	$X_2$
		Place 3	[+apical]
		[+apical]	[+apical]

This rule deletes a morpheme-initial apical when preceded by a morpheme-final apical. Under this rule the second segment in the geminate

/n-n/ is analysed as the segment deleted. There is no direct evidence that this is the case. It is merely the simplest general analysis. The deletion of a following morpheme-initial apical can be accounted for by the constraint against apicals being the second member of a consonant cluster, other than in homorganic nasal-stop clusters.

The nasal-final prefixes combine with /y/ initial verb stems to form the cluster /n-y/, which was discussed in the previous section. This cluster is not affected by any assimilation or deletion processes. It seems likely that its immunity to these processes is due to the fact that it conforms to the pattern of morpheme-medial clusters belonging to the minor class of hetero-organic clusters. The tap-final prefixes are not attested with /y/ initial stems.

These prefixes also occur with /w/ initial verb stems. The tap-final prefixes do not affect the following /w/. However the nasal-final prefixes cause it to assimilate to /m/, in accordance with the rule in (5-136).

(5-136)			X <sub>1</sub> -	X <sub>2</sub>
	Delete 2, Spread 1	Manner	[+nasal] <sub>1</sub>	[+continuant] <sub>2</sub>
	Delete [+lingual] <sub>2</sub>	Place 1	[+lingual] <sub>1</sub>	[+labial, +lingual] <sub>2</sub>
		Place 2	[+coronal] <sub>1</sub>	[+high, +velar] <sub>2</sub>
		Place 3	[+apical] <sub>1</sub>	

Under the Percolation Convention proposed by Hayes (1990 : 41), the deletion of the [lingual] specification in (5-136) also causes the deletion of the [high] and [velar] specifications, as [high] and [velar] are dependents of [lingual]. The assimilation of /w/ to the labial nasal /m/, rather than to the velar nasal /ng/ conforms to the patterning of Australian languages, where /w/ always patterns as a [+labial] segment (Dixon 1980 : 187). The actual occurrence of the assimilation is somewhat unexpected. /n-w/ would be a well-formed member of the minor sub-class of hetero-organic clusters (5.3.2), parallel to /n-y/. If however, the /n-w/ cluster is anomalously analysed as a member of the major sub-class of hetero-organic clusters, then the assimilation may be understood as motivated. This class of clusters do not permit the sonority of the second member to exceed that of the first (5.3.2). The /nw/ cluster violates this constraint, and the assimilation achieves an acceptable cluster /nm/, where both members have the same sonority. The alternative would be to reduce the /nw/ cluster. This in fact, occurs irregularly with the verb *wu* 'to give'. This verb does not undergo the assimilation, but instead deletes the initial segment of the root, when preceded by an /n/ final prefix (Appendix 2). The unexpected behaviour of the /nw/ cluster provides good evidence that the two sub-classes of hetero-organic clusters should be classed together as "clusters" (5.3.2).

There are two apical-initial suffixes in Gaagudju. These are listed in (5-137).

(5-137)	-ni	'Tense suffix'
	-ri	'Tense suffix'

These two suffixes attach only to open syllables, and consequently do not form clusters. There are three apical-initial enclitics in Gaagudju.

- |         |                |         |
|---------|----------------|---------|
| (5-138) | = <i>da</i>    | 'MA'    |
|         | = <i>naawu</i> | '3MDAT' |
|         | = <i>nu</i>    | '3MIO'  |

These enclitics may be attached to apical-final hosts. Apical clusters do not reduce across clitic boundaries.

- (5-139) *djaarli ma'gaarra ngaarndjil='naawu gooyida Ø-naa-y*  
 meat that.I fish=3MDAT Neg.IMP 3IA-2E-eat.PR  
*ngiinja*  
 2MIN  
 'That meat is for fishing. Don't you eat it!' (B410)

- (5-140) *dji'deemarr=nu*  
 sea=3MIO  
 'associated with the sea' [reference was to a seagull] (A85)

- (5-141) *ga'boolbirr=nama'rdeedjurr*  
 sun=rainbow  
 'place name'

(5-141) is of particular interest. It is a compound referring to a sun dreaming site in Limilngan country. This site is approximately 100kms west of the territory traditionally associated with the Gaagudju language. It seems likely that the compound form in (5-141) relates to the post-contact period when most Gaagudju speakers were working on Limilngan country in the buffalo industry (1.1 - there are other examples of Gaagudju place names being given to sites even further to the west). It is therefore reasonable to suggest that (5-141) results from productive compounding, at least with respect to place names. The maintenance of the apical cluster in (5-141) provides reasonable evidence that nominal compounding classes with clisis, and as such should be analysed as a clitic relationship.

The apical clusters illustrated in (5-139 - 5-141) are not the only type of coronal clusters which arise with the enclitics listed in (5-139). The 'MA' enclitic =*da*, and the '3MIO' enclitic =*nu* are extensively attested following the verbal suffix -*y*. This suffix is variously a Present tense marker (7.7), a detransitiviser (9.6.1), and an auxiliary (7.2). It deletes before a coronal, in accordance with the constraint against laminals preceding coronal consonants.

- (5-142) *ya-Ø-'gaama-y=mba*  
 what-3IA-do-PR=AUG  
 'What are they doing?'
- (5-143) *ya-Ø-'gaama=da*  
 what-3IA-do.PR=MA  
 'What are those males doing?' (A195)
- (5-144) *arr-'gaama=nja*  
 1A-say.PR=2IO  
 'I am talking to you.' (291)
- (5-145) *Ø-n-da-arda'baa-y=mani*  
 3IVA-3ME-PR-look for-PR=1+2IO  
 'He is looking for us.' (B366)
- (5-146) *Ø-arra-arda'baa=nu*                      *maarri='maarri*    *ngaanj-ma*  
 3IVA-1E-look for=3MIO    knife                                      1MIN-PRM  
 'I am looking for my knife.' (A227)
- (5-147) *Ø-djaa-wadja-y*  
 1A-PR-cry-PR  
 'I am crying.' (356)
- (5-148) *Ø-djaa-wadja=yu*  
 1A-PR-cry=3FIO  
 'I am crying for her.' (285)

The *-y* suffix also undergoes another reduction, apart from the one involving the clusters illustrated in (5-142 - 5-148). It may merge with a preceding /a/ to produce [e:].

- (5-149) *barr-djo-o'roo-garra-y*                      [bæɾ-ɖo:'ro:-gæɾe:]  
 2A.1E-PR-look-Aux-PR  
 'I am looking at you.' (A281)

This [e:] realisation is not a canonical realisation. However its distribution is lexically controlled. It does not occur with nominals, nor with all verbs.

- (5-150) *gu'loorday*                                      [gɔ'lo:ɖəy] ~ \*[gɔ'lo:ɖe:]  
 'yam sp'

- (5-151) *ya-njing-'gaama-y* [yæ-ŋɪŋ-'gɑ:mə-y] ~  
 what-2E-do-PR \* [yæ-ŋɪŋ-'gɑ:me:]  
 'What are you doing?'

Therefore I analyse it as resulting from the application of the string dependent rule in (5-152).

- (5-152) /ay/ -> [e:] / [+AY]

Apart from -y, the other laminal found morpheme-finally is the archiphoneme DJ, which occurs in a number of affixes.

- (5-153) *iDJ-* '3FE' (Table 7.4)  
*iDJ-* 'Augment' (5.6.1)  
*ngaDJ-* '1MIN' (Table 3.7 & Table 6.2)  
*-miDJ-* 'Imperfective' (7.3)

DJ consists of a [+laminal] specification underlyingly, and assimilates in manner of articulation to a following grave stop or nasal, thereby producing the clusters /dj-b/, /dj-g/, /nj-m/ and /nj-ng/. Combinations of the ergative prefix *iDJ-* '3FE', and verb stems with an initial velar stop that undergoes lenition, appear to irregularly involve deletion of DJ before /g/ (4-92 - 4-94). DJ deletes before /w/.

- (5-154) *i-'waadji* [i-'wɑ:dʒi]  
 Aug-egg  
 'egg'

It might be expected that DJ would assimilate in manner of articulation to /w/, as it does to the other grave segments. This would produce \**iy-'waadji*, which would be realised as \*[i:-'wɑ:dʒi], with an initial long vowel. As the attested form does not show an initial long vowel, the DJ is presumably deleted. DJ is also deleted before a following /n/ or /r/. Geminate sequences of DJ and a following /dj/ or /y/ are reduced. The behaviour of laminal-final affixes can be accounted for by the rules given in (5-155 - 5-157).

- (5-155)
- |                       |                  |                         |
|-----------------------|------------------|-------------------------|
|                       | Coda             |                         |
|                       |                  |                         |
| Delete X <sub>1</sub> | X <sub>1</sub> - | X <sub>2</sub>          |
|                       | Place 2          | [+coronal] <sub>2</sub> |
|                       | Place 3          | [+laminal] <sub>1</sub> |

(5-156)		Coda   X <sub>1</sub> -	
	Delete X <sub>1</sub>		X <sub>2</sub>
		Manner	[+continuant] <sub>2</sub>
		Place 1	[+lingual] <sub>1</sub>
		Place 2	[+labial] <sub>2</sub>
		Place 3	[+high] <sub>2</sub>
			[+laminal] <sub>1</sub>
(5-157)		Coda   X <sub>1</sub> -	
	Spread left		X <sub>2</sub>
		Manner	2
		Place 1	[+lingual] <sub>1</sub>
		Place 2	[+coronal] <sub>1</sub>
		Place 3	[+grave] <sub>2</sub>
			[+laminal] <sub>1</sub>

The first rule deletes a laminal, which is followed by a coronal. Under this rule it is the first segment of any laminal geminate which is deleted. This is the opposite of the rule for the reduction of apical geminates set out in (5-135). In neither case is there any direct evidence as to which segment is deleted. As we have seen, the indirect evidence leads to different conclusions in the two cases. A geminate is irregularly maintained in combinations of the 3FE prefix *iDJ-* and the verb *djarn-bu* 'to finish'.

- (5-158) *Ø-idj-'djaarn-bu-mu*  
 3IA-3FE-finish-Aux-PP  
 'She finished it.' (A88)

I analyse this exception as resulting from the presence of a constraint diacritic to the rule in (5-155). The second rule is a special rule deleting the laminal archiphoneme before /w/. The third rule spreads the manner features of grave consonants to the underspecified laminal archiphoneme DJ. The first rule applies post-lexically, as well as lexically. It is one of only two morphophonemic rules which does so (the other is 5-186).

It is a necessary part of the structural description of all three rules that X<sub>1</sub> should be attached to a coda position. If this was not the case then the rules would operate to affect /i/, when it was attached to a syllable nucleus position. There are a number of laminal-initial suffixes and enclitics in Gaagudju. However most of these have a homorganic nasal-stop cluster as their initial laminal. These affixes and enclitics are examined in (5.3.4). There are four forms which have a simple laminal as their initial segment.

- |         |                |                           |
|---------|----------------|---------------------------|
| (5-159) | <i>-ya</i>     | 'Tense suffix'            |
|         | <i>-yi(ni)</i> | 'Tense suffix, Aux, detr' |
|         | <i>=nja</i>    | '2IO'                     |
|         | <i>=yu</i>     | '3FIO'                    |



The two verbal suffixes attach only to open syllables, and consequently do not form clusters. The two Indirect Object enclitics are only attested in clusters involving the verbal suffix *-y* (5-144 & 5-148). This suffix deletes before these two morphemes in accordance with the rule in (5-155). In addition to the coronal-final bound morphemes so far discussed, there are a number of prefixes in Gaagudju which have a final nasal archiphoneme *N-*, which consists underlying simply of a [+nasal] specification. This nasal archiphoneme shows the following realisation patterns.

(5-160)    *m* / \_ *b, nj* / \_ *dj, ng* / \_ *g*  
            $\emptyset$  / \_ *m, n, ng, l, r, w, y*

It assimilates in place of articulation to a following stop (there are no examples of a following apical stop), and deletes before a sonorant.

(5-161)

		$X_1$ -	$X_2$
	Manner	[+nasal] <sub>1</sub>	[-sonorant] <sub>2</sub>
Spread left	Place		2

(5-162)    Delete  $X_1$

		$X_1$ -	$X_2$
	Manner	[+nasal] <sub>1</sub>	[+sonorant] <sub>2</sub>

The pattern, formalised by the rules in (5-161 & 5-162), is in accord with the general restriction on homorganic clusters, other than nasal-stop clusters. In addition to the morphophonemic patterns involving clusters so far discussed there is one morphophonemic pattern which involves a  $\emptyset$ -prefix. When a morpheme with an initial velar nasal takes the  $\emptyset$ - Absolutive prefix, the initial velar nasal changes to a laminal nasal. I am not entirely certain how this rule should be formulated.

(5-163)

		$X_1$ -	$X_2$
	Manner	$\emptyset$	[+nasal] <sub>2</sub>
	Place 1	$\emptyset$	[+lingual] <sub>2</sub>
Delete 2	Place 2	$\emptyset$	[+high] <sub>2</sub>
	Insert [+coronal, +laminal]		

The necessary ordering between the various rules in this section is achieved by the Elsewhere Condition (Kiparsky 1973). The more specific rules all precede the more general rules.

#### 5.3.4 Homorganic Nasal-stop Clusters and Triconsonantal Clusters.

Homorganic nasal-stop clusters display a number of unusual phonotactic patternings in Gaagudju. They are the only type of homorganic consonant clusters that occur, either intra- or inter-morphemically. Apart

from this inherent distinguishing characteristic, they are also distinguished by being found in certain environments which are not otherwise available to consonant clusters. Homorganic nasal-stop clusters may occur both morpheme and word-initially. No other consonant cluster can occur in either of these positions. Homorganic nasal-stop clusters occur initially in the morphemes listed in (5-164).

(5-164)	= <i>nggaana</i>	LOC
	= <i>njdja</i>	FUA
	= <i>mba</i>	AUG
	- <i>njdji</i>	PR 'to hit'; PR, PIRR, PI 'to take'
	- <i>ngga</i>	PP 'to take'
	- <i>ngga</i>	Aug
	- <i>nggi</i>	detr/Aux
	- <i>njdju</i>	SPEC
	<i>mboodaru</i>	'now'

The three enclitics listed in (5-164) are all of common occurrence. The two Number enclitics, especially, are very common. The four verbal suffixes are all of low frequency paradigmatically. However the two tense suffixes from the paradigms of 'to hit' and 'to take' are quite common in overall terms owing to the high frequency of these two verbs, as both auxiliary and main verbs (7.2). The nominal *mboodaru* is the only root with an initial homorganic nasal-stop cluster. As such this is the only example of a cluster which is both morpheme and word-initial.

Homorganic nasal-stop clusters do extensively occur word-initially in Gaagudju, but these are otherwise inter-morphemic clusters. They arise chiefly from the realisations of prefixes which have the form of a nasal archiphoneme *N-*. These prefixes assimilate in place of articulation to a following stop (5-161), thereby producing word-initial occurrences of /m-b/, /nj-dj/ and /ng-g/. The following examples show the contrast between the cluster and the corresponding stop word-initially.

(5-165)	<i>ba'laa-bara</i> cover-Aux.IMP 'Cover him!'	$\emptyset$ - <i>m-ba'laa-bara</i> 3IA-1E.FU-cover-Aux 'I will cover him.'
(5-166)	$\emptyset$ - <i>djeema</i> 3IA-got up 'He got up.'	<i>nj-djeema</i> 3IIA-got up 'She got up.'

- |         |   |   |
|---------|---|---|
| (5-167) | <i>ga'rlaa-ba</i><br>put in-Aux.IMP<br>'Put it in!' | <i>Ø-ng-ga'rlaa-ba</i><br>3IA-1E.FU-put in-Aux<br>'I will put it in.' |
|---------|---|---|

The other homorganic nasal-stop cluster which occurs word-initially is /n-d/. This cluster arises when the *n*- allomorph of the 3ME prefix is prefixed to a /dj/ initial verb. The /dj/ assimilates to /d/ following the *n*-prefix (5-132). The patterning of the homorganic nasal-stop clusters in these positions in relation to speech speed is also unusual. In all other cases, slow carefully monitored speech is the environment where deletion is least likely to occur. However virtually the opposite holds for the homorganic nasal-stop clusters when they occur word or enclitic-initially. This is illustrated by the following example.

- |         |   |  |
|---------|---|--|
| (5-168) | <i>dji'deemarr='nggaana</i><br>sea=LOC<br>'in the sea' (A304) | <i>dji'deemarr ...='gaana</i><br>sea ...=LOC |
|---------|---|--|

The first token of 'in the sea' was pronounced at a conversational speech speed. There was no pause between the nominal root *dji'deemarr* 'sea' and the Locational enclitic =*nggaana*. The initial nasal of the enclitic appeared in this first token. The second token was given in response to an enquiry about the form of the first token, and was pronounced more slowly. In this second token, there was a significant pause between the nominal root and the enclitic, and the initial nasal of the enclitic does not appear. The initial nasal of homorganic nasal-stop clusters is standardly deleted in slow speech when preceded by an appreciable pause. The nasal can appear in extremely slow and careful speech. However this only occurred when elicitation focussed specifically on the presence of the nasal, and the nasal-stop clusters were always heavily stressed in this situation.

The nasal-stop clusters undergo a quite different reduction process in fast speech. In this environment the stop is deleted.

- |         |  |               |
|---------|--|---------------|
| (5-169) | <i>Ø-n-dongola'djee-gi</i><br>3IA-3ME-make-PP<br>'he made it.' (A325 - with lenition of the /g/) | [nəŋələ'dje:] |
|---------|--|---------------|

- |         |  |                |
|---------|--|----------------|
| (5-170) | <i>Ø-ng-go'ree-garra</i><br>3IA-1E.FU-see-Aux<br>'I will see him.' (143) | [ŋo:'re:-gəɾə] |
|---------|--|----------------|

The word and enclitic-initial homorganic nasal-stop clusters also show unusual behaviour with respect to syllabification. At ordinary conversational speech speeds the word-initial clusters are invariably syllabified with the following vowel.

- (5-171) *u'luunggulu nj-djaa-yu* [ɔ'ɫɔ:ŋgɔ\$ɫɔ\$='ŋ-ɔa:-ɪ\$u] ~  
 old woman 3IIA-PR-lie \*[ɔ'ɫɔ:ŋgɔ\$ɫɔ\$=ŋ-\$'ɔa:-ɪ\$u]  
 'The old woman is sleeping.'

In ordinary conversational speech words are frequently cliticised together. If a word with an initial homorganic nasal-stop cluster is encliticised to a vowel-final word, as in (5-171), the nasal is always syllabified with the following stop and vowel. In fast conversational speech it is probably the case that the nasal is syllabified with the preceding vowel. The presently available evidence is not definitive on this point.

It is certainly the case that the nasal in some enclitic-initial clusters syllabifies with the preceding vowel in ordinary speech.

- (5-172) *ma'naa=njdja* [mə\$'na:i=ŋ\$ɔa] ~ \*[mə\$'na:i=\$ŋɔa]  
 that.I=FUA  
 'Those two'
- (5-173) *ngoorro=njdja* [ŋɔ:\$ɔɔi=ŋ\$ɔa] ~ \*[ŋɔ:\$ɔɔi=\$ŋɔa]  
 go.IMP=FUA  
 'You two go!'

In (5-172 & 5-173) the /a/ and /o/ vowels preceding the nasal in the =*njdja* 'FUA' number enclitic can show diphthongal allophones. These allophones are conditioned by a coda laminal consonant (4.7.1 & 4.7.3). Consequently the nasal in the enclitic is presumably to be analysed as syllabifying with the preceding vowel in these examples. Indeed to all appearances, the initial nasal of =*njdja*, and of the other unstressed monosyllabic enclitic =*mba* 'AUG', syllabifies with the preceding vowel in all cases in ordinary speech.

This is the syllabification pattern found with morpheme-medial, and with suffix-initial, homorganic nasal-stop clusters. If however the enclitic is separated by a slight pause from its stem, then the pause invariably occurs before the nasal, which is obviously syllabified with the following stop and vowel.

- (5-174) *Ø-arro-o'ree-garra ...=mba* \*Ø-arro-o'ree-garra=m ...ba  
 3IA-1E-see-Aux.PP ...=AUG 3IA-1E-see-Aux.PP ...=AUG  
 'I saw them.' 'I saw them.'

Also if the Number enclitic =*mba* is followed by the 'plS+O' enclitic =*njoorno*, then the initial nasal of the Number enclitic shows a strong tendency to be syllabified with the following stop and vowel in ordinary speech.

- (5-175) Ø-*arro-o'ree-garra=mba='njoorno*  
 3IA-1E-see-Aux.PP=AUG=plS+O  
 'We saw them.'  
 [aɾo:-'rɛ:-gə\$ɾə=\$mba='jɔ:ɲo] ~ [aɾo:-'rɛ:-gə\$ɾə=m\$ba='jɔ:ɲo]

The initial nasal of the =*mba* enclitic can be syllabified with a preceding vowel, but this requires faster speech speeds than in (5-174). The same situation is found with the stressed disyllabic enclitic =*nggaana* 'LOC'.

- (5-176) *dju'baarra='nggaana* [dʷ'bæ:\$ɾə=\$'ŋgæ:nə] ~  
*tree=LOC* [dʷ'bæ:\$ɾə=ŋ\$'gæ:nə]  
 'by the tree'

As with the two cluster-initial enclitics, whenever =*nggaana* is separated from its stem by a slight pause, the pause invariably precedes the nasal. Also relevant to this question of syllabification is the syllabification of tri-consonantal clusters. In all but one example, tri-consonantal clusters in Gaagudju involve homorganic nasal-stop clusters. The one exception is /rgy/, which occurs in the lexeme *boorgyi* 'still'. As this cluster is the only example of its kind, it is not possible to definitively analyse it. Comparisons with the di-consonantal clusters would suggest that it should be analysed as a member of the minor sub-class of hetero-organic clusters. The first two members of the cluster /rg/ would constitute an example of a "missing" consonant cluster (5.3.1). This di-consonantal cluster combines with /y/ on the pattern of the minor sub-class of hetero-organic clusters. Both auditory evidence and sonority constraints argue that the cluster is to be syllabified as /rg\$y/. All other tri-consonantal clusters conform to the formula in (5-177).

- (5-177) coronal continuant + grave homorganic nasal-stop cluster

It may be noted that this formula is structurally isomorphic with the formula for di-consonantal clusters in (5-121). These clusters usually occur across morpheme boundaries. /ymb/ is the only commonly attested cluster. It arises when the number enclitic =*mba* 'AUG' is encliticised to a stem ending in /y/ (in the available data, this is always a verbal form taking a -y suffix). It occurs morpheme-medially once, in the form *gamarraymba'gaardu* 'palm sp'. However this form is transparently a compound, derived from the clause in (5-178) (with alteration of the initial vowel from /u/ to /a/).

- (5-178) *gu-ma'rraa-y=mba* *gaardu*  
 3IVA-1+2A-drink.PR=AUG water  
 'We drink water.'

Sections of trunk of the palm species in question were used as water-carriers traditionally. The only other cluster involving /mb/, presently attested, is /rmb/.

- (5-179) *ma'naarr=mba*  
 that.I=AUG  
 'those' (B383)

The available examples involve the encliticisation of =*mba* to an /rr/ final stem. Under the formula in (5-177) the clusters /lmb/ and /rlmb/ are also acceptable clusters involving /mb/. The non-occurrence of these clusters in the available data is to be analysed as an accidental gap, owing chiefly to the rarity of these segments morpheme-finally (5.3.1. The non-occurrence of /r/ morpheme-finally presumably rules out /rmb/).

The other consonants found morpheme-finally in Gaagudju are the coronal nasals and stops (5.3.1 - the stops only very rarely). It does not appear that these final segments could form acceptable clusters with /mb/. /mb/ is itself not attested in combination with any of these segments. However /ngg/ is attested in combination with /n/.

- (5-180) *njing'gooduwa* Ø-*i-yo'rloodja* *djaarli billycan='gaana*  
 woman 3LA-3FE-put in.PP meat *billycan=LOC*  
 'The woman put the meat in the billycan.' (A263)

The particular combination *billycan='gaana* is attested several times, and the initial nasal of the enclitic is invariably deleted. *billycan* is itself obviously not a native lexeme, but this would not appear to be relevant to the question of the reduction of the cluster. /n/ occurs as a final segment in native lexemes (5.3.1 - *raanggin* 'paperbark' + =*nggaana* 'LOC' would for example be a perfectly acceptable combination). The motivation for the reduction is not entirely clear. However sonority requirements may provide an explanation. As we have seen, it appears that in faster speech the nasal in enclitic-initial clusters syllabifies with the preceding syllable. If this is the case then the initial nasal of the enclitic will fail to syllabify in combinations involving a preceding nasal or stop, because this would involve a violation of sonority constraints (5-115).

Most tri-consonantal clusters with /ngg/ involve the 'LOC' enclitic =*nggaana*. It is attested attached to /y/ and /rr/ final stems (5-168). Combinations involving /l/ and /rl/ would also presumably be acceptable (The non-occurrence of /r/ morpheme-finally presumably rules out /rngg/). The cluster /rrngg/ is also found across an affixal boundary in the compound verb *gabarr-nggi* 'to become daylight', and morpheme-medially in the simple verb *djorrnggoma* 'to go in'

In nearly all circumstances these clusters are unstressed, and there is no direct evidence as to the syllabification of the medial nasal. However there are two cases where clusters of this type are stressed. Some forms in the

paradigms of the verbs *djorrnggoma* 'to go in' and *gabarr-nggi* 'to become daylight' have stress on the clusters (Appendix 2). Even in this situation syllabification was not in all cases certain. However some tokens from the paradigm of *djorrnggoma* did show a fairly clear syllabification. In these tokens, the syllable boundary invariably preceded the nasal.

- (5-181) *arr-ba-n-dorr'nggoma* [aɹ-bə-n-dəɹ\$'ŋgɔ:mə]  
 1A-there-FU-go in \*[aɹ-bə-n-dəɹŋ\$'gɔ:mə]  
 'I will go in there.' (A366)

Therefore it appears that the syllable boundary should be taken as preceding the nasal, at least in slower more careful speech. There is reason to suggest that the syllable boundary should be understood as following the nasal in faster speech (5.4).

In addition to the clusters actually attested, there are two potential tri-consonantal clusters which undergo reduction. One of these is \*/y=ɲdja/, which arises when the 'FUA' enclitic =*ɲdja* is cliticised to a /y/ final stem (in the available data always the verbal suffix -y). This cluster is reduced in accordance with the rule in (5-155).

- (5-182) *Ø-buu-y=mana*  
 3IA-hit-detr.PR=MUA  
 'The two males are fighting.' (A490)

- (5-183) *ɲj-dja-'buu=ɲdja* [ɲ-dʒɪ-'bʷɔ:i-ɲdʒə]  
 3IIA-PR-hit.detr.PR=FUA  
 'The two females are fighting.' (A517)

There are in fact certain complications to this reduction rule in the case of =*ɲdja*. As indicated there is an [i] vowel in the realisation of the form in (5-183). This [i] vowel would in most cases be analysed as a realisation of /y/ (5.2). Consequently the presence of an [i] vowel in (5-183) would suggest that the verbal -y suffix, in this case the detransitiviser, is not deleted. However [a] and [ɔ] have diphthongal allophones in syllables closed by =*ɲdja*, even when there is no underlying /y/ (5-172 & 5-173). Given this fact, and given that -y does otherwise delete before palatals (5-155), it appears that the [i] vowel in (5-183) should be analysed as resulting from diphthongisation caused by a syllable-closing laminal, and not from an underlying -y.

The other cluster which undergoes reduction is /rrɲdj/. This cluster is only attested in the available data with forms from the *ma'naarr* 'that' demonstrative paradigm. Forms from this paradigm take the -*ɲdju* 'SPEC' suffix (6-128).

(5-184)	I	<i>ma'naarr</i>	<i>ma'naa-njdju</i>
	II	<i>manan'yaarr</i>	<i>manan'yaa-njdju</i>
	III	<i>mana'maarr</i>	<i>mana'maa-njdju</i>
	IV	<i>manang'gaarr</i>	<i>manang'gaa-njdju</i>

This deletion is also attested when *ma'naarr* takes the =*njdja* 'FUA' enclitic.

(5-185)	<i>ma'naa=njdja</i>	$\emptyset$ - <i>a'daa-garra=njdja</i>	<i>moorrgan</i>	<i>m-i-'yaarra-ri</i>
	that.I=FUA	3IA-argue-Aux=FUA	club	3IIIA-3FE-have-PI
	'Those two had a fight. She had a club.' (286)			

The deletion of the /rr/ in this cluster must be treated as exceptional in terms of the analysis so far presented. A sequence of an apical continuant and a laminal nasal would appear to be an acceptable cluster. However it is not attested morpheme-medially (Table 5.2), and indeed there are no morpheme-medial clusters with a laminal nasal as their second member. In terms of the analysis so far presented, this is simply an accidental "gap". The deletion of /rr/ in (5-184 & 5-185) provides evidence that this is not an accidental gap. A potential explanation for this apparent prohibition on clusters with a laminal nasal as a second member is examined in (5.4). The rule for the deletion is presented in (5-186). This rule applies post-lexically, as well as lexically (see 5-155).

(5-186) /rr/ ->  $\emptyset$ /\_njdj

In overall terms homorganic nasal-stop clusters are distinctive in a number of ways.

- (5-187) They occur morpheme and word-initially. No other clusters are found in either of these environments.
- (5-188) The initial nasal is syllabified with the following stop and vowel in a number of circumstances.
- (5-189) The grave nasals are found as syllable codas only in the homorganic clusters /mb/ and /ngg/.
- (5-190) All but one of the attested tri-consonantal clusters consist of a coronal sonorant followed by a homorganic nasal-stop cluster. The available evidence indicates that the nasal-stop clusters function as a unit within these tri-consonantal clusters.

One way of accounting for these differences, which suggests itself, would be to analyse the clusters as unit phonemes, rather than as clusters. They would thus be pre-nasalised stops, rather than homorganic nasal-stop clusters. In Sagey's terms (1986 : 49 - 52), they would be contour segments attached to a single skeletal slot. The totality of the evidence is however against such an analysis. Firstly there is the evidence from the allophonal



diphthongisation of /a/ and /o/ before enclitic-initial laminal clusters (5-172 & 5-173). This evidence unambiguously establishes that these sequences must be analysed as hetero-syllabic clusters, in at least some environments.

Secondly in other environments, where there is no specific evidence as to syllabification, the simplest hypothesis is that the syllabification rules which apply elsewhere in Gaagudju, also apply in these environments. These syllabification rules place a syllable boundary between the nasal and the stop in a homorganic nasal-stop cluster. In order to maintain the pre-nasalised stop analysis, it would be necessary to posit a syllabification differing from the normal syllabification, without any direct evidence to support this difference.

Thirdly there are the reductions that the clusters undergo (5-168 - 5-170). The reduction that the sequence /nngg/ undergoes to /n.g/ in (5-180), necessitates a cluster analysis. The fact that either the nasal or the stop can be separately deleted in other deletion processes suggests that they are attached to separate skeletal slots. Fourthly it is not clear how a pre-nasalised stop analysis would account for the significant difference in frequency between the grave and the coronal nasal-stop clusters (5.3.2). As we will see an explanation for this difference is possible within a cluster analysis (5.4). However this explanation is crucially dependent on the cluster analysis, and is not transferable to a pre-nasalised stop analysis. For these reasons I will not be adopting a pre-nasalised stop analysis.

#### 5.4 Syllabic Licensing.

The description of Gaagudju phonotactics in the preceding sections (5.2 & 5.3) presents a picture of considerable complexity. Despite this complexity there are certain recurrent commonalities. There is a preponderance of grave segments morpheme-initially, and as the second segment in consonant clusters. Syllable codas are preponderantly coronal. Homorganic nasal-stop clusters display many unusual phonotactic patternings. I would suggest that these recurrent commonalities, and indeed the general phonotactic patterning of Gaagudju, can be most perspicaciously captured by use of Goldsmith's (1990 : 123 - 127) notion of syllabic licensing.

In Goldsmith's conceptualisation of licensing, autosegments are licensed by syllabic constituents. An autosegment may consist of a single feature (e.g. [nasal]), or a set of features (e.g. [place of articulation]). The syllable itself is the primary licenser, and licenses all the contrastive autosegments found in a particular language. In addition to this primary licenser, there may be secondary licensers, such as the coda or extrasyllabic positions. Secondary licensers typically license fewer autosegments than the primary licenser. Each licenser licenses only one occurrence of a particular autosegment.

While Goldsmith's general conceptualisation of licensing offers much promise, it appears that the actual particulars of his schema require some revision in order to account for the general phonotactic patternings shown by Gaagudju. The principal alteration required, concerns the nature of

the primary licenser. In Gaagudju it appears to be necessary to analyse the nucleus and the onset as separate individual licensers, rather than combining them under a single syllabic licenser.

The main motivation for this analysis arises from the feature analysis adopted in (4.3). Under this feature analysis all the vowels of Gaagudju, except /a/, are marked for an articulator feature. One of the principal hypotheses of licensing theory, as proposed by Goldsmith (1990 : 129), is that a particular licenser can license only one underlyingly contrastive occurrence of place of articulation features. If the syllable is analysed as a licenser in Gaagudju, then it would be necessary to accept two underlyingly contrastive occurrences of place of articulation as standard.

There is another reason for analysing the nucleus and the onset as separate licensers. The nucleus differs from all other syllabic constituents in that it may dominate two skeletal positions. The other syllabic constituents may dominate only one skeletal position. The only exceptions are those cases involving homorganic nasal-stop clusters (5.3.4), which are discussed later in this section. In Gaagudju all double nuclei are long vowels. It does not seem unreasonable to extend licensing theory to account for this pattern by proposing that the nuclear licenser not only licenses a particular set of autosegments, but also licenses double association of the root autosegment (Goldsmith proposes a similar extension of licensing theory to account for metrical patterns. 1990 : 206 - 213).

The nucleus is therefore capable of licensing two different kinds of phenomena. This double potentiality is one of the characteristics which formally marks it out as the primary licenser in Gaagudju. All other licensers simply license association, and adopt the default position of single association. The other characteristic which formally marks it as the primary licenser is the fact that it is the only obligatory syllabic constituent (5.2).

Gaagudju shows evidence of three different kinds of lexical secondary licensers. These secondary licensers are listed in (5-191).

- (5-191) Onsets.  
Codas.  
Extrasyllabic positions.

The onset licenser is the major secondary licenser. It licenses all contrastive features, and virtually all syllables have onsets (5.2). The coda is a more restricted licenser. As we will see, it licenses only a sub-set of features, and in general Gaagudju shows a preference for open syllables. The extrasyllabic licenser is the most restricted lexical licenser. It licenses only the feature [+nasal], and is essentially limited to word and enclitic-initial position. There is also a post-lexical morphemic extrasyllabic licenser of even more restricted occurrence (see 5-194 following). These are standard patterns cross-linguistically (Goldsmith 1990 : 125 - 127). However there is evidence which suggests that in Gaagudju, these patterns should not simply be analysed as a

reflection of cross-linguistic universals, but can also be understood as motivated in language-specific terms.

The relevant evidence concerns the phonotactic patterns shown by consonants at morpheme-boundaries and in clusters. There is a preponderance of grave segments morpheme-initially and in final position in clusters. The only coronal segment which occurs morpheme-initially and in final position in clusters with any frequency is the laminal stop. On the other hand, only coronal segments occur morpheme-finally, and in initial position in hetero-organic clusters. The only homorganic consonant clusters which occur are nasal-stop clusters. Further all consonant clusters conform to a sonority constraint which requires each member to have a sonority greater than or equal to that of the succeeding member. Therefore all consonant clusters differ in place or articulation and/or in sonority.

I would suggest that this pattern does not arise by chance, but instead reflects a basic constraint which requires consonant clusters to differ in either or both of place of articulation and sonority. I would in turn suggest that this constraint fundamentally functions as a syllable-boundary signal. In the majority of clusters in Gaagudju the medial syllable boundary is signalled by differences in both sonority and place of articulation. If the members of the cluster are of equal sonority, then they must have different places of articulation. If the members of the cluster share the same place of articulation, then they must have different sonorities.

With reference to place of articulation, it is generally accepted that coronal is the unmarked articulator category (Avery & Rice 1989 : 179, Goldsmith 1990 : 140, Keating 1991 : 30, Paradis & Prunet 1989 : 317). Within the coronal category, apicals are the unmarked articulator sub-category, with laminals being the marked sub-category (Dixon 1980 : 185). All [+grave] segments are marked. I would suggest that consonants belonging to the marked categories are more salient boundary markers than consonants belonging to the unmarked categories. I have already suggested in (4-232), that markedness relationships may be expressible by a hierarchy, with features bearing a numerical specification for a markedness value. This proposal requires further investigation, but if it is satisfactory, it would allow for a more detailed and constrained presentation of markedness constraints.

Consonants belonging to the marked categories are preferred when there is some special requirement for marking a syllable boundary. The two situations where there is such a special requirement, are at morpheme boundaries and in consonant clusters. The syllable boundary is signalled by a marked onset, because the onset is the major secondary licenser (only a minority of morphemes have final codas). Morpheme-initially, marked onsets function as both a syllable and a morpheme boundary signal. However the syllable-boundary signal is the common function they share with cluster-final onsets. The fact that many morpheme-initial consonants are also potentially cluster-final is another commonality. Dixon (1980 : 188 - 189) presents an analysis of this type more generally for Australian languages.

It is for these reasons that morpheme-initial and cluster-final onsets show a preponderance of grave or laminal segments. Other onsets (i.e. morpheme-medial, intervocalic onsets) show a quite different pattern.

(5-192)	Nominals	Compound Verbs	Simple Verbs
Alveolar	340	68	29
Labial	225	27	28
Retroflex	184	32	24
Palatal	108	9	6
Velar	96	6	12

Intervocalic onsets show a preponderance of coronals, with alveolars forming the largest class. It should also be noted that many of these onsets are [+continuant]. Given that marked nature of onsets in morpheme-initial and cluster-final positions, hetero-organic codas will necessarily have a less marked place of articulation. In overall terms this will permit coronal codas before grave onsets, and apical codas before laminal onsets. Intermorphemically a number of clusters potentially arise, which contravene these place of articulation constraints (5.3.3). These clusters are reduced, even if they do not violate sonority constraints (5.3.3 & 5.3.4). The one exception is that illustrated in (5-139 - 5-141), where apical clusters do not reduce across clitic boundaries. Laminal + apical clusters do however reduce across clitic boundaries (5-142 - 5-148). Therefore while the place of articulation constraints are relaxed to the degree of permitting a sequence of two unmarked consonants across clitic boundaries, they are not relaxed to the point of permitting a sequence of a marked consonant preceding an unmarked consonant.

The coda may therefore license coronal place of articulation features. Alternatively it can be underlyingly unspecified for place of articulation. A coda, which is underlyingly unspecified for place of articulation, acquires specification for this autosegment by assimilation from the following onset. I analyse all codas which are homorganic with the following onset, as being underlyingly unspecified for place of articulation. The only exception is the /nd/ clusters which arise through the operation of the assimilation rule in (5-132). This explains why grave homorganic nasal-stop clusters are much more frequent than coronal homorganic nasal-stop clusters (5.3.2). As we have seen, cluster-final onsets display a preference for grave segments. Consequently homorganic clusters will be preponderantly grave. It also partly explains why the only attested [+grave] codas occur in the homorganic nasal-stop clusters /mb/ and /ngg/.

However it does not explain why the only type of homorganic clusters attested are nasal-stop clusters. The explanation for this restriction lies in sonority constraints. The general consonant cluster constraint which requires clusters to differ in sonority if they share the same place of articulation rules out geminates. There are no morpheme-medial geminates in Gaagudju (Table 5.2). Inter-morphemically, geminates potentially arise in a

number of environments. However they are always reduced, albeit in a variety of ways (5.3.3). In this respect we may note that, while the placement of lexical syllable boundaries with respect to geminates is unproblematic (they are necessarily hetero-syllabic), the placement of post-lexical syllable boundaries with respect to geminates is frequently problematic and subject to considerable variation.

The sonority constraint in general requires each segment in a homorganic cluster to be succeeded by a segment of lower sonority. This constraint appears to be derivable from general principles. I would suggest that segments of lower sonority mark boundaries more saliently than do segments of higher sonority. Consequently, onsets will have a lower sonority than codas. In this respect the preponderance of stops and nasals in root-initial positions may be noted (Table 5.1). In Gaagudju there appears to be a specific constraint on homorganic clusters, which relates to this general pattern, though it is not derivable as a necessary consequence of it.

This specific constraint requires onsets, which occur finally in a homorganic cluster, to be stops. As stops have the lowest possible sonority, this constraint ensures that homorganic clusters will show the required sonority pattern. The most direct evidence for this constraint comes from the reduction of the tri-consonantal cluster /rrnjdj/ to /njdj/ (5-184 - 5-186). The /rrnjdj/ cluster would generally appear to be well-formed (see 5-122), and its reduction is apparently exceptional. If however, only stops can occur following homorganic codas, then its reduction is not exceptional. While /rr/ and /nj/ differ with respect to their secondary articulators, they are both coronal consonants. This constraint also explains the non-occurrence of predicted morpheme-medial consonant clusters with /nj/ as a second member. The constraint prohibits sonorants from being the second members of homorganic consonant clusters. This constraint does not apply to clusters with /y/ as a second member. However these clusters do not conform to sonority restrictions in any case, and are not classifiable as consonant clusters (5.3.2).

It also appears that there is a constraint which prevents the coda having a [-consonantal] specification. Morpheme-medially, clusters of /y/ + grave consonant clusters are predicted, but non-occurring (5.3.2). Under an assimilation analysis of codas unspecified for place of articulation, the clusters /ydj/, /wb/ and /wg/ are predicted. Both of these gaps can be accounted for by a constraint against the coda generally having a [-consonantal] specification. This constraint is probably related to the considerable variations that exist involving the placement of post-lexical syllabification boundaries with respect to the semivowels (5.2).

There remain four homorganic clusters /l+d/, /rl+rd/, /rr+d/ and /r+rd/, which are predicted but not occurring. The two lateral + stop clusters can probably be analysed as gaps. In this respect we may note that the cluster [ld] does occur phonetically in Gaagudju (4.6.1 & 5.3.2). We may also note the place name *goorlrđi*. This place name, which apparently involves a lexical /rl+rd/ cluster, occurs in Mandjurlngunj Ngaduk territory immediately

adjacent to Bunidj Gaagudju territory. The /rr+d/ and /r+rd/ clusters would probably be most uncommon because of the difficulties in auditorily distinguishing such clusters from the simple stops /d/ and /rd/.

While there is a general constraint against the coda having a [-consonantal] specification, it can do so in morpheme-final position. /y/ is attested morpheme-finally in nominal roots and in the verbal suffix -y (where it is both morpheme-final and initial). The absence of morpheme-final /w/ codas is predictable from the fact that the coda can only license coronal places of articulation. The ability of morpheme-final codas to bear a [-consonantal] specification distinguishes them from other codas. It also marks them out as being akin to extrasyllabic licensors, which are restricted to boundary positions, normally word-boundary positions (Goldsmith 1990 : 127). The formal modelling of the somewhat intermediate status of morpheme-final codas requires further investigation.

The extrasyllabic licensor is the most restricted lexical licensor. It licenses the nasal member of word and enclitic-initial homorganic nasal-stop clusters, in certain circumstances. Consequently it only licenses the feature [+nasal], and obviously has a restricted distribution. The extra-syllabic licensor is somewhat different in nature to the other lexical licensors. It may be viewed as a contingent licensor, which comes into play when the ordinary syllabification rules have not syllabified a segment. Whether or not a nasal is actually licensed by the extrasyllabic licensor appears to depend on a number of factors.

I analyse all homorganic nasal-stop clusters which occur morpheme-medially or affix-initially as being syllabified by the ordinary rules. The only exceptions occur in certain forms from the paradigms of the verbs *djorrnggoma* 'to go in' and *gabarr-nggi* 'to become daylight', which involve the tri-consonantal cluster /rrngg/. It appears that in forms, where this cluster is stressed, the nasal can syllabify with the following stop (5-181). I analyse this syllabification pattern as resulting from an exceptional, lexically marked, application of the extrasyllabic licensor. I analyse all other forms from these paradigms as being syllabified by an exceptional second pass of the coda rule (5-62). The other two forms involving morpheme-medial three member clusters, *boorgyi* 'still' and *gamarraymba'gaardu* 'palm sp' also involve an exceptional second pass of the coda rule to syllabify the medial consonant in the cluster.

With enclitics the first relevant factor is whether the enclitic is actually encliticised or not. If it is encliticised then stress is an important factor. The nasal in unstressed enclitics appears to syllabify with the preceding nucleus in all cases (5.3.4). Consequently I analyse these forms as being syllabified by the usual rules. If a three member cluster is involved, then I analyse the nasal as being syllabified by a second pass of the coda rule. This second pass is sanctioned by the enclitic boundary. The nasal in stressed enclitics only syllabifies with the preceding nucleus in faster speech (the Number enclitic sequence =mba='njoorno counts as a stressed enclitic. 5-175). The slower speech pattern results from the operation of the extra-syllabic

licensor. The faster speech pattern results from the same rules as for unstressed enclitics.

If the enclitic is preceded by a pause, then it shows the same syllabification patterns as word-initial nasal-stop clusters. If there is a slight pause, then the nasal will be maintained. If there is a significant pause before the word or enclitic, then the nasal will generally be deleted. This deletion is predicted under the ordinary syllabification rules. These rules do not syllabify the nasal in clusters preceded by a pause, given that there is no second pass of the onset rule. In this situation the nasal should be deleted as an unlicensed segment under the Stray Erasure Convention proposed by Steriade (1982 : 89).

(5-193) Erase segments and skeleton slots unless attached to higher levels of structure.

It therefore appears that the extrasyllabic licensor fails to operate when preceded by a significant pause. This highlights the essentially dependent nature of the extrasyllabic licensor. It requires some type of continuity on both sides (the exact nature of "slight" pauses clearly requires further investigation). However it also fails to operate when continuity reaches what might be described as word-internal levels. In unstressed and fast speech environments, it appears that the ordinary syllabification rules operate (allowing for an exceptional second pass of the coda rule). The ordinary syllabification rules are not clearly attested with word-initial clusters, primarily because fast speech makes many alterations in Gaagudju. However it seems likely that word-initial nasals could be syllabified with a preceding nucleus in fast speech.

In addition to the lexical extrasyllabic licensor so far described, there is also a post-lexical morphemic extrasyllabic licensor. There is a pervasive tendency in Gaagudju to reduce syllables at word boundaries in fast speech. Normally the whole syllable is deleted word-initially (4.7.4). However in verbal complexes involving the Future/Irrealis prefix form *n-*, the *n-* may be maintained when the rest of its syllable is deleted.

(5-194) *Ø-na-n-ba'laa-bara* [n-bə'lə:-bərə]  
 3IA-2E-FU-cover-Aux  
 'Will you cover him?' (402)

As illustrated in (5-194), this may result in a word-initial nasal-stop cluster, which is hetero-organic. In Goldsmith's terms this is an example of a morpheme at a word boundary acting as an extrasyllabic licensor. In this case it licenses the feature [+nasal], as does the lexical extrasyllabic licensor, and the unmarked apical point of articulation.

The two extrasyllabic licensors can be viewed as manifestations of a kind of "mid-range" repair strategy. They preserve segments, which do not fall within the scope of the basic syllabification rules, when there is some

degree of speech continuity, but not a sufficient degree to support an extension of the basic syllabification rules.

### 5.5 Sonority.

As discussed in (5.2), the Sonority Sequencing Generalisation [SSG], as presented by Selkirk (1984 : 116), captures some important universals about syllable construction. The SSG is repeated here as (5-195) for convenience.

- (5-195) In any syllable, there is a segment constituting a sonority peak that is preceded and/or followed by a sequence of segments with progressively decreasing sonority values.

One of the major universals captured by this is that there is normally no ascent in sonority in either direction from the peak. Any syllables which do show an ascent, such as those post-pausal syllables in Gaagudju with an initial homorganic nasal-stop cluster, are highly marked syllable types (5.3.4). This formulation of the SSG also accurately captures the tautosyllabic patterning of [+consonantal] segments. Neither geminates, nor sequences of consonants with identical sonority (e.g. /nm/) normally occur tautosyllabically. Again, syllables which contravene this requirement are highly marked.

However the SSG does not accommodate either long vowels or sequences of the high vowels. In present autosegmental analyses, long vowels and sequences such as /yi/ or /wu/, are analysed as single phonemic melodies linked to two adjacent skeletal positions. The fact that there is a single phonemic melody involved might suggest that the term "segment" in the SSG should be interpreted as referring to a phonemic melody, rather than to a skeletal position. However there are three reasons why this would not be a desirable interpretation. Firstly syllabification otherwise relates directly to the skeleton, and not to phonemic melodies. Secondly such an interpretation would make the incorrect prediction that tautosyllabic [+consonantal] geminates should occur regularly. Thirdly the hetero-organic high vowel sequences, /yu/, /uy/ and /wi/, would remain problematic.

Selkirk (1984 : 130) acknowledges this problem, and suggests that the SSG "may have more of the status of a surface generalisation about the structure of the syllable as a whole than that of a guiding principle of basic phonotactics." If this is the case, then it is necessary to consider how this generalisation arises. The available surface evidence shows a number of patterns. Firstly there is a major division between [+consonantal] and [-consonantal] segments. As we have seen [+consonantal] segments essentially conform to the SSG. [-consonantal] segments diverge to the extent that long vowels and high vowel sequences are permitted. However [-consonantal] segments appear otherwise to conform to the SSG. Hetero-organic sequences of mid or low vowels with identical sonority do not seem to occur, though it is not possible to be certain of this. Hayes (1990) discusses



diphthongs in a wide range of languages. There are no examples of such sequences in his data.

In Gaagudju at least, one particularly important fact is the existence of heterosyllabic sonority constraints between the members of consonant clusters (5.3.2 & 5.3.3). These constraints demonstrate that sonority cannot be analysed as a purely tautosyllabic phenomenon. The fact that clusters whose second member is a semivowel, do not conform to the sonority constraint which characterises all clusters of [+consonantal] segments, demonstrates that there are important commonalities in the parameters which are relevant to sonority in both the tautosyllabic and the heterosyllabic contexts. Kaye, Lowenstamm & Vergnaud (1990) come to essentially similar conclusions on a more general basis. They do not use the term "sonority" in their analysis, but rather use the term "charmed". However it is clear from their discussion that they are referring to sonority (*ibid* : 202 & 218).

In Gaagudju it appears that the heterosyllabic sonority constraints are motivated by boundary marking considerations. The heterosyllabic sonority constraints require each member of a cluster to have a sonority index which is higher than or equal to that of the succeeding member. I have suggested that this sonority constraint arises from the fact that segments with a lower sonority mark boundaries more saliently than segments with a higher sonority. I would suggest that boundary marking is also a relevant consideration tautosyllabically.

Specifically I would suggest that [-consonantal] segments and [+consonantal] segments differ fundamentally in that [-consonantal] segments are inherently incapable of marking boundaries. The differing tautosyllabic patternings shown by the two classes of segments follow from this fundamental distinction. Given that segments with a lower sonority mark boundaries more saliently, [+consonantal] segments are necessarily constrained to occur in an order of descending sonority tautosyllabically. Otherwise syllable boundaries could be improperly marked by a [+consonantal] segment with a higher sonority than that of a neighbouring tautosyllabic [+consonantal] segment.

[-consonantal] segments are unaffected by boundary marking constraints. Consequently clusters with a semivowel final member will be unaffected by the heterosyllabic sonority constraints. Also tautosyllabic sequences of [-consonantal] segments with identical sonority may occur. Hetero-organic sequences of [-consonantal] segments with identical sonority can only occur across syllable-constituent boundaries. This is because each licenser can only license one occurrence of the place of articulation autosegment (Goldsmith 1990 : 123). [-consonantal] segments are still affected by the basic sonority constraint, which prohibits an ascent in sonority in either direction away from the peak. This constraint obviously relates to the fact that syllable should have a single determinable sonority peak (though this peak may consist of a sequence of segments).

The analysis of sonority presented here suggests that the basic insight of the SSG should be reformulated as in (5-196).

- (5-196) In any syllable, there is a segment constituting a sonority peak that is preceded and/or followed by a sequence of segments with sonority values that do not ascend.

The requirement for [+consonantal] segments to show progressively decreasing sonority follows from the fact that segments with lower sonority preferentially mark boundaries over segments with higher sonority.

## 5.6 The Word and Word Structures.

As we have seen there are two types of words in Gaagudju; phonological words and syntactic words. Phonological words are bounded by pauses. As pause placement is quite variable in Gaagudju, the constitution of phonological words is also quite variable. The phonological word is the primary domain for the various post-lexical reduction processes which play such a prominent role in Gaagudju (5.6.3). A phonological word may consist of one or more syntactic words. A syntactic word is the output of the lexicon. All syntactic words, apart from enclitics, are potential phonological words. Phonological words which consist of more than one syntactic word are constructed by cliticisation. Cliticisation normally involves an enclitic. However I have also analysed nominal compounding and reduplication as being a post-lexical process of clisis. Consequently there are some clitic structures which do not involve enclitics. It must, however, be recognised that the status of nominal compounding and reduplication with respect to the affixation vs clisis divide is somewhat uncertain, as we will see.

Syntactic words, other than enclitics, are usually polysyllabic. The following monosyllabic and nucleus-initial disyllabic syntactic word shapes are attested

(5-197)	<i>dii</i>	'sandfly'
	<i>waarr</i>	'tendon'
	<i>aardi</i>	'thing, swag'
	<i>iinjdu</i>	'maybe, must be, I wonder'

The only pattern shown by syntactic word structures which is not derivable from constraints on syllable and/or morphological structures, is the non-occurrence of monosyllabic nucleus-initial words. Monosyllabic phonological words are uncommon in Gaagudju. (5-198) provides a complete list of acceptable monosyllabic phonological word forms.

- (5-198) *bii* 'bite.IMP', *buu* 'big river', *buu* 'hit.IMP', *buu* 'nearly, soon', *dii* 'sandfly', *djii* 'stand.IMP', *gaa* 'take.IMP', *maa* 'get.IMP', *nee* 'sit.IMP', *waarr* 'tendon', *woo* 'give.IMP'

7 out of the 11 acceptable forms are imperatives of monosyllabic simple verbs. There is only one closed monosyllabic phonological word. Given the limited size of the available Gaagudju vocabulary it is not possible to analyse the non-occurrence of nucleus-initial monosyllables as resulting from a prohibition on such forms. Nevertheless in terms of the general patterning of Australian languages (Dixon 1980 : 127), which Gaagudju conforms with in this respect, it seems likely that there is in fact such a prohibition.

### 5.6.1 Nominal Compounding and Ligatures.

Nominal compounding appears always to have been a marginal process. It is largely confined to place names, and it appears that such compounds generally refer to a dreamtime event associated with that place. Nominal compounding shows a somewhat uncertain status with respect to the distinction between affixation and clisis. There are no examples of a pause between the two halves of a nominal compound. However given the low frequency of nominal compounds, especially in conversational speech, this is not a factor of great significance. In terms of phonotactic constraints, nominal compounds conform to the patterns of clisis, rather than those of affixation (5-141). Consequently I analyse nominal compounding as a post-lexical process of clisis. Some lexicalised compounds are analysed as affixal. There are only a few compounds which directly consist of independently identifiable nominals.

- (5-199) *ga'boolbirr=nama'rdeedjurr*  
 sun=rainbow  
 'A place name referring to a sun dreaming site in Limilngan country.'
- (5-200) *ma-ma'rraagadi=ma'djiirli*  
 III-big-sand  
 'A place name referring to a long beach in Ngaduk country'
- (5-201) *giini na'rdeenjmarr*  
 nose water snake  
 'The water snake's face (a place name in Gaagudju country).'
- (5-202) *baada='yaagada*  
 leg-other side  
 'short-legged'

Of these (5-199) has already been discussed in (5-141). (5-200) refers to a site in territory associated with another language group, and as such is possibly simply a translation calque. (5-201) consists of two independent

words phonologically, and (5-202) is non-compositional in meaning. There are also a few cranberry compound structures.

(5-203) *ngarda'maa-'gooyida*  
 ?-Don't  
 'place name'

(5-204) *go'rloogo-dja'rraangu*  
 ?-?  
 'place name'

In (5-203) the second half of the compound is identifiable as the Negative imperative particle *gooyida* 'Don't' (9.7.1). The occurrence of two long vowels in (5-204), and its pitch contour suggest that it is a compound. However neither portion is identifiable. I analyse these forms as affixal compounds synchronically. There are a few compounds which consist of a verbal form and a nominal form.

(5-205) *njim-bu='ngaarndjil*  
 3IIA-went-fish  
 'She went for fish' [a place name which probably refers to the activities of a female creation figure.]

(5-206) *ma-n-da-ga'laarr=mana=ba'laadi*  
 3IIIA-3ME-PR-?-MUA-curved woomera  
 'Variety of king and western brown snakes'  
 [lit.] 'The two males are *ga'laarr*-ing a curved woomera (Class III)'

The *ga'laarr* element in (5-206) is presumably a compound verb root. However the overall verbal complex lacks the auxiliary simple verb root, which is obligatory in all compound verb structures (7-1). The same lack of an auxiliary simple verb root is found in the place name *ma-ya-ba'rdeedj=ma'djiirli*, which is discussed in (2.6). The analysis of these forms is discussed in (8.2).

Historically it appears that Gaagudju has to some degree compensated for the poverty of nominal compounding by the use of ligatures. One morpheme which appears to have originated as a ligature is the prefix *iDJ-*. This prefix cannot synchronically be analysed as a ligature, because its occurrence is essentially lexicalised. Rather it appears that it should be analysed synchronically as an augment prefix, forming stem variants. In some cases *iDJ-* variants occur in isolation.

(5-207) *idj-'baagu*  
 'Aug-kangaroo' (A698) [in an elicitation of isolated word forms]

The status of such forms is somewhat uncertain. While consultants would give *iDJ*- variants in isolation, they did not accept them as canonical forms when specifically questioned about them. Isolated *iDJ*- forms are only attested with nominal roots which commence with a labial consonant. Indeed in all but one example in the presently available data *iDJ*- is attested with labial-initial stems, usually nominal roots. As such *iDJ*- does show significant phonological conditioning. This conditioning is not fully predictive, however, as there are many labial-initial roots and stems which do not appear to show *iDJ*- variants.

*iDJ*- also shows significant morphological conditioning. Among nominals *iDJ*- is only attested with root forms. The adjective root *-baalgi* 'lots' belongs to Declension 1, and consequently takes the prefixes  $\emptyset$ - and *ma*- in Classes I and III respectively (6-24). The Class I form of this adjective is frequently attested with an *iDJ*- variant *idj*-'*baalgi*. However there are no examples of an *iDJ*- variant of the Class III form \**inj-ma*-'*baalgi*, even though the Class III form has an initial bilabial consonant. This might suggest that *iDJ*- should synchronically be analysed as a marker for Class I. However this is to be rejected for a number of reasons. Firstly *iDJ*- is optional, and class markers are not otherwise optional. Secondly *iDJ*- attaches to nouns, and nouns do not otherwise take Class marking. Thirdly such an analysis would not explain another significant fact concerning the distribution of *iDJ*- variants.

(5-208)  $\emptyset$ -*idj*-'*baalgi* *baagu*       $\emptyset$ -*nii-ri=mba*      *ma*'*gaayobu*  
 I-Aug-lots kangaroo 3IA-sit-PR=AUG shade  
 'Lots of kangaroos are sitting in the shade.' (7)

(5-209)  $\emptyset$ -*baalgi* *idj*-'*baagu*  
 I-lots Aug-kangaroo  
 'A lot of kangaroos.' (29)

Both *-baalgi* 'lots' and *baagu* 'kangaroo' have *iDJ*- variants. As (5-208 & 5-209) illustrate, either form may show an *iDJ*- variant when they are in sequence. However it does not appear that both forms could show an *iDJ*- variant when in sequence. There are no examples of such a double occurrence, even though there are a number of examples of sequences of forms which both permit *iDJ*-. Further there is the fact that *iDJ*- nearly always occurs on the second member of any sequence. Examples such as (5-208), where it occurs on the initial member are most uncommon. In some cases the *iDJ*- form encliticises to the preceding nominal.

(5-210) *ma*-'*djaawurdu=idj-ga*'*rdaabirr*  
 III-short=Aug-hair  
 'short hair' (137)

*iDJ-* is also found in a couple of nominal reduplication forms (5-231 & 5-232), and in one place name compound.

- (5-211) *na-ba'rdeeba=idj-'buurri*  
 I-long-Aug-string  
 'place name'

These facts together with the fact that *iDJ-* normally occurs on the second member of a sequence are the major pieces of evidence for its originally having been a ligature. The fact that it is largely restricted to nominal roots would also suggest this. Apart from nominal roots, *iDJ-* is also occasionally found on VCs. Nearly all such cases involve the 1+2 prefix *marra-*.

- (5-212) *ngiinja-ma ngaanj-ma Ø-inj-marro-odo-bidj-'biiri-ngi djaarli*  
 2MIN-PRM 1MIN-PRM 3IA-Aug-1+2E-cut-up-Aux-PR meat  
 'You and me, we are cutting up meat.' (304).

It may be noted that there are no examples of *iDJ-* occurring with the sequence *ma-marra-* '3IIIA-1+2E-'. However *iDJ-* is occasionally attested with *ma-* '3IIIA-'

- (5-213) *garna'djuulu inj-ma-a'rdeenj-bimi*  
 tree sp Aug-3IIIA-fall-Aux.PP  
 'The *garna'djuulu* tree fell down.' (B772)

The morpheme which functions synchronically as ligature, though with low productivity, is =*da*.

- (5-214) *Ø-baalgi idj-'buurri Ø-baalgi=da='burri*  
 I-lots Aug-string I-lots=Lig=string  
*nj-dji-bu'rree-ngi='goodo*  
 3IVA-3FE-rub-PI=DUR  
 'She made lots of string.' (A257)

- (5-215) *gu-marra'waarra=da=ba'laa-bu*  
 IV-big=Lig=talk-Aux.IMP  
 'Talk more loudly!' (A578)

- (5-216) *ngame'neega=da=Ø-'nee-bu-mu*  
 why=Lig=3IA-2E-hit-PP  
 'Why did you hit him?' (32)

As =*da* is only infrequently attested, it is not possible to set out the controls on its occurrence. This ligature also occurs in some (semi-)lexicalised compounds.

- (5-217) *ma'booliyo=da=wa'laalu*  
 outside=Lig=camp  
 'outside'

There is also a nominal substantivising enclitic=*da* (6.2), which is possibly related to the ligature =*da*. The fully productive ligatures synchronically in Gaagudju are the Indirect Object enclitics. The productive ligature functions of these enclitics are discussed in (8.7).

### 5.6.2 Nominal Reduplication.

Reduplication is essentially restricted to nominals. There is only minimal evidence of verbal reduplication (7.3). Reduplication is not generally a productive process in Gaagudju. The one exception involves the reduplication of noun roots to form adjective stems belonging to Declension 3 (6.3). I analyse this productive reduplicative process as a process of clisis. The evidence concerning the classification of nominal reduplication with respect to the distinction between affixation and clisis is somewhat uncertain, as it is with nominal compounding. There are no attested examples where there is a pause between the two halves of a Declension 3 reduplication. This favours an affixal analysis. However Declension 3 adjectives do not in general occur frequently, and it is possible that a wider database would produce examples involving pauses. This seems especially likely to me in the case of new creations such as (5-218).

- (5-218) *warn'maalay*                      *warn'maalay=warn'maalay=*  
 'mud'                                      'yellow'

The reduplication in (5-218) was given in response to an elicitation concerning a lexeme for "yellow" (Note : mud can be yellow-white in colour). It may be noted that the reduplication involves a *y=w* cluster, which is not attested elsewhere, though it is possible within affixal morphology (5-121). With respect to clusters in general, I predict that productive reduplication would pattern with nominal compounding and enclisis, rather than with affixation. The criterion distinguishing the two sets of strata is the maintenance of apical clusters across clitic boundaries, as opposed to their reduction across affixal boundaries (5.3.3). There are no relevant examples in the data. However I predict that the reduplication of *roonggon* 'hot coals' to mean "coaly" would be as in (5-219a), and not as in (5-219b).

- (5-219) a) *roonggon='roonggon=*              b) *\*roonggon='oonggon=*

The productive nature of Declension 3 reduplication also argues that it is a clitic process, as affixation is generally unproductive. Finally it is also desirable to class nominal compounding and nominal reduplication

together. They are clearly similar types of processes, though it is a question of considerable debate as to how the similarities should be formally represented. However it is not unreasonable to argue that, at least for Gaagudju, complete reduplication is simply a special case of compounding. I have suggested that nominal compounding should be analysed as a clitic relationship on much the same grounds that hold for nominal reduplication. Therefore it appears that the overall evidence favours analysing productive Declension 3 reduplication as a clitic relationship.

All examples of nominal reduplication, where the base exists independently of the reduplicated form, are complete reduplications. The one exception is set out in (5-220).

- (5-220) *goordo*=*'goordo* *ma'gaadja* *gu-'djaawurdu* *ma'gaarra* *i-'laawala*  
 R=arm that.IV IV-short that.I I-little  
*naawu* ,Ø-*djaawu-'djaawurdu*  
 3mMIN I-R-short  
 'That shirt is short. That little boy is even shorter.' (B556)

Reduplications generally show significantly different stress patterns from non-reduplicated forms. In a non-reduplicated form, the contour is low before the stress, rises sharply over the stressed syllable and remains basically high after the stressed syllable, falling off gradually. Reduplications with a monosyllabic base follow this pattern, and are not distinguishable by stress from other disyllabic words. Some reduplications with a polysyllabic base also follow this pattern. However the majority diverge from it in one of two ways. The more common pattern is for the two parts of the reduplication to be independently stressed. This pattern is found with all productive reduplications.

- (5-221) *goordo* 'arm' *goordo*=*'goordo* 'shirt'  
 (5-222) *ma'neengul* 'blood' *ma'neengul*=*ma'neengul*= 'red'

The pitch contours in (5-221 & 5-222) contrast with those found in (5-223 & 5-224).

- (5-223) *djidji'djiidji* 'bird sp'  
 (5-224) *ngalarranga'laarra* 'echidna'

All non-productive reduplications with a base greater than 2 syllables in length show independent stress, apart from (5-224). Independent stress is also the commonest pattern in non-productive reduplications with a disyllabic base. However there are a number of non-productive reduplications, with a disyllabic base, which show the pitch contour illustrated in (5-225 & 5-226).



- (5-225) *ga'rdaa-garda* 'bird sp'  
 (5-226) *ga'lee-gali* 'catfish'

These reduplicated forms differ from non-reduplicated forms in that the pitch contour falls sharply immediately after the stressed syllable, and remains low. They contrast with the forms in (5-227 & 5-228).

- (5-227) *-wa'laawala* 'little'  
 (5-228) *-yi'leeyili* 'soft'

These forms have a standard pitch contour. There are three somewhat unusual facts about the reduplications illustrated in (5-225 - 5-228). Firstly there is the occurrence of ante-penultimate stress in reduplications with a disyllabic base. Secondly there are the unusual pitch contours found in forms in (5-225 & 5-226). Thirdly there is the occurrence of vowel grade in (5-226 & 5-228). These patterns correlate with the historical operation of the stress "merger" process discussed in (5-59). There are a number of partial reduplications which also show evidence of stress "merger".

- (5-229) *njimalawa'deewadi* 'rainbow lorikeet'  
 (5-230) *maba'laabala* 'corroboree'

In addition to the reduplication types so far exemplified, there are a few examples of reduplications involving either the Augment prefix *iDJ-* (historically probably a ligature. see 5.6.1), or an extrasyllabic nasal (5.4). This use of ligatures is not unexpected, if reduplication classes with compounding.

- (5-231) *bi'naagara* 'bone'  
*bi'naagaradj-bi'naagara* 'plant sp'  
 [*\*bi'naagara-idj-bi'naagara*]
- (5-232) *waayu* 'shadow'  
*waayu-i-waayu* 'ghost'
- (5-233) *dji'boolu* 'didgeridoo'  
*dji'boolu-nj-dji'boolu* 'trachea'
- (5-234) *do'rloongo-n-do'rloongo* 'place name'

The hyphen is used to mark the boundary in non-productive reduplications with pitch contours which differ from the standard pitch

contour. Reduplications with a standard pitch contour are not marked at the reduplication boundary.

### 5.6.3 Boundary Signals.

I have suggested that boundary marking considerations play an important role in the phonology of Gaagudju. In (5.4 & 5.5) I proposed that much of the phonotactic patterning of Gaagudju can be understood in terms of syllable boundary marking requirements. Additionally, I have indicated that various other phenomena which appear to be best understood as boundary signals. There are two phenomena which appear to be best understood as marking syntactic/lexical word boundaries.

(5-235) The non-lenition of template-initial /g/ (4.6.3).

(5-236) The non-lenition of /dj/ in imperatives (4.6.5).

/g/ shows a very complex lenition pattern. However in general, it can be said that /g/ normally lenites when it occurs initially in a bound morpheme. The one situation where lenition consistently fails to occur in this environment is when the morpheme occurs in initial position in a syntactic word. A similar situation holds for the lenition of the palatal stop. It would appear that the non-application of lenition in this environment can be best understood as a boundary signal. There are two phenomena which appear to function as boundary markers for phonological words.

(5-237) The tendency for vowels in syllables at word boundaries to resist reduction at the slower speech speeds (4.7.3).

(5-238) The occurrence of [ɪ ~ i] realisations at word boundaries in the middle ranges of speech speeds (4.7.3).

The first of these is the most significant, as it applies across all word classes. The following contrasts show that the phonological word is the relevant environment.

(5-239) *gu-'djaawurdu* [gɔ-'dʒa:ɔ\$ɔɖu]  
IV-short

(5-240) *gu-'djaawurdu=da* [gɔ-'dʒa:ɔ\$ɔɖə=da]  
IV-short=SUB  
'island'

(5-241) *a'rreengi* [a'ɾɛ:ŋi]  
1A.sit.P  
'I sat'

- (5-242) *a'rreengi='godo* [aɾɛŋə='gɔ:do]  
 1A.sit.P=DUR  
 'I sat for a while.'

At faster speech speeds vowels in syllables at word boundaries do not resist reduction, and indeed they become the prime candidates for deletion (4.7.4). The fact that syllables at word boundaries pattern in directly opposite ways depending upon speech speed, provides conclusive evidence that their resistance to reduction at slower speeds is not a reflection of some invariant property of being at a word boundary. Though it presumably relates to some significant property of being at a word boundary.

The property which it appears to relate to, is the placement of pauses. In slower, more carefully monitored speech pauses are consistently placed at the boundaries of certain morphological templates. These templates are the nominal template (6-23), the verbal complex template (7-1). As such pauses will be placed at word boundaries. However in faster speech, pauses are not consistently placed at these morphological template boundaries. Therefore syllables which are at a phonological word boundary in slower speech, may not necessarily be at a word boundary in faster speech. This grammar does not examine the nature of pause placement in faster speech, owing to limitations in the database. As such the proposed relationship remains a topic for further investigation.

Whether or not the placement of pauses proves to be the relevant controlling factor, the resistance of syllables at word boundaries to reduction in slower speech appears to be best understood as being motivated by a boundary marking function. Their resistance does not appear to relate to any other factor, certainly not to stress placement. The same reasoning applies to the occurrence of [ɪ ~ i] at word boundaries (4-219 - 4-222).

Stress placement in itself does not function as a boundary marker. Stress placement with respect to both word and morphological boundaries is too inconsistent for it to have any delimitative function (5.1). However Gaagudju has a fast speech stress deletion process, which has a delimitative function akin to that of boundary marking. Phonological words may have more than one stress in Gaagudju. Most commonly a phonological word will have two stresses. However there are a few examples of phonological words with three stresses. Nominals, verbs, and most polysyllabic enclitics are stressed. Consequently any phonological word involving a combination of these syntactic words will have more than one stress. There are also a few syntactic words with two stresses.

- (5-243) *arr-'gaa-yarra-baga'rnaa-wa-ri='godo*  
 1A-3E-ask-Aux-Aux-PI=DUR  
 'He kept on asking me.' (A547)

(5-243) involves the verb *djarra-baga'rna-wa* 'to ask', which has a double auxiliary sequence (*baga'rna-wa* means 'to chase' as an independent

verb. see 7.2). With this verb the compound verb root *djarra-* and the auxiliary sequence *-baga'rna-wa* are independently stressed. The few examples of syntactic words with multiple stresses are all of this type: a compound verb root + a tri- or quadrisyllabic auxiliary sequence. While a word may involve more than one stress in careful speech, only the final stress is necessarily maintained in faster speech.

- (5-244) *ma-'rree-dja-ri='godo* [ma-rə-də-rə='gɔ:do]  
 3IIIA-1E-eat-PI=DUR  
 'I ate it.' (A10)

As such multiple stresses in phonological words are optionally subject to the leftwards reduction rule (5-21). This in turn means that the leftwards reduction rule delimits the phonological word as a domain. Leftwards reduction is commonly attested with the Durative enclitic =*godo*. It is also found in reduplications, and in compounds. It is not attested with the other stressed enclitics =*nggaana* 'LOC', =*naawu* '3MDAT', =*ngaayu* '3FDAT', =*njoorno* 'plS+O'. Neither is it attested with incorporation structures (8.7). The significance of these patterns requires further investigation.

There is one further point of interest concerning stress and the realisation of forms which have undergone the optional post-lexical operation of leftwards reduction. This point of interest relates to secondary stress. The phonetic realisation of (5-244) involves a clear disyllabic rhythmic beat pattern, as shown in (5-245).

- (5-245) *ma-'rree-dja-ri='godo* [/ma-rə-/də-rə='gɔ:do]

The underlined syllables are the beat syllables. The realisation in (5-245) may be contrasted with that in (5-246).

- (5-246) *Ø-a'rree-dja-ri* [ə're:-dʒɪ-ɹi]  
 3IA-1E-eat-PI  
 'I ate it.' (393)

There was no discernable rhythmic beat pattern to the realisation of this form. The contrast between the realisation patterns of *ma-'rree-dja-ri* 'I ate it (Class III)' and *Ø-a'rree-dja-ri* 'I ate it (Class I)' in (5-245 & 5-246) shows that the presence of primary stress significantly affects the perceptibility of secondary stress. It should be noted that the difference in realisations between (5-245 & 5-246) cannot be simply explained by deriving secondary stress placement from primary stress. In other words, it is not the case that secondary stresses are placed on every second syllable preceding the primary stressed syllable.

- (5-247) *nanjdjardamo'loongo*      [/nənɔdəðə/mə'lɔ:ŋo]  
 'tree sp'
- nang-gardambarn'geengi*      [nəŋ-gəɔðəm/bən'gɛ:ŋi]  
 IV-black

The two forms in (5-247) are phonotactically parallel to the form in (5-245): both are six-syllable forms with penultimate stress. However, in so far as a rhythmic beat structure was discernable, they appeared to consist of two trisyllabic feet with initial beat syllables. The system of rhythmic secondary stresses requires further investigation. (5-245 - 5-247) provide a clear illustration of the fact that there is no direct correlation between secondary and primary stress in Gaagudju.

### 5.7 Rule Ordering.

Given the highly lexicalised nature of much of Gaagudju phonology, it has been necessary to propose a considerable number of rules in this chapter and the preceding chapter. This section examines the ordering relationships that exist among these rules. The required orderings are set out in (5-248 - 5-251)

(5-248) Exceptionless Lexical Rules.

Syllabification rules (5-60 - 5-62)

Rightwards Stress Reduction rule (5-20)

Consonant Cluster Assimilation and Reduction Rules (5-135, 5-156, 5-157, 5-161, 5-162, 5-184)

(5-249) String Dependent Rules

Velar stop lenition rules (4-98, 4-199, 4-100). Velar nasal lenition rule (4-114). Palatal stop lenition rule (4-116). Consonant Cluster Assimilation and Reduction Rules (5-132, 5-136, 5-155)

Leftwards Stress Reduction rule (5-21)

String dependent stress shift rules (5-45, 5-56)

Stress Shift Rules (5-38, 5-40)

String dependent Rightwards Stress Shift rule (5-52)

Post-lenition vowel merger rule (4-76).

Stress Lengthening Rule (5-51).

Vowel allophony, grade and harmony rules (4-122, 4-127, 4-145, 4-153, 4-168, 4-169, 4-176, 4-263, 4-264, 4-265, 5-152)

(5-250) Post-lexical - Syntax.

Cliticisation.

Consonant Cluster Reduction Rules (5-155, 5-184)

Leftwards Stress Reduction rule (5-21)

(5-251) Post-lexical - Phonetic Implementation.

Vowel tensing rules (4-171, 4-172, 4-173)

Various vowel and syllable reduction processes (4.7.3 & 4.7.4)

Lateral stopping (4-49)

Apical lenition and fortition rules (4.6.2)

In the majority of cases, either no ordering relationship exists, or the required ordering follows from general principles or external requirements. The model of the lexicon adopted (Lieber 1981), has inherent ordering principles. It requires that string dependent rules should apply as a block after lexical structure building (4.2). I have analysed any rule which is either triggered by a diacritic, or subject to a constraint diacritic, as a string dependent rule. The Elsewhere Condition (Kiparsky 1973), which requires that more specific rules apply before more general rules, also appears to be an important ordering principle. It orders the various stress rules (5.1.2), and the consonant cluster assimilation and reduction rules (5.3.3), with respect to one another. The ordering of the specific rightwards stress shift rule (5-52) after the general rightwards stress shift rule (5-38) is an exception to the Elsewhere Condition. However the specific rightwards stress shift rule usually derives the numerically preferred penultimate stress from an antepenultimate stress. As such it can be viewed as a quasi-repair rule, which provides some motivation for its exceptional ordering.

## CHAPTER 6

## NOMINALS

## 6.1 Parts of Speech.

The model of the lexicon adopted for this grammar is that of Lieber (1981). Consequently it is lexical entries, rather than words, which are classified into parts of speech. Monomorphemic lexical entries may be classified as either affixes or stems (Lieber 1981 : 37)

- (6-1) Affix : a morpheme whose lexical entry specifies some sort of lexical terminal to which it can attach.  
 Stem : a morpheme whose lexical entry does not sub-categorise another morpheme.

There is a significant distinction between affixes and clitics in Gaagudju (4.2). Lieber's definition of the term "affix" includes both affixes and clitics. Therefore any reference to clitics should be understood as falling within the scope of Lieber's definition of the term "affix". Within Lieber's (1981 : 43) theory, both stems and affixes may be roots.

- (6-2) Root : the least element in a partial ordering of lexical terminals.

Affixes receive a part of speech classification in the same way as stems. The classification presented here makes use of morphological and syntactic criteria. The most salient part of speech division in Gaagudju is between verbal and non-verbal stems. Verbal stems take suffixal inflection indicating tense, mood, and aspect. The internal structuring of verbal stems is discussed in (7.1). All other stems are non-verbal stems. Within the class of non-verbal stems, the major division is between nominals and particles. Nominal stems may function as predicates in verbless clauses of ascription, equation, existence and possession (9.10 & 9.11). Particles cannot so function.

Table 6.1 sets out the criteria which are used to formally distinguish the various nominal parts of speech that occur in Gaagudju. The distinguishing characteristic of personal pronouns formally, is their occurrence in certain suffixal relationships (6.6). The suffixes *-ma* 'Prominence', *-gaduwa* 'alone', and *-yirri* 'self' occur only with the personal pronouns. The number markers and the ordinal 'first' marker *-ru*, are found as suffixes only with the personal pronouns. Not all the personal pronoun stems are attested in these particular suffixal relationships. However they are all related by morpholexical rules. Therefore personal pronouns may be formally defined as that class of morpholexically related nominal stems, which includes stems able to enter into suffixal relationships with *-ma* 'Prominence', *-gaduwa* 'alone', *-yirri* 'self', the Number markers and the Ordinal 'first' marker.

Table 6.1 : Nominal Parts of Speech.

	<u>Possessor</u>	<u>Person</u>	<u>Class</u>	<u>Number</u>	<u>Membership</u>
Adjectives	No	Yes	Yes	Usual	Declensions 1 & 2 : closed Declension 3 : open
Demonstratives	No	No	Yes	Usual	Closed
Kin nouns	Yes	No	Some	Obligatory	Closed
Nouns	No	No	No	Exceptional	Open
Pronouns	No	Yes	Yes	Obligatory	Closed

Person refers to the presence of marking for the 1st, 1+2, and 2nd persons.  
 Class refers to the presence of marking for classes within the 3rd person.



Adjectives are that class of nominal stems which take inflection for all persons. Inflection for 1st, 1+2 and 2nd person is the critical factor distinguishing adjectives from all other types of nominals. Demonstratives and kin nouns may show inflection for the various classes in the 3rd person. However adjectives are the only nominal subclass which show inflection for the non-3rd persons (6.3). Adjectives are divided into three declensions in Gaagudju (6.3). As we will see, two of the adjectival declensions inflect on a pattern similar to that of intransitive verbs (7.5.2 & Table 7.3).

The defining characteristic of kin nouns is that they may take inflection, or form compounds, to indicate the possessor (3.5). As discussed in (3.5), the nominal-*gu'waalawa* 'mother's country' is formally a kin noun. There is also the polysemous noun *wa'laalu* 'camp, country, ground, place'. In the sense of 'owned territory', this noun occurs in a special possessive construction which is closely formally parallel to the kin noun possessive constructions (3.5).

The demonstrative class is defined by both positive and negative criteria. Demonstratives are that class of nominals which show paradigmatic variation for noun class, but which are neither personal pronouns, adjectives, nor kin nouns. That is, they do not take the suffixes which are criterial for the pronouns, nor do they show paradigmatic variation for 1st, 1+2 and 2nd person, and so they are not adjectives. Neither do they show inflection for possession, and therefore they are not kin nouns.

The remaining nominal stems belong to the class of nouns. Nouns do not show any marking for person. Nouns constitute one of the major open classes of Gaagudju. The only other open nominal class is the adjectival declension 3 (6.3). The other nominal classes are all closed classes. The verbal class is to a large extent closed in Gaagudju (7.2 & 8.3). There does not appear to be any reason to set up an adverbial class, distinct from nominals and particles. Adverbial notions are chiefly conveyed by nominals in Gaagudju. The particle class includes clausal modifiers (9.13), conjunctions (9.12), certain verbal particles (7.4), and interjections.

Having set out the various formally definable parts of speech, it is necessary to consider the relationships that exist between these formally definable parts of speech, and the corresponding classes defined semantically on a cross-linguistic basis. The division between the three major formally definable parts of speech; verbs, nominals, and particles, conforms generally to the standard cross-linguistic division. Events are described by verbs, entities and qualities are described by nominals, and modal opinion and conjunctive meanings are expressed by particles. There are naturally some apparently idiosyncratic variations, but these do not appear to be of significance.

Within the nominal class, the pronoun and kin noun classes also correspond to the classes that are semantically defined on a cross-linguistic basis. However the adjective and demonstrative classes do not conform that well to the corresponding semantically defined classes. The adjective class includes a number of stems which are not prototypically adjectives, and conversely a considerable number of prototypically

adjectival stems are not members of the formal adjective class in Gaagudju (6.3). Corresponding to the formal demonstrative class is the semantically defined determiner class, which consists of all morphemes which bear an inherent specification for definiteness (6.7). Most demonstratives are semantically determiners, and conversely all definite determiners are formally demonstratives (6.7.3). However only one of the indefinite determiners is a demonstrative. Also, the numerals may be analysed as members of the formal demonstrative class (8.5.6).

The rather imperfect match between the formal adjective and demonstrative classes, and their corresponding semantic classes would suggest that some further motivation for positing the formal classes is required, beyond the considerations of class and person marking patterns so far examined. This further motivation is found in the patterning of the Number enclitics (8.5.7). There is a significant correlation between the formally definable nominal sub-classes, and the appearance of the Number enclitics. Pronouns and kin nouns obligatorily take number marking. Adjectives, and demonstratives normally do so, whereas nouns do not normally do so.

The distinction in number marking patterns between nouns on the one hand, and adjectives and demonstratives on the other hand, does not have any obvious basis in semantics of the root classes themselves. Rather it appears to follow from the fact that Number marking forms part of a unified overall system of person, class and number marking (8.5.7). Adjective and demonstrative stems are class-marked, and so they normally take Number marking. Noun stems are not class-marked, and so they do not normally take Number marking. Therefore class and person marking patterns do have an important correlate in another morphological system, and this provides the required further motivation for using class and person marking pattern as criteria for formal classes.

Despite the fact that the various nominal part of speech classes are defined by formal criteria, this chapter examines nominal sub-classes chiefly from a semantic viewpoint. The discussion in (6.3) on adjectives is largely concerned with the formal adjective class, but it also includes consideration of those nouns which are "adjectival" in meaning. The classes of determiners (6.7), locationals (6.8), and temporals (6.9), are all semantically defined classes of nominals. The determiner class includes both demonstratives and nouns.

## 6.2 The Structure of Nominal Lexemes.

The great majority of nominal lexemes in the available data are unanalysable root forms. However nominal lexemes may also be clauses, phrases, or stems derived formally from other nominal roots. Clausal lexemes are chiefly restricted to place names (5-205). The only clausal lexeme which is not a place name is set out in (6-3).

- (6-3) *ma-n-da-ga'laarr=mana=ba'laadi*  
 3IIIA-3ME-PR-?=MUA=curved woomera  
 'Black-nosed varieties of king and western brown snakes'  
 [lit. 'The two males are *ga'laarr*-ing a curved woomera.']

Phrasal lexemes occur as either compounds or reduplications. Phrasal lexemes show a variety of internal structures. Rarely compound forms will consist of two independent phonological words.

- (6-4) *gu'baardi ma'djaawarr*  
 foot ?  
 'girl who has had her first period'  
 [*madjawarr* is a spear type in Gunwinjgu. It does not however apparently occur as an independent lexeme in Gaagudju.]

However usually the constituents of the phrasal lexeme are cliticised together. Compounds and reduplications differ in that compounds usually involve the use of a ligature, whereas reduplications do not productively do so (5.6.1 & 5.6.2). Reduplication productively derives Declension 3 adjective stems from noun roots in Gaagudju (5.6.2 & 6.3). The productivity of compounding is uncertain. A number of compounds in Gaagudju are highly lexicalised in nature.

- (6-5) *ngoondji='goordo*  
 other=arm  
 'someone else'
- (6-6) *goornmu=da=wa'laalu*  
 morning=Lig=camp/times  
 'darkness'

Apart from functioning as a ligature, the =*da* enclitic also serves to derive noun stems in Gaagudju. The derivational functions of the =*da* enclitic are rather lexicalised in nature. In some constructions it functions as a substantiviser. This substantivising function is perhaps most clearly illustrated with the lexeme in (6-7).

- (6-7) *gu'maali ~ gu'maali=da* 'forbidden, sacred, taboo'  
*gu'maali=da* 'policeman'

In the "adjectival" sense of 'forbidden, etc', this lexeme exists in two forms. However the "noun" sense of the lexeme, 'policeman (forbidden one)', can only be conveyed by the variant with the =*da* substantiviser. The form =*da* does not appear to function productively as a substantiviser (see 5-240 & 3-16 for examples of =*da* functioning as a substantiviser with adjectival and clausal forms). This form also appears in a variety of other miscellaneous functions. It functions within the system of possession marking for kin nouns (3.5). It has an instrumental derivational function in (6-8).

- (6-8)        *gu'baardi*                              'foot'  
                  *gu'baardi=da*                              'on foot'

It is found with the locationals (6.8), in an apparently intensive kind of function.

- (6-9)        *gaanggi=da='gaanggi=da*  
                  high=Lig=high=?int  
                  'on top' (B184 - meaning unclear)
- (6-10)      *a'rdaagawa gu'diiru=da ma'gaadja nj-dja-dja'rree-gi*  
                  place name front=?int that.IV 3IVA-PR-go down-Aux  
                  *ma'gaadja go'rdaawu a'rdaagawa ma'djiirli*  
                  that.IV place name place name place name  
                  'A'rdaagawa is in front, they go down (the river) those (places);  
                  Go'rdaawu, A'rdaagawa, and Ma'djiirli.' (B259)
- (6-11)      *baangarda=da=wa*  
                  middle=?int=?int  
                  'in the middle' (B23 - meaning unclear)

The form in (6-11) involves the further addition of another enclitic *=wa*, which also appears to be intensive in meaning. The combination *-da-wa* is also attested with the root *ga'rdaaman* 'Be quiet!' in an apparently intensive meaning.

- (6-12)      *ga'rdaaman*                              *ga'rdaama-da-wa*  
                  'be quiet!'                                      'Be really quiet!'

However (6-12) must be analysed as involving affixation, as the deletion of the final /n/ from *ga'rdaaman* is not predictable. The two stems must simply be listed by a morpholexical rule (4.2). The form *=wa* is independently attested.

- (6-13)      *djoormoda=wa bu'rroo-ya ngaarndjil*  
                  straight=int spear.fish-IMP fish  
                  'Spear the fish straight!' (B847)

- (6-14)      *-ngaarndada*                              *-ngaarndada=wa*  
                  -good    -good=int

It is attested with some reasonable frequency with *-ngaarndada*, but is otherwise rare. The adjective *-ngaarndada* 'good' may also be intensified by use of an enclitic *=baalbu*.

- (6-15)      *-ngaarndada*                              *-ngaarndada='baalbu*  
                  -good    -good=very

This enclitic is not otherwise attested in a synchronically analysable form. However it was probably historically a constituent of the lexeme *anmarra'baalbu* 'old man'. Another variant sequence involving the =*da* enclitic is =*la=da*. The synchronic status of this enclitic sequence is uncertain.

(6-16)      *goornmu*                      *goornmalada*  
              'morning'                      'tomorrow'

(6-17)      *gu'rneembu*  
              'goose'

?*gu'rneembu=la=da*

goose=?=?SUB

'Place name (referring to a site associated with a dreamtime goose)'

This sequence appears to be historically involved in the pair of related forms in (6-16). It is also probably involved in the place name in (6-17). This sequence is apparently found in a number of place names in Gaagudju territory. However I am not certain of the exact form of most of these, including that in (6-17). They appear in various stories in Berndt & Berndt (1989), and my consultants did not recognise these particular names. The general patterning would suggest that the =*la=da* sequence had some level of productivity with place names at least. The degree of lexicalisation and the rather miscellaneous uses shown by the =*da* enclitic would suggest that it is of some antiquity in Gaagudju.

The productive ligatures in Gaagudju are the Indirect Object enclitics (8.6 & 8.7). The Indirect Object enclitics are also found with a derivational function in a few forms.

(6-18).      *dji'maardbu*                      *dji'maardbu=nu*  
              'to wave'                      'right hand'

(6-19)      *goordo*                              *goordo=nu*  
              'arm'                              'creek'

The other set of bound morphemes which have derivational functions are the Declension 1 noun class prefixes (6.3).

(6-20)      *gaan.girr*                              *njing'gaan.girr*  
              'skin'                              'freshwater crocodile'

(6-21)      *woorlo*                              *ma'boorlo*  
              'navel'                              'belly'

(6-22)      *biirda*                              *gu'biirda*  
              'hard, tough'                      'tree sp'

The certainty of the derivational relationship between the pairs in (6-20 - 6-22) obviously varies considerably. The derivational use of the Declension 1 noun class prefixes has been of an extent sufficient to affect the phonotactic patternings of the language. Of the 18 synchronically unanalysable nominal roots which commence with the palatal nasal /nj/ (Table 5.1), it appears that 13 involved the Class II prefix *njiN-* historically.

Leaving clausal and phrasal lexemes aside, nominal lexemes maximally have the structure set out in (6-23).

(6-23) (Prefix) + Root + (Enclitic/suffix) + (Enclitic/suffix)

The analysis of forms as involving enclitics or suffixes is dependent on whether the forms show evidence of affixal phonological processes. Suffixes are essentially confined to the personal pronouns (6.6), and the demonstratives (6.7.3). As we have seen in this section, the synchronic analysability of enclitic sequences is rather doubtful. Indeed the synchronic analysability of nominal lexemes involving single enclitics is also rather doubtful.

Apart from the noun class prefixes (6.3), there are only two sets of prefixes found with nominals. The Prominence marker is found as a prefix with some demonstratives (6.7.3), and some of the kin noun possessive forms are prefixes (Table 3.7). The synchronic analysability of nominal forms involving class prefixes is not generally in doubt.

### 6.3 Adjectives.

Adjectives are divided into three declensions in Gaagudju. The inflectional patterns of the three declensions are set out in (6-24).

(6-24)	Declension 1	Declension 2	Declension 3
1	<i>arr-</i>	<i>arr-</i>	= <i>nga</i>
1+2	<i>marra-</i>	<i>marra-</i>	= <i>mani</i>
2	<i>njin-</i>	<i>njin-</i>	= <i>nja</i>
3I	Ø-	<i>na-</i>	= <i>nu</i>
3II	<i>njiN-</i>	<i>njiN-</i>	= <i>yu</i>
3III	<i>ma-</i>	<i>naN-</i>	= <i>yu</i>
3IV	<i>gu-</i>	<i>naN-</i>	= <i>yu</i>

The prefixes found with Declensions 1 and 2 are similar to those found with intransitive verbs (7.5 & Table 7.3). Declension 3 takes the Indirect Object enclitics (8.6). Each adjective stem is assigned exclusively to one of the three declensions. The stems associated with each Declension are listed in (6-25 - 6-27) following.

#### (6-25) Declension 1 stems.

*-baalgi* 'lots', *-djaawurdu* 'short', *-djiildja* 'dripping', *-djiinba* 'reason', *-garraba'rnaadjinggi* ~ *-garraba'rnaadju* 'phratry name', *-ga'rradjawa* 'phratry name', *-garra'ngaalbu* 'phratry name',

-*garrma'ngiiru* 'phratry name', -*marra'buumbada* 'second born', -*ma'rraagadi* 'big (of a part)', -*marra'waarra* 'big', -*ngaarndada* 'good', -*ngaarnnga* 'keep on doing', -*ngol'waayuwa* 'body', -*wa'laawala* 'little', -*yi'leeyili* 'soft'

(6-26) Declension 2 stems.

(a) Adjectives.

-*ba'doorrodjbu* 'crooked', -*ba'rdeeba* 'tall', -*baya'laala* 'children', -*biirida* 'alive', -*boordbi* 'dry', -*boordi* 'ripe', -*gaba'rraabarra* 'wide', -*ga'deenggadi* 'mature', -*gardabilama'reerri* 'dirty (of water)', -*ga'rdaabumu* 'heavy', -*gardambarn'geengi* 'black', -*giirdi* 'wet', -*giirri* 'new', -*goodji* 'cold', -*goma'laagardi* 'young person', -*go'roobiri* 'Not X', -*gudbu'gaarra* 'sibling of deceased', -*goordomalay* 'widow(er)', -*ma'rlaadja* 'orphan'

(b) Kin Nouns

-*goma'gaali* 'spouse', -*goombardi* 'mC', -*la'birri* 'younger sibling (address)'

(6-27) Declension 3 Stems

*djiirri*=*'djiirri*= 'cheeky, dangerous' [*djiirri* 'trouble'], *ga'rdaawu*=*ga'rdaawu*= 'cheeky, annoying' [*ga'rdaawu* 'disrespect'], *goordo*=*'goordo*= 'strong' [*goordo* 'arm'], *ma'neengul*=*ma'neengul*= 'red' [*ma'neengul* 'blood'], *ma'rdaala*=*ma'rdaala*= 'slippery' [*ma'rdaala* 'spit'], *maarrgi*= 'clever' [*maarrgi* 'to suck blood (by a native doctor)']

The major division among the declensions is that between Declensions 1 and 2 on the one hand, and Declension 3 on the other. Declensions 1 and 2 are closed declensions which make use of largely similar prefixal paradigms. It is only in the 3I, 3II and 3IV forms that the two prefixal paradigms are in fact distinct. Declension 3 is an open declension, which makes use of the Indirect Object enclitics (8.6). Declension 3 stems may be productively formed by reduplication of noun roots. All Declension 3 stems, other than *maarrgi* 'clever', involve reduplication.

Declension 1 and 2 stems are usually mono-morphemic. A comparison of the stems belonging to Declension 1 with those belonging to Declension 2 suggests that the distinction between the two declensions was in origin phonological (see 6.4). Nearly all stems which belong to Declension 2 commence with a [+grave] stop, and conversely nearly all stems which commence with some other segment belong to Declension 1. The only Declension 2 stems which commence with some other segment are -*ma'rlaadja* 'orphan' and -*la'birri* 'younger sibling (address)'. The only Declension 1 stems with an initial [+grave] stop are -*baalgi* 'lots', and the four phratry terms which have an initial velar stop. However the four

phratry terms have an irregular Class I form, involving lenition of the initial /g/ to /y/ (4-74).

There are a number of other irregularities found in Declensions 1 and 2, chiefly involving the Class I forms. The Class I forms of Declension 1 stems with an initial velar nasal, show an alteration of that initial velar nasal to a palatal nasal (5-163).

- |        |  |   |
|--------|--|---|
| (6-28) | -ngaarndada 'good'<br>Ø-njaarndada<br>I-good | -ngaarnnga 'keep on doing'<br>Ø-njaarnga<br>I-keep on doing |
|--------|--|---|

A couple of Class I forms involve a prefix (y)i-

- |        |   |  |
|--------|---|--|
| (6-29) | -wa'laawala 'little'<br>i-'laawala<br>I-little        | -ga'deenggadi 'mature'<br>i-ya'deenggadi<br>I-mature   |
|        | -yi-'waala<br>-I-Y.Sibling<br>'younger brother (ref)' | -nji-'waala<br>-II-Y.Sibling<br>'younger sister (ref)' |

Both of these variations are found in the verbal pronominal prefix system (7.5.2). Irregularities are also found with Class II forms. The Class II form of stems with an initial palatal stop is *nj-*, and not the predicted \**njinj-*.

- |        |                                 |
|--------|---------------------------------|
| (6-30) | <i>nj-djaawurdu</i><br>II-short |
|--------|---------------------------------|

It does not appear that semantic factors play a major role in the organisation of the adjective class in Gaagudju. The distribution of adjectives stems between the three declensions certainly does not show any obvious semantic conditioning. Further there are a considerable number of stems with "adjectival" meanings, which are formally nouns.

- (6-31) *biirda* 'tough, hard', *boornay* 'dirty (of water)', *djabalodja'rroonggo* 'full (of water)', *dji'biiri* 'blunt', *dji'biiyiba* 'slow', *djirda'laala* 'pretty', *djoorrmoda* 'straight', *gabala'baala* 'white', *gaadju-'gaadju* 'alive', *ga'moomo* 'blind', *ga'raaba* 'sharp', *garlarl'boobo* 'lightweight', *go'rdooginggi* 'shallow', *gu'maali* 'forbidden', *gu'noorru* 'smelly', *ma'gaawala* 'fast', *maalbarr* 'very', *maardarn* 'a few', *ma'rdaarra* 'flat', *ma'rooru* 'deaf', *moonda* 'bad', *ngoondji* 'other'

Dixon (1982 : 16) argues that the following semantic cryptotypes are cross-linguistically associated with the adjective class.

- |        |   |
|--------|---|
| (6-32) | Dimension, Physical Property, Colour, Human Propensity, Age, Value, Speed |
|--------|---|



The majority of adjectival stems in Gaagudju can be assigned to one or other of these cryptotypes, and it is on this ground that this formally definable part of speech class is termed the adjective class. However there is obviously no clear-cut one-to-one correspondence between the adjective class, as defined on cross-linguistic grounds, and the Gaagudju adjective class. There are a number of formally adjectival stems, which are not assignable to any of the cryptotypes in (6-32). Conversely, there are a considerable number of stems, which are assignable to one of these cryptotypes, but which are not formally adjectival stems.

#### 6.4 Noun Class Membership.

Membership of the four noun classes proceeds on a largely principled basis semantically. The following concepts are associated with each of the classes.

(6-33)

- |     |   |
|-----|---|
| I   | Human males, Most animates, European material objects, Rain           |
| II  | Human females, Some animates  |
| III | Plants and their parts, Weapons                                       |
| IV  | Abstract entities, Body parts, Fire, Geographical features, Temporals |

Classes II and III show the greatest degree of internal semantic consistency. Class I shows a somewhat lesser degree of internal semantic consistency. Class IV is essentially a residue class, though nouns associated with the domains listed for Class IV in (6-33), belong to Class IV with reasonable consistency. Class IV is also the class for other types of reference. Adjectives normally take Class IV marking when they have an adverbial function.

(6-34) *anmarra'baalbu ma-n-da-ba'rlaa-bu-njdji gu-'ngaarndada*  
 old man 3IIIA-3ME-PR-sing-Aux-PR IV-well  
 'The old man sings well.' (C106)

(6-35) *arr-dja'rree-ni-ngi gu-marra'waarra maadada*  
 1A-pain-Aux-PI IV-big night  
 'I was in really bad pain last night.' (B167)

Adjectives with Class I marking in an adverbial function, are occasionally attested.

(6-36) *ba'rraanggirr anmarra'baalbu Ø-n-darrbo'loo-wa-ri*  
 old days old man 3IA-3ME-track-Aux-PI  
*baagu Ø-njaarndada*  
 kangaroo I-well  
 'In the old days, the old man used to track kangaroos well.'  
 (B922)

However it is possible that examples such as (6-36) could be analysed as involving secondary predication of the adjective (Nichols 1978). In Gaagudju the temporal interrogative meaning 'when' is conveyed by a verbal construction. This verbal construction has a Class IV Subject (6-117 & 6-118). Demonstrative forms functioning as conjunctions normally take Class IV marking (9.12.3). The "residue" semantic nature of Class IV, and its range of "syntactic" functions establish that it is the semantically unmarked class in Gaagudju.

It was not possible to determine the class membership of all nouns in Gaagudju. Nouns do not, themselves, bear any overt marking of class membership (6.1). The class membership of nouns is determined from the concord patterns shown by adjectives, demonstratives and verbs. However Gaagudju has a number of "adjectival" nouns (6-31). In many cases it did not prove possible to construct plausible elicitation scenarios where these nouns would govern modifiers or verbs. The class membership of these nouns is therefore unknown.

Given that my consultants had not actively used Gaagudju with any frequency for many years, it was unsurprising to find that there were cases where they were uncertain as to the correct concord class for some nouns. Predictably, these nouns all had a low frequencies of usage. In nearly all cases it was possible to determine the correct class by re-checking. My principal consultant, P.B, showed a very high level of consistency in her assessment of the canonical class membership of nouns. There was only one noun which she stated had dual class membership; *gaabala* 'large boat', which can apparently be either Class I or Class III (as we will see both memberships may be motivated).

My consultants' principal daily language was Gunwinjgu. Gunwinjgu has a prefixal class marking system, which is similar in some aspects to that found in Gaagudju. The actual prefix forms are mostly quite unrelated, and there are also many aspects in which the two class marking systems differ. However in terms of the semantic organisation of their "canonical" concord marking systems, the two languages are quite similar. Gunwinjgu has a four class "canonical" concord marking system. The classes are associated with the following concepts.

(6-37)

- |     |  |
|-----|--|
| I   | Human males, Most animates, Rain                                 |
| II  | Human females, Some animates                                     |
| III | Plants and their parts, Weapons                                  |
| IV  | Residue class, including Body parts, Fire, Geographical features |

Despite the obvious similarities between this system, and the Gaagudju system set out in (6-33), there was no obvious evidence of influence from Gunwinjgu classification systems on the Gaagudju classifications given by my consultants. For example, in Gaagudju and the Gundjeyhmi dialect of Gunwinjgu, the lexemes for 'milkwood tree' are *djaanjaja* and *man-djenjdjok* respectively. It is highly likely that these two forms are diffusionally related. Even if they are not, they show a

phonological similarity, which is presumably obvious to speakers. On general grounds, it would be predicted that this lexeme would belong to Class III in terms of concord, and indeed it does so in Gundjeyhmi. However P.B consistently assigned this lexeme to Class I in Gaagudju.

Similarly the internal morphological structure of nominal lexemes did not generally appear to have any effect on my consultants' assessment of class membership.

(6-38)	<i>dji'maardbu</i> to wave 'to wave'	<i>dji'maardbu=nu</i> to wave=3MIO 'right hand'
--------	--	---

The form for 'right hand' *dji'maardbu=nu* formally involves the 3MIO enclitic =*nu*. It might therefore be predicted that it would belong to Class I. However it belongs to Class IV, which is the unmarked class choice for lexemes referring to body parts. An even more convincing example of the fact that internal morphological structure does not appear to have been a significant influence on consultants' judgements is provided by (6-39).

(6-39)	<i>dju'baarra</i> 'tree (generic)'	<i>madju'baarra</i> 'tree sp'
--------	---------------------------------------	----------------------------------

*dju'baarra* 'tree' is Class III, as would be predicted. However the lexeme *madju'baarra*, which appears to involve a derivational use of the Class III prefix form *ma-*, was nevertheless consistently assigned to Class I by P.B. The one case where internal morphological structure did appear to be relevant was with the pair in (6-40).

(6-40)	<i>bi'naagara</i> 'bone'	<i>bi'naagaradj-bi'naagara</i> 'plant sp'
--------	-----------------------------	--

*bi'naagara* 'bone' belongs to Class I. The lexeme *bi'naagaradj-bi'naagara* was comparatively unfamiliar to my consultants. It received both Class I and Class III concord. After considerable discussion, it was agreed that it properly belonged to Class III. It appears likely that the Class I concord derives, at least in part, from the obvious morphological relationship to the Class I form *bi'naagara* 'bone'.

The noun *bi'naagara* 'bone' is one of those nouns which shows a class membership which is unmotivated in terms of the system set out in (6-33). As would be predicted, there are a number of these apparent exceptions. A full examination of the semantic motivations which underlie the noun class system in Gaagudju is beyond the scope of this grammar. It requires a detailed comparison with class systems found in other Australian languages, and a consideration of the ideological nature of gender based oppositions within patterns of Aboriginal social organisation. These issues are examined in Harvey (MSa).

Within the scope of this grammar it may be noted that the principles of semantic organisation for noun classes set out by Dixon (1982

: 178 - 183) are operative in Gaagudju. Mythological associations appear to be of significance in some cases. For example, most lexemes referring to bee species belong to Class I, the unmarked class for animates. However the lexeme *marr'gaardba* 'bee sp' belongs to Class II. In Berndt & Berndt (1989 : 102), there is a reference to the location of a dreaming site for the *marr'gaardba* (medgadba) honey woman in Ngaduk territory, to the north of Gaagudju country. The *marr'gaardba* bee sp is therefore mythologically associated with human femininity, which is the principal semantic domain of Class II. Other types of association to a prominent domain within a class also appear to be of significance. For example the most prominent domain associated with Class III is plants. It is likely that weapons are in Class III, because weapons were chiefly made from plants, at least in pre-contact times.

As is virtually universal in systems which mark gender, human nouns take concord according to the gender of their referent. Thus a noun such as *biibi* 'MF, MFZ' will take Class I or Class II concord depending on the gender of the referent. The one exception is *ba'yaalala* 'baby' which invariably takes Class I concord (I am not entirely certain that this lexeme can in fact refer to female babies). Nouns referring to spirits and corpses all take Class I concord.

In addition to these semantically based principles for concord, Gaagudju also shows one phonologically based principle for concord in Class III. The most salient Class III marker is the prefix *ma-*. Of the 41 Class III nouns which are neither plants nor weapons, 24 commence with /m/, and of these 22 commence with /ma/. In nearly all these cases there is no evidence that these initial segments derive diachronically from a derivational use of the Class III prefix *ma-* (6-24). Rather it would appear that concord is determined by the phonological similarity between the initial segment of the noun and the Class III prefix (see 6.3 for a discussion of initial segments determining adjectival declension membership). This phonological principle has operated in post-contact times with the assignment of the lexeme *moodiga* 'motor car' to Class III. European material objects are otherwise assigned to Class I (6-33). It is presumably by association with *moodiga* that the borrowed lexeme 'plane' takes Class III concord. The assignment of *gaabala* 'large boat' both to Class I and to Class III may also be understood in this context.

### 6.5 Concordial Superclassing.

The preceding discussion of noun class membership in (6.4) was concerned with "canonical" concord patterns. These are the concord patterns shown in carefully monitored speech, when there is some focus on the correct concord pattern. However in more fluent, less carefully monitored speech other concord patterns may occur. Class II nouns may exhibit Class I concord.

- (6-41) *yaana-ngga nj-djaa-yu u'luunggulu*  
 where-IV 3IIA-PR-lie old woman  
 'Where does the old woman live?'

*naabirri nj-djaa-yu ga'boondji gu-marra'waarra*  
 I.there 3IIA-PR-lie house IV-big  
 'She is there, she lives in the big house.' (363)

This type of concord pattern is fairly infrequent for Class II human nouns. There are no examples in the available data of Class II human nouns taking Class I concord in verbal forms. However it is quite frequent for Class II non-human nouns.

(6-42) *Ø-a'rraa-bu-mu djidaba'rraabarra no'woogoda*  
 3IA-1E-kill-PP king brown M.one  
*arr-'gaa-n-bi-ri*  
 1A-3E-IRR-bite-P  
 'I killed one king brown snake. It nearly bit me.' (260)  
 [*djidaba'rraabarra* is Class II]

(6-43) *dja'marrabarday Ø-arro-o'ree-garra njim-'baalgi*  
 broлга 3IA-1E-see-Aux.PP II-lots  
 'I saw lots of broлга.' (345)  
 [*dja'marrabarday* is Class II]

As (6-42 & 6-43) demonstrate, a noun may take both Class I and Class II concord within the same clause. Class II non-human nouns are also attested taking Class III concord, though fairly infrequently.

(6-44) *gaba'rdeeba ma-'yaa-yi-ngi na'maabirri*  
 emu 3IIIA-PR-go-PR III.there  
 'An emu is going along. It is over there.' (42)

Class III concord is also attested for Class I non-human nouns, though not for Class I higher animates in the available data.

(6-45) *wan'biirndil ma-'baalgi=nu*  
 tick III-lots=3MIO  
 '(The dog) has lots of ticks.' (B742)

Class III concord is much more frequently attested with Class IV referents.

(6-46) *gaabay ma-'waarridji*  
 ironwood 3IIIA-die.PP  
 'The ironwood died.' (A4)

Given that the unmarked class association of plants is with Class III, it might appear that this is simply an example of regularisation of class concord. However Class III concord is found extensively with Class IV referents, which are not in any sense prototypically associated with Class III.

- (6-47) *gaba'loowadi ma-ya-yardamanj-'mee-gi*  
 road 3IIIA-PR-go around-Aux-Aux.PP  
 'The road twists around.' (B514)
- (6-48) *ngoondji ra'baalarr na'maabirri ng-gaa-yi-ngi*  
 other river III.there 3IVA-here-go-PR  
*gu-wa'laawala manang'gaarr*  
 IV-little IV.that  
 'It is another little river there, that comes here, that one.'  
 (B634)

In addition to showing Class III concord, Class IV referents are also commonly attested with Class I concord.

- (6-49) *djoorgu gu-marra'waarra Ø-aa-yi-ngi*  
 wind IV-big 3IA-here-go-PR  
 'A big wind is coming here.' (249)

Class I concord is also found with Class III referents.

- (6-50) *yaana-ma dja'naanjgu*  
 where-III woomera  
 'Where is the woomera?'

*Ø-yoo-ri ma'gaadja*  
 3IA-lie-PR that.IV  
 'It is lying there.' (C50)

These apparently diverse concordial patterns can be summarised in terms of the parameters listed in (6-51).

- (6-51) Humans : Human referents normally take concordial marking in accordance with their gender (Class I for males, Class II for females). However Class II referents occasionally show Class I concord

Non-human Animates : Non-human animates tend to show Class I concord. Class III concord is occasionally found, chiefly with lower animates.

Inanimates : Inanimates tend to take Class III concord. However Class I concord is also found.

These patterns may in turn be summarised in terms of a superclassing opposition between Class I and Class III, based on the animacy hierarchy. Class I is the superclass for animates, and Class III is the superclass for inanimates. There is some indeterminacy with respect to the superclassing of lower animates, and Class II higher animates. The

occurrence of Class I concord with inanimates can be understood as representing a further and ultimate superclassing, where all referents are superclassified into a single class.

It might appear that these superclassing patterns are examples of the effects of language death. While language death effects are undoubtedly of significance (1.3), the available evidence argues that these superclassing patterns are a different phenomenon. Firstly they do not follow the pattern that language death effects have been observed to cause elsewhere in Australia. Schmidt (1985) studied the effects of language death in Dyirbal. Dyirbal has a system of four noun classes, which is broadly similar to the Gaagudju system. The domains associated with the four classes in traditional Dyirbal (Schmidt 1985 : 152) are listed in (6-52).

(6-52)

- I        *bayi* : Animateness, Human masculinity
- II       *balan* : Human femininity, Water, Fire, Fighting
- III      *balam* : Edible fruit and vegetable food
- IV      *bala* : Residue class for everything else

A number of changes affect this noun class system in the Dyirbal spoken by partial speakers (Schmidt 1985 : 151 - 168). Among the less fluent speakers there is a simple three way class distinction, as set out in (6-53).

(6-53)

- I        *bayi* : Animateness, Human masculinity
- II       *balan* : Human femininity
- III      *bala* : Residue/inanimate

The significant point in relation to the phenomenon of concordial superclassing is that the traditional Dyirbal inanimate classes III and IV are merged under the form of Class IV. This would appear to follow in a direct manner from the semantic markedness relationship that exists between the two classes. Class IV, being the residue class, is semantically the unmarked inanimate class. The same situation holds in Gaagudju (6.4). Given this fact, it would appear a reasonable prediction that Classes III and IV should fall together under the form of Class IV, if concordial superclassing is a language death phenomenon. The fact that the Class III forms are the superordinate alternants suggests that concordial superclassing is not a language death phenomenon.

Another factor which suggests that language death is not relevant is that concordial superclassing is attested in material given by both fluent consultants, P.B and L.D.Y. Further, concordial superclassing was characteristic of the more fluent and confident speech of these two consultants, rather than of their less confident, more uncertain speech. The factor which provides probably the most convincing argument that language death is not a relevant factor, is that essentially the same phenomenon is found in the Gunwinjguan languages spoken to the south of Gaagudju. Gunwinjgu (Evans 1991 : 102 - 116), Jawoyn (Merlan

MSb) and Warray (Harvey MSb) all show concordial superclassing systems congruent with that described here for Gaagudju. It is of course possible that the concordial superclassing system described here, results from a recent indirect structural calque on Gunwinjgu, the principal daily language of my consultants. There is presently no way of properly testing this hypothesis.

However there is some evidence from place names, which could suggest that concordial superclassing may not be of recent origin in Gaagudju. There are two place names, within the territory traditionally associated with the Gaagudju language, which show aberrant class marking.

(6-54) *na-ba'rdeeba=idj-'buurri*  
 I-long=Aug-string  
 [*buurri* 'string' canonically takes Class IV concord]

(6-55) *djaa-yu mooyu*  
 PR-lie sore  
 'The sore lies'  
 [*mooyu* 'sore' canonically takes Class III concord]

The occurrence of Class I concord with a Class IV noun, as in (6-54), conforms to the patterns of concordial superclassing. As such it tends to suggest that concordial superclassing may be of some antiquity in Gaagudju. However in (6-55), the verb lacks concord altogether. This suggests that aberrant class marking in place names may be a somewhat different phenomenon. Without further information, this question cannot be properly settled. Whether or not concordial superclassing is of recent origin in Gaagudju, it may certainly be viewed as forming part of an areal pattern of concordial systems.

## 6.6 Personal Pronouns.

Table 6.2 sets out the five personal pronoun paradigms found in Gaagudju. The 3rd person shows a two-way masculine vs feminine opposition. Referents belonging to Class I take masculine concord. Referents belonging to Classes II, III and IV take feminine concord.

(6-56) *ma'gaarra gaadju Ø-a'rdeebonjdji no'woo-yirri*  
 that.I dog 3IA-lick.PR 3MMIN-self  
 'That dog is licking himself.' (B442) [*gaadju* is Class I]

(6-57) *ngame'neega moodiga ma-ya-balaban'djoo-ri ngo'yoo-yirri*  
 why car 3IIIA-PR-run-PR 3FMIN-self  
 'Why is the car running along by itself?' (C51)  
 [*moodiga* is Class III]



Table 6.2 : Personal Pronoun Paradigms.

	MIN	FUA	MUA	AUG	MA
1	<i>ngaayi</i>	<i>ngaa-njdja</i>	<i>ngaa-mana</i>	<i>ngaa-mba</i> ~ <i>ngee-mba</i>	<i>ngaa-da</i>
1+2	<i>ma'neerra</i>	<i>ma'naa-njdja</i>	<i>ma'naa-mana</i>	<i>ma'nee-mba</i>	<i>ma'naa-da</i>
2	<i>ngiinja</i>	<i>ngi'njaa-njdja</i>	<i>ngi'njaa-mana</i>	<i>ngi'njee-mba</i>	<i>ngi'njaa-da</i>
3M	<i>naawu</i>	<i>no'woo-njdja</i>	<i>no'woo-mana</i>	<i>no'woo-mba</i>	<i>no'woo-da</i>
3F	<i>ngaayu</i>	<i>ngo'yoo-njdja</i>			
	<i>-ma 'Prominence'</i>				
1	<i>ngaanj-ma</i>	<i>ngaa-njdja-ma</i>	<i>ngaa-mana-ma</i>	<i>ngaa-mba-ma</i> ~ <i>ngee-mba-ma</i>	<i>ngaa-da-ma</i>
1+2	<i>ma'neerra-ma</i>	<i>ma'naa-njdja-ma</i>	<i>ma'naa-mana-ma</i>	<i>ngi'njee-mba-ma</i>	<i>ngi'njaa-da-ma</i>
2	<i>ngiinja-ma</i>	<i>ngi'njaa-njdja-ma</i>	<i>ngi'njaa-mana-ma</i>	<i>ma'nee-mba-ma</i>	<i>ma'naa-da-ma</i>
3M	<i>naawu-ma</i>	<i>no'woo-njdja-ma</i>	<i>no'woo-mana-ma</i>	<i>no'woo-mba-ma</i>	<i>no'woo-da-ma</i>
3F	<i>ngaayu-ma</i>	<i>ngo'yoo-njdja-ma</i>			
	<i>-ru 'first'</i>	<i>-yirri 'self'</i>	<i>-gaduwa 'alone'</i>		
1	<i>ngaa-ru</i>	<i>ngaa-yirri</i>	<i>ngadj-'gaaduwa</i>		
1+2	<i>ma'neerra-ru</i>	<i>ma'nee-yirri</i>	<i>ma'nee-gaduwa</i>		
2	<i>ngi'njaa-ru</i>	<i>ngi'njaa-yirri</i>	<i>ngi'njaa-gaduwa</i>		
3M	<i>no'woo-ro</i>	<i>no'woo-yirri</i>	<i>no'woo-goda(wa)</i>		
3F	<i>ngo'yoo-ro</i>	<i>ngo'yoo-yirri</i>	<i>ngo'yoo-goda(wa)</i>		

- (6-58) *ng-gabarn.ga-'djee-gi ngo'yoo-yirri*  
 3IVA-spill-detr-detr.PP 3FMIN-self  
 '(The tea) spilt by itself.' (A481)  
 [both *dii* 'tea' and *gaardu* 'water' are Class IV]
- (6-59) *ga'djaalnga Ø-djaarra ma'gaadja giindji*  
 turtle 3IA-went across that.IV this way  
*giindji='nggaana Ø-aya-ya'baanj-ma-ngi ngaayu*  
 this way=LOC 3IVA-3FE-first-Aux-PR 3FMIN  
*ga'djaalnga Ø-djaarra*  
 turtle 3IA-went across  
 '(The place) "turtle went across", that is this way, this way. It is  
 first, it, "turtle went across".' (C113)  
 [geographical features are proto-typically associated with Class  
 IV. In this case the place name *ga'djaalnga Ø-djaarra* is assigned  
 to Class IV, even though *ga'djaalnga* 'turtle' is Class I.]

As Gaagudju is a language which has up to three positions of pronominal cross-reference (7.5.2 & 8.6), the free personal pronouns do not have a high frequency of occurrence in what may be described as core clausal roles. When they do occur in core clausal roles, they appear to have an "emphatic" function.

- (6-60) *naawu ma-n-'gaarra-ri birri'biirriyu nji-n-'boo-mu*  
 3MMIN 3IIIA-3ME-have-PI club 3IIA-3ME-hit-PP  
 'Him, he had a club. He hit her.' (286)
- (6-61) *gaayu i-'rree-ni-ngi gu'rneembu ngaayi*  
 Neg 3IA-1E-cook-PIRR goose 1MIN  
*i-'rree-ni-ngi ma'naarra=nji-'waala Ø-ee-ni-gi*  
 3IA-1E-cook-PIRR 1+2MIN=II-Y.Sibling 3IA-3FE-cook-PP  
*ngaayu-ma*  
 3FMIN-PRM  
 'I did not cook the goose. Me, I did not cook it. Our younger  
 sister cooked it, her.' (A145)

The term "emphatic" covers a wide range of meanings, as evidenced by the fact that any of the five pronominal paradigms may occur in core clausal roles. The particular "emphatic" meanings of the *-gaduwa* 'alone', *-ru* 'first', and *-yirri* 'self' paradigms are relatively isolable, as we will see in the ensuing description. However determining the nature of the "emphatic" meanings conveyed by the Basic and *-ma* 'Prominence' paradigms is rather more problematic. The nature of the distinction between these two paradigms is not entirely clear. The two paradigms occurred with approximately equal frequency, and appeared to be largely interchangeable. However, it did appear that the forms bearing the *-ma* suffix were more commonly used to mark the classic topical meanings, such as the contrastive topical meaning which is found in

(6-61). As such it would appear that the *-ma* suffix has some kind of "Focus/Topic" meaning.

If the *-ma* suffix is to be assigned this meaning, then this in turn suggests that it is historically related to two other morphemes: the Subordinator enclitic =*ma* (9.12.1), and the Prominence prefix *ma-*, which is found with certain demonstratives (6.7.1 & 6.7.3). The relationship to the Subordinator enclitic =*ma* is perhaps not immediately obvious. However, in a number of northern languages, subordination and focus constructions are synchronically marked by the same formal mechanisms (Merlan 1981b). Merlan (1981b : 208) argues that the formal commonalities reflect semantic commonalities. In both subordination and focus constructions, the formal marking indicates to the hearer that the marked clause cannot be interpreted on its own, but must be interpreted by recourse to the fairly immediate linguistic context. No such relationship can be maintained synchronically in Gaagudju, because the =*ma* enclitic marks the backgrounded constituent, whereas the *-ma* suffix marks the foregrounded focussed constituent itself. Nevertheless a historical relationship of this nature does seem likely, with the *-ma* suffix presumably having been in origin an enclitic. As we will see later in this section, there is other evidence which supports this view.

The Prominence prefix found with demonstratives appears to be similar in meaning to the *-ma* suffix found with pronouns. The most obvious difference between the two is in their different morphological positionings. As we will see, some of the demonstratives also show unusual positionings for one other affixal paradigm: the noun class markers occur as suffixes with a couple of the demonstratives (6-126).

The functions of the *-yirri* 'self' and *-gaduwa* 'alone' paradigms, while more clearcut than those of the *-ma* paradigm, are nevertheless somewhat uncertain. The *-yirri* 'self' paradigm is usually found asserting the agentive and/or directed nature of the process, most commonly in situations where there is some potential doubt as to these factors.

(6-62)    *ngaa-yirri ma-rra-yongola'djee-gi geedjawa*  
 1MIN-self 3IIIA-1E-make-PP            true  
 'I made it myself, truly.' (B714)

In some examples, the *-yirri* forms have a quasi-reflexive interpretation.

(6-63)    *ma'gaarra dji'rriingi no'woo-yirri Ø-an-ba'laa-bu-ni*  
 that.I            man            3MIN-self            3IVA-3ME-talk-Aux-PI  
*mada*  
 yesterday  
 'That man was talking to himself yesterday.' (A528)

(6-64)    *ya-njing-'geema nji-'reegi            ngi'njaa-yirri*  
 what-2A-do.PP    2A-shoot.PP    2MIN-self  
 'What did you do? Did you shoot yourself?' (B723)

The *-yirri* forms in (6-63 & 6-64) do not have any genuine anaphoric reflexive function. The verb in (6-63) is inflected for a Class IV Object, which would take a Feminine pronominal form (6-58). The verb in (6-64) is a detransitivised form, which could be interpreted as a reflexive without the presence of the *-yirri* form (9.6). Therefore neither of the *-yirri* forms can be interpreted as an Object anaphor. Rather it appears that the quasi-reflexive interpretation is better understood as a particular interpretation of the general "assertion of agency/directedness" function of the *-yirri* paradigm. In (6-63 & 6-64) the *-yirri* forms assert agency and directedness, when other interpretations are possible. Without the *-yirri* form, (6-63) could mean 'the man was talking yesterday', and (6-64) could mean 'What did you do? Did you get shot?'. There is one example where a *-yirri* form appears to assert directedness towards an experiencer.

- (6-65)    *ngo'rroongirr*    *arr-'gaa-bu-njdji*    *ngaa-yirri=yu*  
           sleep                    1A-3E-hit-PR            1MIN-self=3FIO  
           'I am sleepy.' (B530)

The interpretation of this example is uncertain. The =*yu* '3FIO' enclitic is not otherwise attested with *-yirri* forms. The inverse nature of the construction in (6-65) may also be relevant. Another possible interpretation of the general "assertion of agency/directedness" function is the solo nature of the agency.

- (6-66)    *Ø-arra-adjarree-ga-ngga*    *goornmu*    *gu-marra'warra*  
           3IVA-1E-clean-Aux-PP    morning    IV-big  
           *wuurrkim*    *arr-'geema*    *ngaa-yirri*  
           work            1A-do.PP    1MIN-self  
           'I cleaned up this morning. I worked hard by myself.' (B717)

This interpretation of *-yirri* approaches the meaning of *-gaduwa* 'alone'.

- (6-67)    *a'rree-wagi*            *wa'laalu*    *ngadj-'gaaduwa*  
           1A.FU-go back    camp    1MIN-alone  
           'I will go back to camp, alone by myself.' (68)

The difference between the two forms appears to be that the *-gaduwa* forms indicate the absence of socially desired or expected company, whereas the *-yirri* forms do not necessarily have this implication. The *-gaduwa* forms are not commonly attested, and consequently it is not possible to comment fully on this aspect of their potential meaning. The 3rd person *-gaduwa* forms show a further functional complication. *no'woo-goda(wa)* and *ngo'yoo-goda(wa)* do not simply mean 'him alone' and 'her alone'. They can also function as the masculine and feminine forms of the numeral 'one' (8.5.6). On presently available information, it appears that the two functions may be distinguishable, as illustrated in (6-68).

(6-68)	<i>no'woo-godawa</i> '3M-alone'	<i>ngo'yoo-godawa</i> '3F-alone'
	<i>no'woogoda</i> 'M.one'	<i>ngo'yoogoda</i> 'F.one'

Canonically, it appears that the long form has the 'alone' meaning, whereas the short form has the numeral 'one' meaning. There are examples of the long form having the numeral function. However there are no examples of the short form having the 'alone' meaning. Therefore the two forms may be distinguishable in terms of their functional ranges. Further evidence would however be required in order to confirm this hypothesis.

The other major pronominal paradigm is the *-ru* 'first' paradigm. The functional patterning of this paradigm appears to be the same as that found generally with forms involving the 'first' marker. Consequently the functions of this paradigm are considered in (9.12.2), which examines the functions of the 'first' marker.

In terms of their formal structuring, the personal pronoun paradigms conform to the broad patterning of Gaagudju. They show a Minimal vs Augmented number marking pattern (8.5). The Augmented paradigms are formed by use of the Number markers, which is the standard pattern in Gaagudju. The Number markers have the same reference as they do elsewhere in Gaagudju. However the formal relationship between the Number markers and the stems they attach to, is not the same as that found elsewhere in Gaagudju. In a number of the pronominal paradigms, the Number markers are suffixes, whereas they are normally found as enclitics. The Number markers found in the basic personal pronoun paradigm are suffixes. This is shown by the fact that the Augmented pronominal forms undergo affixal phonological processes (5.7). They show the effects of stress shift (5.1.2), and vowel grade (4.7.2). The 3rd person forms *no'woo-* and *ngo'yoo-* show the effects of a labial vowel harmony (4.7.5, though it is a regressive harmony, rather than the usual progressive harmony). The Augmented forms also show the effects of coronal vowel harmony (4.7.5), though this is not illustrated in Table 6.2.

(6-69)	<i>ngee-mba-ma</i> 1-AUG-PRM	[ŋɛ:-mbə-mə ~ ŋɛ:-mbɪ-mi]
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As (6-69) shows, the Prominence suffix *-ma* also undergoes coronal vowel harmony with the Augmented pronominal forms. This is one of the pieces of evidence that it should be analysed as a suffix with the personal pronouns. The other argument for analysing it as a suffix with the personal pronouns is that one form shows an irregular stem choice. A comparison of the basic and *-ma* paradigms in Table 6.2 shows that the *-ma* forms are constructed by suffixing *-ma* to the corresponding basic form. The one exception is set out in (6-70).

(6-70)	<i>ngaanj-ma</i> 1MIN-PRM	<i>*ngaayi-ma</i> 1MIN-PRM
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The predicted realisation of the combination '1MIN-PRM' would be *\*ngaayi-ma*. However the attested form is *ngaanj-ma*, which involves the *ngaDJ-* stem variant of the 1st person pronoun. This stem variant is also attested in the *-gaduwa* 'alone' paradigm (Table 6.2), and in the kin noun possessive paradigms (Table 3.7). The Ordinal marker *-ru* 'first', which is otherwise an enclitic (9.12.2), must also be analysed as a suffix with pronouns. The *-ru* pronominal paradigm shows unpredictable stem choices, and the effects of various affixal processes. *-yirri* 'self' and *-gaduwa* 'alone' occur only with the pronouns. These two are clearly to be analysed as suffixes, as their paradigms show the effects of stress shift and other irregularities.

An examination of the personal pronoun paradigms set out in Table 6.2, and also of the kin noun possessive paradigms (Table 3.7), suggests that historically there was a distinction between the free and bound forms of the pronoun stems, as set out in (6-71).

(6-71)	Free	Bound
1	<i>ngaayi</i>	<i>ngaDJ-</i>
1+2	<i>ma'neerra</i>	<i>ma'naa-</i>
2	<i>ngiinja</i>	<i>ngi'njaa-</i>
3M	<i>naawu</i>	<i>no'woo-</i>
3F	<i>ngaayu</i>	<i>ngo'yoo-</i>

At a further historical remove it appears likely that the bound forms are to be derived from the free forms by various processes of reduction, stress shift and vowel harmonies. However even the free vs bound distinction suggested in (6-71) cannot be maintained synchronically. The stem irregularities involved in the form *ngaanj-ma* '1MIN-PRM' have already been discussed in (6-70). Most of the other irregularities are evident in the paradigms in Table 6.2. Under the proposal in (6-71), the form of the 1st person MUA pronoun should be *\*ngaanj-mana*, rather than the attested *ngaa-mana*. Similarly the 1+2 *-ru* 'first' form should be *\*ma'nee-ru*, rather than the attested *ma'neerra-ru*. The 3rd person *-ru* 'first' forms, *no'woo-ro* and *ngo'yoo-ro* show the effects of labial vowel harmony (4.7.5). These 3rd person forms also show further irregularities in their Augmented forms.

(6-72)	<i>ngi'njee-mba-ru</i>	<i>njing-'gee-bu=mba=ru</i>
	2-AUG-first	2A-here-went=AUG=first
	'Did you lot come here first?' (B426)	

(6-73)	<i>ngiinja-ma</i>	<i>ma'gaarra</i>	<i>anmarra'baalbu</i>
	2MIN-PRM	that.I	old man
	<i>gu-marra-a'baanj-ma</i>	<i>ma'nee-mba-ru</i>	
	3IVA-1+2E-go first-Aux.FU	1+2-AUG-first	
	'You and the old man (and me), we will go first.' (C105)		

- (6-74) *ma'gaarra-mba* Ø-ee-bu=*mba* *no'woo-ro-mbo-ro*  
 that.I-AUG 3IA-here-went=AUG 3-first-AUG-first  
 Ø-a-wa'*gaa-y=mba*  
 3IA-here-go back-PP=AUG  
 'Did that lot come first? Did they come back first?' (B409)
- (6-75) *ma'gaadja=ndja* *njing'gooduwa* *geeninjdjada*  
 that.II=FUA woman two.F  
*ngo'yoo-ro-ndjo-ro* *garr'maarna* *ma'nee-mba* *baarri*  
 3F-first-FUA-first after 1+2-AUG behind  
 'Those two women, those two first, us after behind.' (C151)

As (6-72 - 6-75) illustrate, the Augmented forms for the 3rd person are constructed somewhat differently from those of the other persons. In the 3rd person forms, the Minimal *-ru* form is taken as a base. This base is then suffixed with the relevant number marker, and another instance of the *-ru* 'first' suffix. Both suffixes show the effects of labial vowel harmony (4.7.5). The Augmented forms for the other persons take the relevant Augmented pronoun form from the basic pronoun paradigm as their base, and suffix *-ru* to this. This is the pattern shown by the *-ma* 'Prominence' suffix (6-69). The Number markers are suffixes in both patterns shown by personal pronouns in the *-ru* paradigm.

Pronominal forms from the *-yirri* 'self' and *-gaduwa* 'alone' paradigms show a different pattern in the construction of Augmented forms.

- (6-76) *ma-rra-yongola'djee-gi=mana* *ngaa-yirri=mana*  
 3IIIA-1E-make-PP=MUA 1-self=MUA  
 'We made it ourselves.' (B780)
- (6-77) *ngame'neega* *nj-djaa-ni=mana* *ngi'njaa-gaduwa=mana*  
 why 2A-PR-sit=MUA 2-alone=MUA  
 'Why are you two sitting alone?' (B713)

It appears that Number marking within these pronominal paradigms is regular. However it should be noted that there no 3rd person Augmented forms attested for either of these paradigms. This is particularly of concern in relation to the *-gaduwa* 'alone' paradigm. As we have seen the 3rd Minimal forms from this paradigm also function as numerals (6-68). Given this, it is possible that the 3rd Augmented 'alone' forms may be constructed on a somewhat different basis. Whatever the potential construction of these forms, it is clear that the *-yirri* 'self' and *-gaduwa* 'alone' suffixes have a different relationship to the pronoun stems, than the *-ru* 'first' and *-ma* 'Prominence' suffixes do.

The motivation for the distinction in ordering between the two sets of suffixes is not certain. It does not appear to relate to differences in scope between the two sets (Dench & Evans 1988), at least in any immediately obvious sense. Rather it appears to relate to historical

differences between the two sets. The *-ru* 'first' suffix derives historically from the enclitic *=ru* 'first', and I have also argued that the *-ma* 'Prominence' suffix also probably derives historically from a focus/subordinating enclitic. Given their meanings, it appears likely that both of these enclitics would show a peripheral positioning (8.4). The ordering of the *-ru* and *-ma* suffixes appears to reflect their historical ordering as enclitics. In synchronic terms, it may to a degree be unmotivated. The unusual 3rd person Augmented forms for the *-ru* paradigm, illustrated in (6-74 & 6-75), appear to be innovations. As innovations, they appear to be moving towards the pattern of the Augmented forms of the *-yirri* and *-gaduwa* paradigms (6-76 & 6-77). The *-yirri* and *-gaduwa* paradigms conform to the standard pattern of Gaagudju, with suffixes being inner to enclitics. In overall terms therefore, the *-yirri* and *-gaduwa* patterns appear to be synchronically motivatable, whereas the *-ru* and *-ma* patterns appear to be frozen, synchronically unmotivatable orderings. At least in the case of the *-ru* paradigm, there appears to be some shift towards a synchronically motivatable ordering.

### 6.7 Determiners.

The determiner class is a semantically defined class in Gaagudju. It consists of all those morphemes which bear an inherent specification for definiteness. This semantically defined class of determiners, and the formally defined class of demonstratives (6.1), largely overlap. All definite determiners are demonstratives (6.7.3), and nearly all demonstratives are definite determiners (6.1). However only one of the indefinite determiners is a demonstrative (6.7.3), and some of the numerals are formally demonstratives (6.1 & 8.5.6).

Gaagudju, like most northern and central Australian languages, has a very complicated system of determiners, both formally and semantically. In Gaagudju there does not appear to be any meaningful correlation between the formal and semantic structurings of the determiner system. Consequently the formal and semantic analyses are presented separately, with the semantic analysis being presented first. The principal semantic division in the determiner system is that between definite determiners, and indefinite/interrogative determiners.

#### 6.7.1 Definite Determiners.

Gaagudju has two locational determiners, which show the usual proximate vs non-proximate distinction.

(6-78)      *naarri* 'here'                      *naabirri* 'there'

Gaagudju has a large number of contextual determiners. The distinctions between the various contextual determiners appear to be fine-grained. One important point to be noted from the outset is that there were noticeable differences in the patterns of usage of the contextual determiners between various consultants. The two fluent consultants, P.B



and L.D.Y, showed similar patterns of usage. On the other hand, N.M a consultant with a partial knowledge, showed a much greater usage of the various "emphatic" determiner forms.

However I suspect that the fluent vs partial distinction was not the critical factor in the different patterns of usage. Rather I suspect that it reflected differences in socially constructed personas. Sutton (1982 : 185) reports that the Wik languages of Cape Keerweer show register differences between "big" respectful speech and "small" ordinary speech. These register differences are linguistically marked by the choice between large numbers of synonymous and partially synonymous "big" words and "small" words. Sutton also reports that there are significant differences in the usage of these registers between speakers. "Big men" use the "big" words more commonly and more freely than other less powerful people do. The free and common usage of "big" words is thus an element in the social persona of "big men".

N.M is the senior male landowner in his area, and a figure of some authority. I hypothesise that, as a "big man", it was appropriate for him to use "emphatic" forms frequently, given that the "emphatic" forms signal the speaker's knowledge and certainty to the hearer. It is less appropriate for females, such as P.B and L.D.Y, to use the "emphatic" forms frequently, as they should not signal knowledge and certainty as often as "big men". I do not wish to suggest that the patterns of usage of emphatic forms in Gaagudju is entirely isomorphic with the patterns of register usage in Cape Keerweer. The usage of emphatic forms does not encode social status as directly as register usage does. It is more open to marking differences in individual personalities.

Nevertheless it is important to recognise that the contextual determiners have a significant interpersonal component to their meanings, and that this interpersonal component in turn has a significant social aspect. This interpersonal component is not readily recoverable by elicitation. Consequently the analysis of the contextual determiners presented here is essentially based on my own understandings of the meanings of the forms, from my knowledge of the context of their usage. Consultants' translations play only a limited role in this analysis. There are three basic contextual determiners in Gaagudju.

(6-79)      *ma'gaarra*    'that'                      *ma'naarr*    'that.emphatic'  
               *naamba*        'emphatic'

It may be noted that no proximate contextual determiner 'this' was elicited in the available data. The locational determiner *naarri* 'here' may be used in the sense of 'the one here' (see also 6-95 following). The differences between the two 'that' determiners are not entirely certain. It appears that the differences can be understood in something like the following terms.

(6-80)      *ma'gaarra* : 'I assume you can identify the referent as non-proximate, from your contextual knowledge'

- (6-81) *ma'naarr* : 'I assume you can identify the information as non-proximate, from your contextual knowledge, and I wish you to pay attention to it, because it is of significance'

The most immediately salient difference between the two 'that' determiners is in the "emphasis" component of the meaning of the *ma'naarr* determiner. However this is not the only difference between the two. They also show significant differences in their distributional patterning. The *ma'naarr* determiner differs from all the other determiners, including the *ma'gaarra* determiner, in having an important conjunctive function. It conveys meanings such as 'that's why, then' (9.12.3). As such the *ma'naarr* determiner may refer to portions of text, whereas all the other determiners are restricted to referring to some kind of entity, which is being tracked in the discourse. It does not appear that the difference in scope between the *ma'naarr* and *ma'gaarra* determiners relates directly to the difference in "emphatic" meaning between the two. Rather it would appear that a separate component of meaning is required to account for the difference in scope. I have used the terms "referent" (6-80), and "information" (6-81) in an attempt to capture the difference in scope.

The *ma'naarr* and *ma'gaarra* determiners also differ in their patterns of distribution within the NP. In (8.1), I argue the NP can be defined in Gaagudju as a configuration of functions. The only obligatory function in the NP is the Entity function, which describes the thing referred to. If the Entity function is not overtly realised by a nominal, then it must be recoverable from context (i.e. the Entity nominal may be ellipsed). The *ma'gaarra* determiner is commonly found both in NPs where the Entity nominal is overtly present, and in NPs where it is ellipsed. The *ma'naarr* determiner is also commonly found in NPs where the Entity nominal is ellipsed, but it is much less frequently found in NPs where the Entity nominal is present. This difference in distributional patterns probably does relate to the difference in emphatic meaning between the two determiners. The *ma'naarr* determiner, being emphatic, shows a high frequency of occurrence in reprise constructions. In Gaagudju there is a strong tendency to ellipse given information (Halliday 1985 : 277), especially recently given information. Therefore it is to be expected that *ma'naarr* will tend to occur in NPs where the Entity nominal has been ellipsed as recently given information.

The *ma'naarr* determiner is also similar in meaning to the *naamba* 'emphatic' determiner. An approximation to the meaning of the *naamba* determiner is given in (6-82).

- (6-82) *naamba* : 'I assume you can identify the referent, and I wish you to pay attention to it, because it is of significance'

The most salient difference between *naamba* and *ma'naarr* is that *naamba* is indifferent to the proximate vs non-proximate distinction. Indeed in this respect, *naamba* differs from all other definite determiners in Gaagudju.

(6-83) *ma'gaadja u'luunggulu nang'gaamba njee-n-yu maadada*  
 that.II old woman IV.emph 3IIA-FU-sleep night  
 'Is that old woman going to sleep there tonight.'

(6-84) *moobiyu nang'gaamba Ø-yoo-ri*  
 animal IV.emph 3IA-lie-PR  
 'Are there any snakes here?'

(6-85) *i'bardbi arr-barna-ba'djee-gi na'maamba dju'baarra*  
 Neg 1A-climb-Aux-CON III.emph tree  
*arr-gardanj-bi'mee-ya*  
 1A-fall-Aux-CON  
 'I am not going to climb that tree. I might fall.' (293)

(6-86) *djiirri='djiirri=nu ma'gaarra i-'laawala*  
 R=cheeky=3MIO that.I I-little  
 'That little boy is cheeky.'

*i-'laawala Ø-njaarndada naamba i-'laawala Ø-njaarndada*  
 I-little I-good I.emph I-little I-good  
 'This little boy is good.' (247)

A good illustration of the "emphatic" nature of *naamba* is provided by the following exchanges.

(6-87) [M.H. The rainbow ate them?]

*gooyida // nama'rdeedjurr nang'gaabirri*  
 Neg.IMP rainbow IV.there  
*baarri=yu=nang'gaamba // nang'gaamba // ma'gaarra*  
 behind=3FIO=IV.emph IV.emph that.I  
*Ø-a'n-ee-gi=mba yung'gaalya*  
 3IA-3ME-cook-PP=AUG devil  
 'No. The rainbow is there, behind that place. That devil cooked them.'

[M.H. The spirit killed all of them?]

*naamba gooro Ø-aama-y warrayangal //*  
 I.emph like 3IA-be-PR spirit name  
*Ø-n-da'rroonggo-ba=mba deernmi // no'woo-mba*  
 3IA-3ME-close-Aux.PP=AUG also 3-AUG  
 'That one, he is like the warrayangal spirit. He also closed them all up (in a cave), all of them.' (B268)

The *naamba* determiner is used with reference to two entities, a place and a devil-spirit. In both cases the entity is initially introduced with another determiner. In the case of the place, it is the 'there' determiner

form *nang'gaabirri*. In the case of the devil-spirit, it is the non-emphatic 'that' form *ma'gaarra*. However when each of these entities is taken up again, either immediately or almost immediately, the *naamba* determiner is used. The *naamba* determiner may be augmented by the Prominence prefix *ma-*.

(6-88) *gaayu=nu=ga'djaalnga nang'gaabirri*  
 Neg=3MIO=turtle IV.there  
 'There are no turtles there.'

*ma-nang'gaamba Ø-idj-'baalgi maardiyu*  
 PRM-IV.emph I-Aug-lots point  
 'There are lots there on the point.' (A68)

(6-88) is in fact the only example of its kind involving *naamba*. It appears that prefixation of the Prominence marker may serve to indicate the determiner is functioning as a topic. This would also be a reasonable interpretation of the function of prefixation of the Prominence marker with the *naabirri* 'there' determiner, where it is attested somewhat more frequently.

(6-89) *ma-'naabirri Ø-nja-n-ba'raa-ni gada gaayu*  
 PRM-I.there 3IA-3ME-IRR-spear-P but Neg  
 Ø-an-marra'miiri  
 3IA-3ME-miss.PP  
 'That bloke tried to spear (a wallaby), but no, he missed.'  
 (B135)

(6-90) *geerrmada=mana ma-n-'biirna-wa=mana*  
 two.M=MUA 3IIIA-3ME-lose-Aux.PP=MUA  
 'Two males got lost.'

*ngoondji ma-n-'biirna-wa ulunj ngoondji*  
 other 3IIIA-3ME-lose-Aux.PP place name other  
*ma-nang'gaabirri nabarlek ma-n-'biirna-wa*  
 PRM-IV.there place name 3IIIA-3ME-lose-Aux.PP  
 'One got lost at Ulunj. The other got lost there, at Nabarlek.'  
 (C76)

As discussed in (6.6), this prefix appears to be related historically to the *-ma* Prominence suffix, which is found with the personal pronouns. The Prominence marker is not found with the other definite determiners (though see 6-128). However the other definite determiners, *naarri* 'here', *ma'gaarra* 'that' and *ma'naarr* 'that', are attested with the Specific suffix *-njdju*. An approximation to the meaning of this suffix is given in (6-91).

(6-91) *-njdju* : 'I wish you to pay attention to this particular referent, from a range of potentially suitable referents'

The concept of selecting a particular referent from a range of potentially suitable referents appears to be an important factor in the occurrence of *-njdju* in a number of cases. One situation where this suffix occurred with particular frequency was in the discussion of life histories. Collection of life history material frequently involved discussion of a number of individuals. In many cases it was not clear which individual was the intended referent in a particular part of the discussions. Inquiries aiming to establish which individual was the intended referent frequently met with responses involving the *-njdju* suffix. The *-njdju* suffix was also found in other situations where the possibility of misidentification existed.

- (6-92) *birnimi'rniimi ma'naa-njdju* little green frog  
 frog sp I.that-SPEC  
 'The *birnimi'rniimi*, that specific one, it is a little green frog.'

*goonggirr Ø-djii-ri=ma birnimi'rniimi ma'naarr*  
 pandanus 3IA-stand-PR=SUB frog sp I.that  
 'The pandanus is where it lives, the *birnimi'rniimi* frog, that one' (B7)

(6-92) provides a good example of this type of situation. The context for (6-92) was that *birnimi'rniimi* had been introduced as a potential place name. Both clauses in (6-92) involve the *ma'naarr* determiner. In the first clause which is concerned with the potential misidentification of the term *birnimi'rniimi*, the Specific form *ma'naa-njdju* is used. In the second clause which provides further information on the *birnimi'rniimi* frog, the plain form *ma'naarr* is used. *ma'naarr* and *ma'naa-njdju* do not contrast simply in terms of "specificity". They also contrast in scope. As previously mentioned the *ma'naarr* determiner has important conjunctive functions (9.12.3). The Specific form *ma'naa-njdju* does not have any conjunctive functions. It simply helps to maintain referential cohesion, in the same way as the other definite determiners. It is in order to account for this difference the definition of the Specific suffix given in (6-91) involves the term "referent", rather than "information".

The Specific suffix has its greatest frequency of occurrence with the *ma'naarr* determiner. It shows a lesser frequency of occurrence with the *ma'gaarra* 'that' determiner.

- (6-93) *gooyida yung'gaalya bebe'beebi ma'gaarri-njdju*  
 Neg.IMP devil spirit name that.I-SPEC  
 Ø-djii-ri roolorr='nggaana  
 3IA-stand-PR spring=LOC  
 'No, not a devil, the *bebe'beebi* spirit, that specific one. He lives in the springs.' (A496)

- (6-94) *buu ma'gaarra moobiyu*  
kill.IMP that.I snake  
'Kill that snake!'

[M.H. the word *buu* means 'big river' too]

- buu ma'gaadji-njdju*  
big river that.IV-SPEC  
'[Yes the word] *buu* is that one [big river too]' (B226)

Again the concept of selecting a particular entity from a range does appear to be important in understanding the use of *-njdju* forms. This meaning is less evident with the *naarri* 'here' determiner.

- (6-95) *nama'rree-njdju moodiga moonda ba'leeru ma-'djii-ngi*  
III.here-SPEC car bad lest 3IIIA-stop-CON  
*nang-'girri ma-nga-n-dongola'djaa-ya=da*  
III-new 3IIIA-3ME-FU-fix-FU=MA  
'This car is no good. It might stop. They will fix it up.' (B300)

- (6-96) *Ø-a'rree-dja-wa-y* *nangga'rree-njdju wa'laalu*  
3IVA-1E-dislike-Aux-PR IV.here-SPEC camp  
'I dislike this camp.' (B579)

It is possible that the Specific suffix is simply an emphatic marker with the *naarri* 'here' determiner. In many cases this would appear to be its function, even with the two 'that' determiners *ma'naarr* and *ma'gaarra*. Alternatively it may be that these forms should be analysed as proximate contextual determiner forms meaning 'this' (see 6-79).

The contextual determiners have so far been analysed individually. However given the plethora of contextual determiner forms in Gaagudju, and the apparently fine-grained nature of the distinctions between them, it is also necessary to analyse them in a contrastive paradigmatic context. (6-97) provides a good example of one paradigmatic function that this plethora of forms apparently has.

- (6-97) *magana'boobu ma-'yaa-dji nang'gaamba // ngo'yoogoda*  
banyan tree 3IIIA-PR-stand IV.emph F.one  
*ma'booliyo // ma'gaadji-njdju // ma'gulugurrumbaw //*  
plain that.IV-SPEC place name  
*ma'gulugurrumbaw manang'gaa-njdju // magana'boobu*  
place name IV.that-SPEC banyan tree  
*ma-'yaa-dji*  
3IIIA-PR-stand

'The banyan tree standing alone there on the plain, that specific place, that is *ma'gulugurrumbaw*. *Ma'gulugurrumbaw* that's it, where the banyan tree stands.' (B283)

In (6-97) each reprise concerning the identification of the place *magulugurrumbaw*, takes a different emphatic determiner form. As Halliday (1985 : 277) observes in his discussion of information structuring "One form of newness that is frequent in dialogue is contrastive emphasis". From a contrastive paradigmatic point of view, the potentiality for conveying this facet of information structuring would appear to be an important aspect of the meaning of the various contextual determiners, especially the emphatic forms.

In the discussion of (6-88 - 6-90), I suggested that the Prominence prefix may serve to indicate that the determiner is functioning as a topic. It seems likely that others of the contextual determiners have functions in marking topic-comment structures, and also theme-rheme structures (if these two are to be differentiated). In this context, we may note that the paucity of other systems for morphologically marking discourse structures. The only other such systems are the systems of bound pronominals (7.5.2 & 8.6), and the Subordinator enclitic, which is not common (9.12.1). In overall terms I would suggest that the plethora of contextual determiners is motivated functionally by the fact that the determiner system is one of the two main morphological systems for marking discourse structuring. A full testing of this hypothesis would require a reasonable textual basis.

#### 6.7.2 Indefinite/Interrogative Determiners.

Gaagudju has six indefinite/interrogative determiners.

(6-98)	<i>waarra</i>	'who'
	<i>nga'meena</i>	'what'
	<i>ngame'neega</i>	'why'
	<i>yaana-</i>	'where, which'
	<i>ya-</i>	'what, how, when'
	<i>yama=da='geegirr</i>	'how many'

These determiners are most commonly attested in an interrogative function in the available data. However some of them are also attested with an indefinite function.

(6-99) *maada* *arr-'gee-bu* *nang'gaarri* *gaayu=nu='waarra*  
 yesterday 1A-here-went IV.here Neg=3MIO=who  
*i-n-'ngaani-ngi*  
 3IA-IRR-sit-P  
 'Yesterday I came here, but there was nobody.' (144)

(6-100) *iinjdu* *nga'meena* *Ø-arro-o'ree-garra* *gaayu*  
 S.A. what 3IA-1E-see-Aux.PP Neg  
*Ø-ng-goro-ga'rra-ri*  
 3IA-1E.IRR-see-Aux-P  
 'I can see something (over there). I cannot see it (properly).'  
 (C16) [lit. I wonder what I have seen? I have not seen it  
 (properly).]

- (6-101) *ma'rree-ya=mba i'bardbi yaana-ngga ma'rree-yo-ri=mba*  
 1+2A-go=AUG Neg where-IV 1+2A-camp-PR=AUG  
*nang'gaabirri ma'rree-ya=mba gu-'ngaarndada wa'laalu*  
 IV.there 1+2A-go=AUG IV-good camp  
 'Let's go. There is nowhere to camp (here). We will go over there, there's a good camp (there).' (C13)
- (6-102) *ma'rree-ya-gi=mba bard'banawarr warra*  
 1+2A-go-CON=AUG Jabiru somebody  
*ga-'meerra-ma=mba='njoorno ga-'meerra-ga=mba bo'rdaan*  
 3E-1+2A-get=AUG=plS+O 3E-1+2A-take=AUG Darwin  
 'If we go to Jabiru, somebody might get us and take us to Darwin.' (B549)

(6-102) is of interest because it also illustrates the alternative way of indicating indefinite reference, by the use of 3rd person Augmented forms. The VC *ga-'meerra-ma=mba='njoorno* 'somebody might get us' in (6-102) bears the =*njoorno* enclitic, which indicates that both Subject and Object are plural (8.5.4). 3rd person Augmented forms are in fact commonly used to indicate indefinite reference. (6-103) provides a nice illustration of the apparent difference between the two methods of indicating indefinite reference.

- (6-103) *Ø-an-'gaa-ngga=nga=mba='boordo maarri-'maarri iinjdu*  
 3IA-3ME-take-PP=1IO=AUG=AFF knife S.A.  
*waarra Ø-an-'gaa-ngga*  
 who 3IA-3ME-take-PP  
 'Somebody has taken my knife. I wonder who took it?' (A515)

It appears that 3rd Augmented forms are used for non-specific indefinites, whereas the determiners are used for specific indefinites. (6-104 & 6-105) provide further illustration of the proposed specific vs non-specific distinction.

- (6-104) *gaayu ng-gordoma-dji-'gee-ni=nu=mba*  
 Neg 1A.IRR-tell off-Aux-Aux-P=3MIO=AUG  
*no'woo-mba-ma iinjdu*  
 3-AUG-PRM S.A.  
*Ø-gordoma-'dje-gi=nu=mba='njoorno*  
 3IA-tell off-Aux-Aux.PP=3MIO=AUG=plS+O  
 'No I did not tell them off. Maybe somebody else told them off.' (B444)
- (6-105) *Ø-a'rree-nga-wa=nu=gu'baardi Ø-aa-yi-ngi iinjdu*  
 3IVA-1E-hear-Aux.PP=3MIO=foot 3IA-here-go-PR S.A.  
*waarra*  
 who  
 'I can hear somebody's feet. I wonder who is coming up?' (B769)



The formulae in (6-106 & 6-107) provide an approximation to the differences in meaning between the two types of indefinite reference.

- (6-106) Non-specific indefinite reference: "I cannot identify a referent, and I have no beliefs about the identifiability of a referent."  
 (6-107) Specific indefinite reference: "I cannot identify a referent, but I believe that one is identifiable/I cannot identify a referent, and I do not believe that any is identifiable."

The basic difference between the two patterns of indefinite reference marking appears to lie in the nature of the speaker's beliefs about the identifiability of the referent. The formula for specific indefinite reference in (6-107) is also helpful in understanding the commonalities between the specific indefinite and interrogative meanings of the indefinite determiners. An approximation to one of the interrogative meaning of the indefinite determiners is provided in (6-108).

- (6-108) "I cannot identify a referent, but I believe that you can identify one for me, and I want you to do so."

This interrogative meaning is very similar to the positive specific indefinite meaning (a common pattern in Australian languages. Dixon 1980 : 372). The indefinite determiners do have other interrogative meanings which are not so directly relatable to the specific indefinite meanings (e.g. *ngame'neega* 'why' does not interrogate an entity). The four indefinite determiner stems generally pattern in a manner similar to that found in many Australian languages. *waarra* 'who' and *nga'meena* 'what' are the interrogatives for human and non-human referents respectively. *nga'meena* is the unmarked one of the pair, as would be predicted.

- (6-109) *nga'meena ma'gaarra i'bardbi Ø-arro-o'roo-garra-y*  
 what that.I Neg 3IA-1E-see-Aux-PR  
*dji'rriingi iinjdu gaadju iinjdu nga'meena moobiyu*  
 man S.A. dog S.A. what animal  
*i'bardbi Ø-arro-o'roo-garra-y maalbarr*  
 Neg 3IA-1E-see-Aux-PR properly  
 'What is that? I cannot see it, a man?, maybe it is a dog. I wonder what it is?, an animal?, I cannot see it properly.' (C145)

As (6-109) demonstrates, a referent which is potentially either human or non-human, takes the *nga'meena* 'what' determiner. The *nga'meena* determiner also conveys the meaning 'what kind of'.

- (6-110) *ngaarndjil na-la'birri Ø-arro-odo-bidj-'biiri-ngi*  
 fish I-YSibling 3IA-1E-cut-up-Aux-PR  
 'I am cutting up fish, younger brother.'

*nga'meena ngaarndjil mo'goongo*  
 what kind fish O.sister  
 'What kind of fish, older sister?'

*ganbarra'gaardi na-la'birri*  
 barramundi I-Y.Sibling  
 'Barramundi, younger brother.' (327)

The 'why' determiner *ngame'neega* is obviously historically derived from the *nga'meena* determiner. However there is no *-ga* suffix synchronically in Gaagudju, and in fact this putative suffix does not appear on any other item. *ngame'neega* is not the only form which can convey the 'why' meaning.

(6-111) *nga'meena Ø-djiinba nji-n-'baara*  
 what I-reason 2A-3ME-strike.PP  
 'For what reason did he strike you?'

(6-112) *Ø-an-'mee-gi=nga ga'rdaawu naawu-ma iinjdu*  
 3IVA-3ME-Aux-PP=1IO cheek 3M.MIN-PRM S.A.  
*nga'meena='naawu*  
 what=3MDAT  
 'He gave me cheek, he did. I wonder what for?' (481)

(6-111) is the only example in the available data where *nga'meena* occurs with the 'reason' adjective *-djiinba*. This adjective is otherwise found as a conjunction (9.12.3). The Dative marked form *nga'meena='naawu* occurs somewhat more frequently, though still not commonly (9.9). Owing to the very limited attestation of these two alternative 'why' forms it is not possible to comment on the factors that might control the choice of these options. The remaining determiner stem *yaana-* conveys both 'where' and 'which' meanings, a common situation in Australian languages.

(6-113) *yaana-Ø Ø-nee-ga-ngga anmarra'baalbu*  
 where-I 3IA-2E-take-PP old man  
 'Where is he? (Where) did you take the old man?' (300)

(6-114) *yaana-Ø ma'gaarra na-baya'laala=mba Ø-nee-wu=mba*  
 which-I that.I I-child=AUG 3IA-2E-give.PP=AUG  
 'Which one of those children did you give (the tucker) to?'  
 'Where is he?, that one of the children that you gave the tucker to ?' (B695)

It appears that the locational 'where' meaning is the basic meaning, with the 'which' meaning being conveyed by an interpretation of this basic locative meaning (as suggested by the second translation in 6-114). The functioning of the four indefinite determiner stems so far

discussed, is essentially similar to that found in most Australian languages. However the two indefinite determiner prefixes show rather unusual patternings for Australian languages. The *ya-* 'what, how, when' prefix may be historically related to the *yaana-* 'where' determiner root. Whether or not this was the case, there is certainly no synchronic relationship. The *ya-* prefix occurs with forms from the paradigm of the verb *gama* 'to be(come), to do, to say'.

- (6-115) *ya-njing-'gaama-y*  
 what-2A-do-PR  
 'What are you doing?'

(6-115) illustrates probably the commonest occurrence of the *ya-* prefix. However this construction has a range of interrogative functions extending well beyond this. The verbal and temporal interrogative meanings 'how' and 'when' are conveyed by this construction.

- (6-116) *anmarra'baalbu ya-njing-'gaama-y Ø-na-yongola'djii-ngi*  
 old man how-2A-do-PR 3IVA-2E-make-PR  
*guubuy*  
 canoe  
 'Old man, how do you make a canoe?' (B726)  
 [lit. 'Old man, how do you do it that you make a canoe?']

- (6-117) *ya-ng-'geema njing-'gee-bu goornmu moordu or*  
 when-3IVA-do.PP 2A-here-went morning early or  
*maadawa*  
 night  
 'When did you come here, early this morning, or last night?'  
 (218) [lit. 'When did it happen that you came here, early this morning or last night?']

- (6-118) *ya-gu-'weenmi nji-n-'deema*  
 when-3IVA-do.FU 2A-FU-get up  
 'When will you get up?' (B145)  
 [lit. 'When will it happen that you will get up?']

In its function as the temporal interrogative 'when', this construction is always inflected for a Class IV Subject (see 6.4). It may be noted that the tense of the construction varies according to whether past or future time is being interrogated. In addition to the functions where it is the only possible interrogative, this construction is also found as an alternative to some of the other determiners in certain functions. It is found as an alternative to *nga'meena* 'what' in the 'what kind' meaning (cf. 6-110).

- (6-119) *ya-Ø-'gaama-y djaarli naarri*  
 how-3IA-be-PR meat I.here  
 'What kind of meat is this?' (A61)  
 [lit. ?'In what manner does this meat exist?']

The exact meaning of this particular use of the *ya-* construction is not clear from the available data. The literal translation in (6-119) is a hypothesis as to the possible meaning of the *ya-* construction in this function. Under this hypothesis, the 'what kind' meaning is a secondary interpretation of a primary existential interrogation. This hypothesis may also be relevant to the other non-exclusive function of the *ya-* construction; as a quantity interrogative 'how many/how much'.

- (6-120) *ya-ng-'geema gu-'noo-ma wurri'djoonggo*  
 how-3IVA-be.PP 3IVA-2E-get.PP lily root  
 'How many lily roots did you get?' (C126)  
 [lit. ?'In what manner did they exist, the lily roots that you got.']

- (6-121) *ya-ma-'gaama-y dju'naarra gu-na-a'djeerr-ma*  
 how-3IIIA-be-PR yam sp 3IVA-2E-dig-Aux.PP  
 'How many yams did you dig up?' (C138)  
 [lit. ?'In what manner do they exist, the yams that you dug up.]

The significance of the tense difference between (6-120) and (6-121) is not clear on the presently available information. While the *ya-* construction may be used as a quantity interrogative, the form most commonly used to convey this meaning is the phrase *yama=da='geegirr*.

- (6-122) *yama=da='geegirr ga'djaalnga Ø-nee-ma*  
 how many turtle 3IA-2E-get.PP  
 'How many turtles did you get?' (C17)

- (6-123) *yama=da='geegirr djaarli Ø-naa-garra-y*  
 how much meat 3IA-2E-have-PR  
 'How much meat do you have?' (B718)

It seems likely that the initial *yama=* element in this phrasal construction is to the *ya-* prefix, and the *yaana-* 'where' determiner. The second element *geegirr* is the quantifier 'all' (8.5.5).

### 6.7.3 Formal Analysis of the Determiner System.

From the discussion of the determiner system in the preceding sections (6.7.1) and (6.7.2), it will be obvious that the determiners have a variety of formal statuses. The determiner system may be formally analysed in terms of a number of oppositions which operate at varying levels of inclusiveness. The most inclusive opposition is that between affixes/clitics and stems. There is one determiner which occurs as an affix.

- (6-124) *ya-* : which occurs with forms from the paradigm of *gama* 'to be(come), to do, to say' in a variety of interrogative functions (6.7.2).

All other determiners occur as stems. There are two major oppositions within this class of determiners. One is that between determiners which are demonstratives (i.e. they take class marking. 6.1), and those which are not. The other is between determiners which are roots, and those which are not. There are four determiners which are not demonstratives.

- (6-125) *waarra* 'who', *nga'meena* 'what', *ngame'neega* 'why', *yama=* which occurs in the compound *yama=da='geegirr* 'how many/much'.

It may be noted that these are all interrogative/indefinite determiners, and that all are roots (though the 'why' form is historically derived from the 'what' form. 6.7.2). However there is one interrogative determiner, *yaana-* 'where', which is a demonstrative. Along with the definite determiner *ma'gaarra* 'that', it is one of the two roots in Gaagudju which show suffixal class marking.

(6-126)	<i>yaana-</i> 'where'	<i>ma'gaarra</i> 'that'	
I	<i>yaana-Ø</i>	<i>ma'gaarra</i>	* <i>ma'gaarr-na</i>
II	<i>yaana-nja</i>	<i>ma'gaadja</i>	* <i>ma'gaarr-nja</i>
III	<i>yaana-ma</i>	<i>ma'gaarrba</i>	* <i>ma'gaarr-ma</i>
IV	<i>yaana-ngga</i>	<i>ma'gaadja</i>	

The paradigm of *ma'gaarra* is not synchronically analysable. However a comparison of its paradigm with that of *yaana-*, suggests that it may once have been analysable in the manner indicated. The Class II/IV form *ma'gaadja* appears to have been in origin a Class II form. The other demonstratives show the usual prefixal class marking.

(6-127)	'here'	'there'	'emphatic'
I	<i>naarri</i>	<i>naabirri</i>	<i>naamba</i>
II	<i>nji'naarri</i>	<i>nji'naabirri</i>	<i>nji'naamba</i>
III	<i>na'maarri</i>	<i>na'maabirri</i>	<i>na'maamba</i>
IV	<i>nang'gaarri</i>	<i>nang'gaabirri</i>	<i>nang'gaamba</i>

Historically these three paradigms almost certainly involved velar stop initial roots; \*-*gaarri* 'here', \*-*gaabirri* 'there' and \*-*gaamba* 'emphatic'. The prefixes were presumably \**na-* 'I', \**nji-na-* 'II', \**na-ma-* 'III', and \**naN-* 'IV'. This prefix paradigm is a mixture of the Declension 1 and 2 adjective paradigms (6.3), with an extension in the role of the Class I prefix *na-* from Declension 2. Intervocalic lenition of the velar stop would produce the attested forms (4.6.3). However as this particular paradigmatic pattern is essentially idiosyncratically restricted to these three determiners,

I do not adopt it as a synchronic analysis. Rather I analyse these determiners as forming non-segmentable paradigms.

The demonstrative forms so far described all appear to have involved monomorphemic roots, at least historically. There are a number of other demonstratives which are based, with varying degrees of synchronic plausibility, on these monomorphemic roots. The demonstratives *naabirri* 'there' (6-89) and *naamba* 'emphatic' (6-88) take the Prominence prefix *ma-*, which appears to mark topicalisation. The Prominence marker is not synchronically attested with the *naarri* 'here' demonstrative. However the *ma'naarr* 'that' demonstrative paradigm appears to have consisted historically of the *naarri* 'here' demonstrative, and the Prominence prefix *ma-*.

(6-128)	<i>ma'naarr</i> 'that'	
I	<i>ma'naarr</i>	* <i>ma-'naarri</i>
II	<i>manan'yaarr</i>	?* <i>ma-nji'naarri</i>
III	<i>mana'maarr</i>	* <i>ma-na'maarrri</i>
IV	<i>manang'gaarr</i>	* <i>ma-nang'gaarri</i>

This determiner paradigm cannot be synchronically analysed in the manner suggested. Firstly the meanings are not synchronically relatable. Secondly the final /i/ of the *naarri* forms has been idiosyncratically deleted, and thirdly the Class II form involves some further irregularity. The *ma'naarr* 'that' paradigm must therefore be treated as synchronically unanalysable. It marks class in a highly unusual manner, with a set of morpheme-medial consonant alternations. This determiner frequently occurs with the determiner Specific suffix *-njdju*.

(6-129)		
I	<i>ma'naarr</i>	<i>ma'naa-njdju</i>
II	<i>manan'yaarr</i>	<i>manan'yaa-njdju</i>
III	<i>mana'maarr</i>	<i>mana'maa-njdju</i>
IV	<i>manang'gaarr</i>	<i>manang'gaa-njdju</i>

The rule deleting the final /rr/ in *ma'naarr* is discussed in (5.3.4 & 5.4). The Specific suffix is also attested with *ma'gaarra* 'that' and *naarri* 'here', though much less commonly than with *ma'naarr*.

(6-130)	<i>ma'gaarra</i> 'that'	
I	<i>ma'gaarra</i>	<i>ma'gaarri-njdju</i>
II	<i>ma'gaadja</i>	<i>ma'gaadji-njdju</i>
III	<i>ma'gaarrba</i>	? <i>ma'gaarrbi-njdju</i>
IV	<i>ma'gaadja</i>	<i>ma'gaadji-njdju</i>

(6-131)	<i>naarri</i> 'here'	
I	<i>naarri</i>	? <i>na'rree-njdju</i>
II	<i>nji'naarri</i>	? <i>njina'rree-njdju</i>
III	<i>na'maarrri</i>	<i>nama'rree-njdju</i>
IV	<i>nang'gaarri</i>	<i>nangga'rree-njdju</i>

The forms marked with ? are the putative fillers of paradigmatic gaps in the available data. Neither the alteration of the final vowel from /a/ to /i/ in the *ma'gaarra* paradigm, nor the shift of stress and the vowel grade (4.7.2) in the *naarri* paradigm are predictable. The stem variants must simply be listed by a morpholexical rule (4.2). The stem variant of *naarri* found with *-njdju* is also attested in the locational form *nangga'rree-yu* (6-133).

### 6.8 Locationals.

Locational forms fall into two major classes in Gaagudju; deictic and non-deictic. Deictic locationals have an inherent orientation with respect to the speaker, whereas non-deictic locationals do not have any such inherent orientation. The major deictic locationals are the two demonstratives *naarri* 'here' and *naabirri* 'there'. In addition to their basic meanings, it appears that these demonstratives can take the 3FIO marker =*yu* (8.6), to indicate the meanings 'that side' and 'this side'.

(6-132) *ngaayi nang'gaabirri=yu arr-ga-n-da'rree-gi*  
 1MIN IV.there=3FIO 1A-here-FU-go down-Aux  
 'Me, I will come down there [?that side].' (B469)

(6-133) *gaayu ma-nga-n-gadala-ba-ng'gaa-ri=da nangga'rree-yu*  
 Neg 3IIIA-3ME-IRR-cross-Aux-Aug-P=MA IV.here-3FIO  
*Ø-djii-ngi=da*  
 3IA-stand-P=MA  
 'No they did not cross over. They stayed on this side.' (B135)  
 [The first VC is not conjugated according to the standard pattern. It should be *ma-nga-n-gadala-bi'ree-ngi=da*]

As these are the only examples of the Indirect Object markers occurring with demonstratives, it is not possible to be certain that 'side' meanings were intended. The form *nang'gaabirri=yu* in (6-132) is a regular form, with the Indirect Object marker occurring as an enclitic (8.6). The form *nangga'rree-yu* appears to involve the same marker. However given the occurrence of stress shift and vowel grade, the marker is presumably to be analysed as a suffix in (6-133). The *naarri* 'here' demonstrative also shows this stem variant with the *-njdju* 'Specific' suffix (6-131). While the meaning 'this side' may apparently be expressed by the *nangga'rree-yu* form, it was more commonly expressed by another deictic locational; *giindji*. The form *giindji* is monomorphemic, and its unmarked interpretation is 'this side/way'.

(6-134) *giindji Ø-nii-ngi=da*  
 this side 3IA-sit-P=MA  
 'They stayed on this side.' (B152)

- (6-135) *giindji='nggaana ma'gaadja*  
 this way=LOC that.IV  
 'It is towards this side/way, that (place)' (B261)
- (6-136) *moodiga ma-ya-balaban'djoo-ri ma-ya-balaban'djoo-ri*  
 car 3IIIA-PR-run-PR 3IIIA-PR-run-PR  
*giindji giindji='boordo*  
 this way this way=?.  
 'The car is going this way.' (A201)
- (6-137) *ma'gaadja nji-wa'laawala njing-ga-ba'djii-ngi*  
 that.II II-little 3IIA-here-crawl-PR  
*njing-'gaa-yi-ngi ma'naa-mba='giindji*  
 3IIA-here-go-PR 1+2-AUG=way  
 'That little girl is crawling here. She is coming our way.' (C26)

The precise meaning of the form *giindji='boordo* in (6-136) is not certain. It seems likely that the second component is historically related to the =*boordo* 'Indirect Malefactive' enclitic (8.6.1), which appears originally to have signalled 'affectedness'. As such *giindji='boordo* would appear to mean something like 'this way affecting me/us'. (6-137) shows that it is possible to replace the unmarked proximate deictic reference with a specific pronominal reference. Though (6-137) is the only example of its type, it seems likely that this would be possible with all pronouns. There is no monomorphemic form attested for 'that side/way' in the available data. The closest approximation is the deictic form listed in (6-138).

- (6-138) *yaagada='yaagada* 'the other side'

In addition to the deictic locational forms so far discussed, the following non-deictic locationals are also attested.

- (6-139)
- |                        |                       |
|------------------------|-----------------------|
| <i>a'rdaadji</i>       | 'down, inside, under' |
| <i>baangarda</i>       | 'between, middle'     |
| <i>baarri</i>          | 'back, behind'        |
| <i>ba'rreegurl</i>     | 'far'                 |
| <i>dja'rroonggoda</i>  | 'close, near'         |
| <i>gaanggi</i>         | 'high, top, up'       |
| <i>geena a'rdaadji</i> | 'downhill'            |
| <i>gu'diiru</i>        | 'front'               |

No terms could be elicited for the four cardinal compass points. Spencer (1914 : 453 - 460) gives Gaagudju terms for the compass points, and so it would appear that such terms did exist in Gaagudju. Compass point terms occur in Gundjeyhmi (Evans 1991). However my consultants did not recognise the terms given by Spencer. This lacuna is a reflection of the fact that compass terms have a very low level of usage among Aboriginal people from the western Top End. In the Aboriginal languages of the area, and in Kriol/Aboriginal English, there are two major methods of



orientation. One is a "topside" vs "bottom" distinction, which summarises a number of oppositions : coast vs inland, floodplain vs ridge, flat country vs hill/escarpment country. The other is a downriver vs upriver opposition. Orientation proceeds in terms of these oppositions. Some of the languages of the Daly river area, which are still in active use, lack compass terms altogether (e.g. Ngan'gityemerri. Reid 1991).

## 6.9 Temporals

Temporals may be divided into two major classes: those which relate one point in time to another, and those which describe a period of time. Temporals belonging to the first class are examined in (9.12.2 & 9.12.3), which deals with interclausal temporal relations. Temporals belonging to the second class may usefully be grouped into three sets. One set consists of those temporals which have *mboodaru* 'now(adays), today' as their reference point.

(6-140)	<i>ba'rraanggirr</i>	'long ago, in the old days'
	<i>maada=yu=wa'laalu</i>	'the day before yesterday'
	<i>maada</i>	'yesterday'
	<i>mboodaru</i>	'today, now(adays)'
	<i>goornmalada</i>	'tomorrow'
	<i>ngoondji goornmalada</i>	'the day after tomorrow'
		[lit. 'the other tomorrow']

The *mboodaru* 'today, now(adays)' reference point of this group conveys a wide range of meanings. Apart from the 'today, now(adays)' meanings, *mboodaru* is also attested with the meanings 'just now' and 'soon'.

(6-141)	<i>gaayu arr-gardambarn'geengi</i>	<i>arr-ga'rdeengari</i>	<i>mboodaru</i>
	Neg 1-black	1A-wash.PP	now
	'I am not dirty. I washed just now.' (A500)		
(6-142)	<i>ma'gaadja nji-wa'laawala</i>	<i>nji-n-'baadji</i>	<i>mboodaru</i>
	that.II	II-little	3IIA-FU-crawl soon
	'That little girl will be crawling soon.' (A550)		

It appears that the best approximation to the overall meaning of *mboodaru* is 'the same as, or close to, now'. The second group of temporals describes divisions of the day, and of the year (i.e. periods of time which do not necessarily have 'now, today' as a reference point).

(6-143)	<i>maadada</i>	'night'
	<i>maadawa</i>	'afternoon'
	<i>goornmu</i>	'morning'
	<i>ngaalnga</i>	'end of the wet/start of the dry; year'
	<i>gudju'djoorrgu</i>	'dry season'
	<i>djum'biirri</i>	'wet season'

A number of terms in (6-140 & 6-143) appear to be historically related, based on either *goornmu* 'morning' or *maada* 'yesterday'. In most languages of the Top End, the lexeme for 'wet season' also means 'year' (i.e. years are counted by wet seasons). Gaagudju is unusual in that the lexeme for 'year' is *ngaalnga*, which more specifically refers to the period at the end of the wet and start of the day.

- (6-144) *Ø-arro-o'ree-garra ngoondji ngaalnga geeninjdjada ngaalnga*  
 3IA-1E-see-Aux.PP other year two.F year  
 'I saw him a year ago, two years ago.' (B911)

The third group of temporals describes periods of time, without this constituting a division of a fixed period of time.

- (6-145) *nangga'laaba* 'a little while'  
*nanggamo'loobo* 'a long time'

The unmarked temporal reference point for these temporals appears to be *mboodaru* 'now'.

- (6-146) *nangga'laaba arr-'gee-bu=nejdja*  
 a little while 1A-here-went=FUA  
 'We came here a little while ago.' (66)

- (6-147) *ma'rree-ya=mba nangga'laaba ma'rree-ya=mba*  
 1+2A-go.FU=AUG a little while 1+2A-go.FU=AUG  
*nan.gurdabarl*  
 place name  
 'We will go to nan.gurdabarl in a little while.' (94)

- (6-148) *Ø-dja-a'rdaa-bu-nejdji nanggamo'loobo Ø-a'rdaa-garra=mba*  
 1A-PR-tired-Aux-PR long time 3IA-argue-Aux=AUG  
 'I am tired. They argued for a long time (last night).'

However, as (6-148) demonstrates, it is not an inherent reference point.

## CHAPTER 7

## VERBS

## 7.1 The Verbal Complex.

The verbal complex presents the greatest morphological elaboration to be found in Gaagudju. The general range of positions found within the verbal complex is set out in (7-1).

- (7-1) Absolutive prefix + ergative prefix + directional prefix + tense prefix + compound verb root + (auxiliary) simple verb root + {(detransitiviser) simple verb root/stem augment suffix} + tense suffix

The following examples are illustrative of the general ordering pattern set out in (7-1).

- (7-2) *go-ya-n-darronggo-'bee-ngga-ri*  
3IVA-3FE-IRR-close-Aux-Aug-P  
[Abs-Erg-Tns-CVR-Aux-Aug-Tns]  
'She did not close it.' (A201)
- (7-3) *arr-ga-n-da-ba-ng'gee-ni*  
1A-here-IRR-go out-Aux-Aux-P  
[Abs-Dir-Tns-CVR-Aux-Aux-P]  
'I did not come out to here.' (A594)
- (7-4) *i-'rra-a-n-ga-njdji*  
3IA-1E-here-IRR-take-P  
[Abs-Erg-Dir-Tns-Verb-Tns]  
'I did not bring it here.' (B853)
- (7-5) *arr-mono-ma-'gee-ni*  
1A-scratch-Aux-detr-PI  
[Abs-CVR-Aux-detr-Tns]  
'I was scratching myself.' (A430)

There are some departures from this ordering pattern (see 7-42 & 7-51). There are also some incompatibilities between various categories, which are not formally indicated, as (7-1) is not intended as a rigorous morphological template. Thus a detransitiviser simple verb and an Ergative prefix are incompatible with one another. (7-1) does indicate that a detransitiviser simple verb and the Augment suffix are incompatible with one another. However the Augment suffix has a very restricted distribution (7.2), and the substantive status of the apparent incompatibility is uncertain. There are no examples of a compound verb taking a transitive directional prefix complex, as in (7-4). This is presumably simply a lacuna, rather than a reflection of some substantive

prohibition. The minimal substantive form of the verbal complex is a simple verb root. Such forms have a positive imperative function (7.9).

In Gaagudju the formal characteristic which distinguishes verbal forms from all other morphological forms is the occurrence of suffixal inflections indicating tense, mood and aspect (6.1). In accordance with Lieber's (1981) system of morphological classification (6.1), the following categories of verb roots may be formally defined.

- (7-6) Simple verb root : A root which directly takes the suffixal tense inflections.  
 Compound verb root : A root which occurs only in compounds with a simple verb root.

There are two ways in which compound verb roots may be combined with simple verb roots. They may combine with the inchoative simple verb *gama* 'to be(come), to do, to say, to think' in a phrasal construction (8.3). In this construction, both the compound verb root and the simple verb *gama* are independent phonological words (5.6). Synchronically, this is the only clearly productive method for forming new verbal predicates in Gaagudju.

The other method of combining compound and simple verb roots is through a standard compounding structure, where they are combined into a single phonological word. The term "verb stem" is used in this grammar to refer to any combination of simple and compound verb roots occurring within a single phonological word. This usage of the term "stem" is not strictly in accordance with Lieber's morphological classification (see 6-1). However it does provide a label for these phonological word compound forms, which is in accordance with traditional usage. As we will see (7.2), there are considerable problems in the actual morphological analysis of many verb stems in Gaagudju. This is a reflection of the largely lexicalised and unproductive nature of affixal morphology (4.2).

When a simple verb root occurs in a compound verb stem, it functions as an auxiliary. Simple verb roots may function solely as auxiliaries, or they may function both as auxiliaries and as main verbs, or they may function solely as main verbs (7.2). Compound verb roots may take a number of different auxiliaries. However, unlike many languages with verbal compounding systems, there do not appear to be any consistent semantic correlates either to the appearance of a particular compound verb root in several auxiliary conjugations (7-15), or to the set of compound verb roots selected by a particular auxiliary (Appendix 4). These facts are also reflections of the essentially lexicalised and unproductive nature of affixal morphology.

The verb consists of the verb stem and the suffixes. This chapter is concerned with the information conveyed by the verb: the construction of verbal predicates, and the nature of tense categories. However, a full examination of these two categories requires a consideration of certain other morphological classes. The Directional prefixes are centrally involved in the construction of certain types of verbal predicates (7.5.1).

There is also a set of verbal predicates which are expressed by phrasal constructions (7.4). Analysis of the tense categories requires consideration of the Tense prefixes (7.7).

## 7.2 Compound Verbs.

The main analytical problem presented by the Gaagudju compound verb system lies in determining some principles for deciding whether a particular verb stem is to be analysed as a compound verb stem, or as a simple verb stem. In historical terms, it appears likely that all verb stems greater than 3 syllables in length were compounds, as were the majority of trisyllabic verbal stems. However in synchronic terms, there are many cases where there is no clear-cut basis for analysing these longer stems as compound stems. There are a number of verb stems which can be analysed as compound stems in terms of the two principles set out in (7-7).

- (7-7) The auxiliary also occurs as an independent verb.  
Quasi-derivational processes show that the auxiliary is a separable morpheme (7.3).

Table 7.1 lists the auxiliaries which are separable in accordance with these two criteria, together with their frequencies, and meaning as an independent form, when they so occur. Leaving aside the *-ga-ba* auxiliary for the moment, there are a number of points of interest that arise from Table 7.1.

- (7-8) a). All simple verb auxiliaries are mono- or di-syllabic forms.  
b). There are, however, a number of longer auxiliaries, which are themselves compound verbs.  
c). The auxiliaries can be divided into two groups in terms of frequency. In one group there are the four simple verb auxiliaries *-bu* 'to hit', *-ga* 'to take', *-garra* 'to have' and *-ma* 'to get', which all occur in 10 or more compound verbs. The remaining 18 auxiliaries all have a frequency of 5 or less.  
d). There is no dominant auxiliary conjugation in Gaagudju.

The compound *-ga-ba* auxiliary is somewhat anomalous in terms of its frequency in Table 7.1. This anomaly in frequency is matched by other anomalies in the patterning of this auxiliary. The conjugation for this auxiliary is set out in (7-9).

(7-9)	'to hide (tr)'
PP	<i>ma'rdee-ga-ba</i>
PI	<i>marda-ga-'bee-ngga-ri</i>
PR	<i>marda-ga-'bee-ngga-y</i>
FU	<i>ma'rdee-ga-ba</i>
CON	<i>ma'rdee-ga-ba</i>

Table 7.1 : Auxiliary Verbs.

	<u>Frequency</u>	<u>Independent Meaning</u>
<i>-ma</i>	21	'to get'
<i>-garra</i>	16	'to have'
<i>-bu</i>	13	'to hit'
<i>-ga</i>	12	'to take'
<i>-ga-ba</i>	7	'to be ready to go'
<i>-biri</i>	5	Does not occur independently
<i>-ni-ngi</i>	4	'to burn (tr)'
<i>-bara</i>	3	'to spear'
<i>-bi</i>	3	'to bite'
<i>-go'do-biri</i>	3	'to cut'
<i>-badji</i>	2	'to crawl'
<i>-gama</i>	2	Does not occur independently
<i>-ma-gi</i>	2	'to get-detr'
<i>-ba-'borda</i>	1	'to tie'
<i>-ba'da-gaba</i>	1	'to open'
<i>-bagarna-wa</i>	1	'to chase'
<i>-ba'labandji</i>	1	'to run'
<i>-bimi</i>	1	'to cease'
<i>-bo'yo-ma</i>	1	'to pick up'
<i>-bu-y</i>	1	'to hit-detr'
<i>-mala</i>	1	'to kick'
<i>-na</i>	1	'to burn (intr)'
<i>-wu-y</i>	1	'to give-detr'

In addition to the verbs taking the *-ga-ba* auxiliary, there are also six verbs which appear to involve a *-ba* auxiliary (Appendix 4).

(7-10)	'to close'
PP	<i>dja'rronggo-ba</i>
PI	<i>djarronggo-'bee-ngga-ri</i>
PR	<i>djarronggo-'bee-ngga-y</i>
FU	Not attested
CON	<i>dja'rronggo-ba</i>

There are also four verbs which appear to involve an auxiliary *-ba-nggi* (Appendix 4), which presumably consists of the putative *-ba* auxiliary and the *-nggi* variant of the Conjugation 2 detransitiviser (7.6). The pair which most clearly illustrate this relationship are set out in (7-11).

(7-11)	'to put in'	'to put on (intr)'
PP	<i>ga'rlaa-ba</i>	<i>ga'rlaa-ba-nggi</i>
PI	<i>garla-ba-ng'gaa-ri</i>	<i>garla-ba-ng'gee-ni</i>
PR	<i>garla-'baa-ngga-y</i>	<i>garla-ba-nggi</i>
FU	<i>ga'rlaa-ba</i>	<i>ga'rlaa-ba-nggi</i>
CON	<i>ga'rlaa-ba-ya</i>	<i>garla-ba-ng'gee-ya</i>

I consider that the evidence is sufficient to establish a *-ba* auxiliary. Adoption of the auxiliary analysis also means that the frequency of the *-ga-ba* auxiliary is no longer so anomalous. There are thirteen *-ba* and *-ga-ba* verbs, a total which approximates that of the other high frequency auxiliaries. However it could reasonably be argued that the *ba* segment is not synchronically separable in many cases. As a comparison of the paradigms of *dja'rronggo-ba* 'to close in (7-10) with that of *ga'rla-ba* in (7-11) shows, there are irregularities in some of the paradigms of verbs belonging to the *-ba* auxiliary conjugation. In combination with the fact that there is no independent *ba* verb in Gaagudju synchronically, this could be taken to indicate that the verb stems are not internally morphologically divisible.

The verb stem *dja'rrangga-ba* 'to build' provides a good illustration of the problems of morphological division. This stem could potentially be divided as *\*dja'rrang-ga-ba*. This division would show a regular stress pattern for a compound verb (5.1.2). However it would necessitate positing a compound verb root *\*djarrang*, with a final velar nasal. Morpheme-final velars are not otherwise attested in Gaagudju (5.3.1). Consequently the *dja'rrangga-ba* analysis, with an irregular stress pattern, is adopted. Again it is necessary to recognise that this is, to a degree, an analytical fiat.

Difficulties in morphological analysis occur to an even greater degree with verb stems that appear to involve the Conjugation 2 detransitiviser as an auxiliary. The Conjugation 2 detransitiviser has three forms : *-gi*, *-nggi*, and *-dji-gi* (9.6.1). There are 10 intransitive verbs (Appendix 4), where this detransitiviser appears to have an auxiliary function (i.e. the verbs taking these forms do not have transitive

counterparts). I consider that the independent detransitivising function of these forms is a sufficient basis to separate them as auxiliaries with these 10 verbs. However the very existence of three variants, whose occurrence is entirely lexicalised, argues against positing auxiliary forms. Further an examination of the paradigms of the *-dji-gi* verbs (Appendix 2) reveals considerable irregularities. The *-gi* portion of the *-dji-gi* auxiliary is frequently, and unpredictably, missing in various of the tenses in some of the paradigms.

Despite the problems that exist, the *(-ga)-ba*, *-ba-nggi* and *-gi ~ -nggi ~ -dji-gi* auxiliaries do have some degree of independent support. There are three other auxiliaries, which lack independent support. These auxiliaries are dependent on frequency and on phonotactic patternings. The best supported of these auxiliaries is the *-wa* auxiliary. This is found with the conjugational pattern of (7-12) in 13 verbs.

(7-12)

PP	<i>-wa</i>
PI	<i>-wa-ri</i>
PR	<i>-wa-y</i>
FU	<i>-wa</i>
CON	<i>-wa-ya</i> /vowel grade (4.7.2)

There is also the verb *gornya(-wa)* 'to look around', whose paradigm provides further evidence for a *-wa* auxiliary.

(7-13)

PP	<i>goornya</i>
PI	<i>gornya-'waa-yini</i>
PR	<i>gornya-'waa-y</i>
FU	<i>goornya-gi</i>
CON	<i>gornya-'waa-ya</i>

The other two auxiliaries are infrequent disyllabic forms, which are supported by phonotactic patternings.

(7-14)	<i>ba-'borda</i>	'to tie'
	<i>mard-'borda</i>	'to get wood'
	<i>ba'da-mada</i>	'to stop'
	<i>ba'rda-mada</i>	'to make footprints'

The disyllabic nature of these auxiliaries of itself provides some evidence that they do not simply reflect chance commonalities. Further, in the case of the *-borda* auxiliary, a failure to separate the auxiliary would result in the occurrence of a morpheme-medial stop cluster /rdb/, in the stem *mard-borda*. Clusters of this type are not otherwise found in verb roots (Table 5.2). In the case of the *-mada* auxiliary, the auxiliary analysis produces a regular stress pattern. As with the other examples discussed in this section, a monomorphemic analysis could also be reasonably argued for.



An examination of the verbal paradigms in Appendix 2 suggests that there are a number of monosyllabic forms which may have been auxiliaries historically. However some of these are of low frequency. The probability that low frequency monosyllabic forms simply result from chance is higher than for disyllabic forms. Therefore they are not analysed as auxiliaries. The monosyllabic forms that have a reasonable frequency, display a high degree of conjugational irregularity. Consequently it is not possible to construct a reasonably uniform paradigm for them. Therefore these forms also, are not analysed as auxiliaries.

The problems in morphologically analysing longer verb stems in Gaagudju probably relate also in part to the limited nature of the database. A larger dictionary of verb stems would allow for a more accurate reckoning of the frequency of auxiliaries, and potential auxiliaries. However it seems altogether unlikely that these problems would disappear with a larger database. Indeed it seems likely that additional uncertain cases would arise. The degree of lexicalisation found in the verbal compounding system is such that any analysis will contain a degree of arbitrariness.

The highly lexicalised nature of the compound verb system is not only reflected in problems of formal analysis. The compound verb system is also not amenable to any detailed type of semantic analysis. The only semantic correlation that can be established is one of transitivity. If an auxiliary has an independently identifiable transitivity value (i.e. it occurs independently, or is a detransitiviser), then its compounds will normally have the same transitivity value. In other words, the compounds of an intransitive auxiliary are intransitive, and the compounds of a transitive auxiliary are transitive. The one significant exception is the *-bu* 'to hit' auxiliary. Despite the fact that this auxiliary is the prototypical transitive, 7 out of its 13 compounds are intransitive.

No other systematic correlations are attested within the compound verb system. The independently identifiable meanings of the auxiliaries, other than transitivity, do not generally appear to be relevant in their compounding function (Appendix 4). Similarly an examination of the auxiliary conjugations (Appendix 4) shows that the compound verb roots taking a particular auxiliary do not constitute natural semantic classes. The essentially arbitrary nature of the combination of particular compound and auxiliary simple verb roots is brought out by (7-15).

(7-15)	<i>garda-ba-'borda</i>	'to tie up'
	<i>ba-'borda</i>	'to tie'
	<i>garda-ba'labandji</i>	'to (over)flow'
	<i>ba'labandji</i>	'to run'
	<i>ga'rda-bu</i>	'to be tired'
	<i>bu</i>	'to hit'
	<i>ga'rda-gama</i>	'to break (tr)'
	<i>gama</i>	Does not occur independently
	<i>ga'rda-ga</i>	'to carry a swag'
	<i>ga</i>	'to take'

<i>ga'rda-garra</i>	'to swear at'
<i>garra</i>	'to have'
<i>ga'rda-mala</i>	'to rub oneself (intr)'
<i>mala</i>	'to kick'

There is one clear-cut relationship in (7-15); that between *ba-'borda* 'to tie' and *garda-ba-'borda* 'to tie up'. A possible relationship exists between *ba'labandji* 'to run' and *garda-ba'labandji* 'to (over)flow'. Otherwise no relationships are discernible, either between the various occurrences of the compound verb root *garda*, or between *garda* and its various auxiliaries.

The available evidence indicates that the verbal compounding system had, at best, a very low productivity in Gaagudju. Many of the languages of the Top End have verbal compounding systems similar to that of Gaagudju. In many of these languages new verbal predicates are productively formed through the compounding system. However these languages normally have a single dominant auxiliary conjugation, and it is through this conjugation that new verbal predicates are formed. The Gaagudju compounding system clearly does not function in this manner. As previously mentioned, the only clearly productive method of synchronically forming new verbal predicates in Gaagudju is via phrasal compounds involving *gama* 'to do' (8.3).

### 7.3 Derived Compound Verbs.

Historically in Gaagudju there were three ways of taking a compound verb stem as a base, and forming another compound verb stem from this base. Two of these methods involved the use of reduplication. One type of reduplication consisted of the reduplication of the third syllable of the base.

(7-16)	<i>ba'labandji</i>	'to run'
	<i>balaba'bandji</i>	'to run around'
	<i>ba'labarra</i>	'to jump'
	<i>balabarr'barra</i>	'to jump around'
	<i>ga'djirr-ba</i>	'to stick into'
	<i>ga'djirrba-ba</i>	'to poke around'

This reduplication pattern appears to have conveyed an iterative inherent aspect meaning. The other reduplication pattern consisted of a reduplication of the final two syllables of the base.

(7-17)	<i>ba-garra</i>	'to catch in the throat'
	<i>ba-ga'rra-garra</i>	'to become caught up'
	<i>go'ro-garra</i>	'to see, to look'
	<i>goro-ga'rra-garra</i>	'to look after'
	<i>bal'barra</i>	'to tear'
	<i>balbarra'barra</i>	'to tear up'

As indicated by the first two pairs in (7-17), this was probably in origin a reduplication of the auxiliary (the third pair is not synchronically analysable as involving an auxiliary). In the case of the second and third pairs in (7-17), this reduplication pattern appears to have conveyed an iterative inherent aspect meaning, in the same way as the reduplication pattern in (7-16). The semantic relationship between the two members of the first pair in (7-17) appears to be idiosyncratic.

The third method of deriving compound verb stems involved a morpheme whose original form was most probably *\*-miDJ-*.

(7-18)	<i>ba'rda-gama</i>	'to close one's eyes'
	<i>barda-'winjminj-ma</i>	'to blink'
	<i>bo'yo-ma</i>	'to pick up'
	<i>bo'yo-minj-ma</i>	'to pick up'
	<i>ga'rda-gama</i>	'to break (tr)'
	<i>garda-'winjminj-ma</i>	'to break up (tr)'
	<i>go'do-biri</i>	'to cut'
	<i>godo-bidj-'biri</i>	'to cut up'
	<i>godo'binj-ma</i>	'to pull'
	<i>godo'binjminj-ma</i>	'to roll up'

The pairs in (7-18) suggest that this morpheme conveyed an iterative inherent aspect meaning, in the same way as the two reduplication patterns. In addition to the stems in (7-18), there are some other stems which appear to have involved *\*-miDJ-*.

(7-19)	<i>bardabarda'winjminj-ma</i>	'to curl'
	<i>dja'rde-wu-y</i>	'to swap'
	<i>djardamanj-ma-gi</i>	'to go around'
	<i>djarra(-gi)</i>	'to go down'
	<i>djarrabinj'minj-ma</i>	'to stretch'
	<i>ga'rdangari</i>	'to dive'
	<i>gardanganj'ngara</i>	'to swim'
	<i>mala'rra-bu</i>	'to flash (of lightning)'
	<i>mala'rramanj-ma</i>	'to turn'

However the stems in (7-19) either lack a counterpart without *\*-miDJ-*, or show no discernable semantic relationship to their potential counterpart. The fact that all three methods of derivation appear to have conveyed an iterative inherent aspect meaning is of interest. This suggests that either there was some historical ordering between the methods, or that they were morphologically conditioned in some way. The somewhat greater frequency of the *\*-miDJ-* pattern may indicate that it is a later pattern. However this is by no means certain, and there does not appear to be any other evidence which could be brought to bear upon the choice between the two hypotheses.

## 7.4 Phrasal Verbs

This section considers the phonological and semantic status of the phrasal verbs. Their syntactic status is examined in (8.2). The class of phrasal verbs is relatively small, and consequently all of the members of the class are listed in Table 7.2. In semantic terms, the phrasal verbs are very similar to compound verbs. The majority of the phrasal verbs involve a simple verb. In only one of these phrasal verbs does the simple verb appear to make any significant contribution to the overall lexical meaning. The phrasal verb *ni=a'rdaadji* 'to sit down' is semantically compositional from its components *ni* 'to sit' and *a'rdaadji* 'down'. In all other cases, the simple verbs may reasonably be described as auxiliaries. Of these simple verbs, *bara* 'to spear', *bu* 'to hit', *ga* 'to take', *garra* 'to have', and *ma* 'to get' also feature prominently in the auxiliary system of the compound verbs (Table 7.1). The auxiliary function of the simple verbs is perhaps most clearly demonstrated in (7-20).

- (7-20) *ba-rro-o'ree-garra maada nji-'nii-ngi*  
 2A-1E-see-Aux.PP yesterday 2A-sit-P  
*nj-djii-ngi=nu='godo dji'maardbu=nu*  
 2A-Aux-P=3MIO=DUR wave=3MIO  
 'I saw you yesterday. You were sitting waving to him.' (B624)

On initial examination of Table 7.2 it might appear that the *dji* 'to stand' auxiliary does make some contribution to the overall meaning of the phrasal verb *dji dji'maardbu* 'to wave' (i.e. *dji dji'maardbu* should be glossed as 'to stand waving'). However as (7-20) shows the *dji* simple verb still occurs, even when some other stance is involved. Consequently the *dji* simple verb cannot be interpreted as conveying a 'to stand' meaning in the phrasal verb *dji dji'maardbu*, despite initial appearances to the contrary.

Three of the phrasal verbs involve a compound verb. In two of these forms *gornya(-wa)='miirdi* 'to look back' and *go'ro-garra=wa* 'to look/watch out', the compound verbs *gornya(-wa)* 'to look around' and *go'ro-garra* 'to see, to look' do appear to make some significant combination to overall lexical meaning. In the third form *wa'rra-ga=da* 'to move (tr)', the compound verb *wa'rra-ga* is not independently attested, and consequently is to be analysed as an auxiliary.

The phrasal verbs differ from compound verbs in that the other root in the phrase often has some independently identifiable meaning. This independently identifiable meaning generally appears to be a significant component of the lexical meaning of the phrasal verb. However the relationships between the two meanings are idiosyncratic, rather than systematic (with the exception of *ni=a'rdaadji* 'to sit down', already discussed). The meanings of the phrasal verbs must still be individually listed, in the same way that the meanings of compound verbs must be individually listed.

In phonological terms the phrasal verbs display a range of bondedness. The most tightly bonded of all the phrasal verbs is

Table 7.2 : Phrasal Verbs

<i>bara=da</i>	'to find'
<i>ga='woorro</i>	'to drag, to pull'
<i>gornya(-wa)='miirdi</i>	'to look back'
<i>go'ro-garra=wa</i>	<i>gornya(-wa)</i> 'to look around'
	'to look/watch out'
<i>ma='gaali</i>	<i>go'ro-garra</i> 'to see, to look'
<i>ma=ga'naangga</i>	'to beget (father)'
	'to get/pull/take off/out'
<i>ma='gaanggi</i>	<i>ga'naangga</i> 'high country'
	'to pick someone up'
<i>ma='waala</i>	<i>gaanggi</i> 'high, top'
	'to breed'
<i>ma=wo'reenjgu</i>	<i>-wa'laawala</i> 'little', <i>-waala</i> 'Y.Sibling (ref)'
<i>ni=a'rdaadji</i>	'to whistle'
	'to sit down'
<i>raga='maarr</i>	<i>a'rdaadji</i> 'down'
	'to like, to want'
<i>waga=da</i>	<i>moonda=yu='maarr</i> 'sad' (lit. bad=3FIO=liking)'
<i>wa'rra-ga=da</i>	'to move (intr)'
	'to move (tr)'
<i>dji=nu='ngaardi</i>	'to carry on the head'
	<i>ngaardi</i> 'head'
<i>ma=nu='waala</i>	'to give birth to, to beget (mother)'
	<i>-wa'laawala</i> 'little', <i>-waala</i> 'Y.Sibling (ref)'
<i>raga=nu='ngoolhgirr</i>	to roast in hot sand'
	<i>ngoolhgirr</i> 'hot sand'
<i>bu nga'laambirr</i>	'to cough'
	<i>nga'laambirr</i> 'cough'
<i>dji dji'maardbu</i>	'to wave'
	<i>dji'maardbunu</i> 'right hand'
<i>garra gaardbi</i>	'to help to carry'
<i>garra maarrgi</i>	'to suck blood (of a native doctor)'
	<i>maarrgi=</i> 'clever'
<i>garra wa'laalu</i>	'to bark'
	<i>wa'laalu</i> 'camp, times'
<i>ma ga'rdaawu</i>	'to give cheek'
	<i>ga'rdaawu</i> 'disrespect'

### Auxiliaries

*bara* 'to spear', *bu* 'to hit', *dji* 'to stand', *ga* 'to take', *garra* 'to have' *ma* 'to get', *ni* 'to sit', *raga* 'to strike, to weave', *waga* 'to go back'

*raga*='maarr 'to like, to want'. The Present tense form of the simple verb *raga* 'to strike' is normally *ra'ga-y*. However in this particular phrasal form, it has an irregular form *ra'gaa-nj*='maarr. This is indicative of a degree of synchronic unanalysability, which is supported by other evidence.

- (7-21)      *Ø-arra-ra'gaa=njdja*='maarr  
               3IA-1E-Aux=FUA=like  
               'I like those two.' (B711)
- (7-22)      *nji-rra-ra'gaa-nj*='maarr=*njdja*  
               3IIA-1E-Aux-PR=like=FUA  
               'I like those two.' (B685)

(7-21 & 7-22) illustrate the two orderings of the Number enclitics that are found with *raga*='maarr. The ordering in (7-21) is the standard ordering for clitic phrasal constructions (8.4). However it is only rarely attested with *raga*='maarr, which was usually attested with the ordering in (7-22). The ordering in (7-22) provides further evidence that *raga*='maarr has a low level of synchronic analysability.

The other clitic phrasal verbs display a standard clitic phrasal ordering pattern (8.4). The remaining phrasal verbs normally consist of two independent phonological words (5.6). These phrasal verbs show a strong preference for the constituents to be ordered in the manner shown in Table 7.2. This ordering is the same as that shown by the clitic phrasal verbs, and indeed in some cases in faster speech the constituents can be cliticised. As such these phrasal verbs can probably be analysed as involving "indirect" clisis of their constituents (4.2). The verbs *bu nga'laambirr* 'to cough' and *dji dji'maardbu* 'to wave' do, however, show the following variation in ordering.

- (7-23)      *anmarra'baalbu nga'laambirr Ø-an-'boo-ni*='goodo  
               old man                   cough                   3IVA-3ME-Aux-PI=DUR  
               'The old man was coughing.' (153)
- (7-24)      *nganj-'ngiirla dji'maardbu arr-'djaa-dji*=yu  
               1MIN-aunt           wave                   1A-PR-Aux=3FIO  
               'I am waving to my aunt.' (A583)

As (7-23 & 7-24) illustrate the constituents may occur in the reverse order, though still immediately adjacent, with these two verbs. This is rare for *bu nga'laambirr* 'to cough', but reasonably common with *dji dji'maardbu* 'to wave'. *dji dji'maardbu* appears to be the most loosely bonded of all the phrasal verbs. We have already seen in (7-20) that both the verb and the particle in this phrasal combination may take the Indirect Object enclitics. This is indicative of a fair degree of syntactic independence, as normally only the verb takes these enclitics in phrasal constructions (8.4). Indeed it is possible for the Indirect Object enclitics to occur only on the particle.

- (7-25) *arr-'djii-ngi dji'maardbu=nu=mana geerrmada=mana*  
 1A-Aux-P wave=3MIO=MUA two.M=MUA  
 'I waved to those two males.' (C27)

This is somewhat reminiscent of the enclitic variations described for the phrasal verb *raga='maarr* in (7-21 & 7-22). However the potentiality for occurrence with both constituents of *dji dji'maardbu* (7-20), formally differentiates the range of enclitic variations found with these two phrasal verbs. The two verbs are in fact at the opposite of ends of the spectrum of phrasal verbs with respect to tightness of bonding, both phonological and syntactic. The comparatively loose nature of the bonds between the constituents of *dji dji'maardbu* is perhaps most clearly illustrated by (7-26).

- (7-26) *ya-njing-'gaama-y*  
 what-2A-do-PR  
 'What are you doing?'

*nga-'djaadja=nu dji'maardbu=nu dji'maardbu=nu*  
 1MIN-uncle=3MIO wave=3MIO wave=3MIO  
*nga-'djaadja=nu dji'maardbu=nu ma'gaarra dji'rringi*  
 1MIN-uncle=3MIO wave=3MIO that.I man  
 '(I am) waving to my uncle, that man.' (A514)

In (7-26) the auxiliary verb is omitted altogether. Omission of a constituent is also found with other phrasal verbs, which consist of two independent phonological words.

- (7-27) *gaadju Ø-an-'gaarra-ri='godo maadada*  
 dog 3IVA-3ME-Aux-PI=DUR night  
*Ø-an-'gaarra-ri='godo wa'laalu*  
 3IVA-3ME-Aux-PI=DUR bark  
 'The dogs were barking last night.' (355)

- (7-28) *mo'goongo nga'laambirr gu-'naa-bu-ni='godo maada*  
 O.sister cough 3IVA-2E-Aux-PI=DUR yesterday  
 'Older sister, were you coughing yesterday?'

*awoy Ø-a'rraa-bu-ni='godo gu'djiirri nj-djaa-yi-ngi=nga*  
 yes 3IVA-1E-Aux-PI=DUR sick 3IVA-PR-go-PR=1IO  
 'Yes I was coughing. I am sick.' (333)

However as (7-27 & 7-28) illustrate, the omitted constituent is the non-verbal root in the phrasal combination. Further in the available data, omission is restricted to cases where there is some indication as to the ellipsed constituent in the immediate context. A larger database would be required in order to provide an accurate commentary on the

potentialities for omission in phrasal verbs consisting of two independent phonological words.

### 7.5 The Prefix Complex.

Gaagudju shows a considerable array of prefix complex forms. Table 7.3 sets out the forms found with intransitive verbs, and Table 7.4 sets out the forms found with transitive verbs. The prefix complexes that occur with hortatives and positive imperatives are examined in (7.8) and (7.9) respectively. The general internal ordering of the verbal complex was given in (7-1). The portion relating to the prefix complex is repeated here as (7-29).

(7-29)      Absolutive prefix + ergative prefix + directional prefix + tense prefix

The internal morphological analysis of the prefix paradigms is problematic. As with the compound verb system, the degree of lexicalisation is such that any analysis involves some degree of arbitrariness. An examination of the prefix paradigms reveals a number of recurrent partials. There are a number of possible analyses of these recurrent partials. Within the morphological framework chosen for this grammar (4.2), the recurrent partials are analysed as segmentable morphemes with individual lexical entries. With one exception, all allomorphic variation within the prefix system is handled by morpholexical rules (4.2). The one exception involves the Present tense prefix *dja-*. Allomorphic variation in the form of this prefix is handled by a string dependent lenition rule (4-116).

The description of the prefix complex presented here in (7.5) is principally concerned with the internal morphological analysis of the prefix paradigms, and with any paradigmatic patterns that occur. The functions of the various prefix classes are chiefly examined elsewhere: (9.2) for the cross-referencing functions of the pronominal prefixes; (7.7) for the tense prefixes. The one exception involves the Directional prefix paradigms. These paradigms have both directional and pronominal functions. In order to analyse the structuring of the overall prefix complex it is necessary to know in which situations these paradigms are functioning as directionals, and in which situations they are functioning as pronominals. An understanding of their pronominal functions is dependent on an understanding of their directional functions. Consequently the analysis of the prefix complex begins with a consideration of the Directional prefix paradigms in their directional functions.



Table 7.3 : Intransitive Verbal Prefix Paradigms

	<u>Unmarked</u>
1A	<i>arr-</i>
1+2A	<i>marra-</i>
2A	<i>nj/_dj; njiN-</i>
3IA	<i>Ø-</i>
3IIA	<i>nj/_dj; njiN-</i>
3IIIA	<i>ma-</i>
3IVA	<i>N-</i>

<u>Present</u>
<i>(arr-)dja-</i>
<i>marra-</i>
<i>nj-dja-</i>
<i>Ø-</i>
<i>nj-dja-</i>
<i>ma-ya-</i>
<i>nj-dja-</i>

<u>Irrealis</u>
<i>arra-N- ~ N-</i>
<i>marra-</i>
<i>nji-n-</i>
<i>i-n-</i>
<i>nji-n-</i>
<i>ma-n-</i>
<i>gu-n-</i>

ga- 'here' Directional

	<u>Unmarked</u>
1A	<i>arr-ga-</i>
1+2A	<i>marra-a-</i>
2A	<i>njing-ga-</i>
3IA	<i>Ø-a-</i>
3IIA	<i>njing-ga-</i>
3IIIA	<i>ma-ga-</i>
3IVA	<i>ng-ga-</i>

<u>Present</u>
<i>arr-ga-</i>
<i>marra-a-</i>
<i>njing-ga-</i>
<i>Ø-a-</i>
<i>njing-ga-</i>
<i>ma-ga-</i>
<i>ng-ga-</i>

<u>Irrealis</u>
<i>arr-ga-n-</i>
<i>marra-a-n-</i>
<i>njing-ga-n-</i>
<i>i-ya-n-</i>
<i>njing-ga-n-</i>
<i>ma-ga-n-</i>
<i>gu-wa-n- ~ gu-ga-n-</i>

ba- 'there' Directional

	<u>Unmarked</u>
1A	<i>arr-ba-</i>
1+2A	<i>marra-ba-</i>
2A	<i>njim-ba-</i>
3IA	<i>Ø-ba-</i>
3IIA	<i>njim-ba-</i>
3IIIA	<i>ma-ba-</i>
3IVA	<i>m-ba-</i>

<u>Present</u>
<i>arr-ba-ya-</i>
<i>marra-ba-ya-</i>
<i>njim-ba-ya-</i>
<i>m-ba-ya-</i>

<u>Irrealis</u>
<i>arr-ba-n-</i>
<i>marra-ba-n-</i>
<i>njim-ba-n-</i>
<i>gu-n-ba-</i>

Table 7.4 : Transitive Verbal Prefix Paradigms.

Unmarked.

	1E	1+2E	2E	3ME	3FE
1A			<i>nga-na-</i>	<i>arr-ga-</i>	<i>arr-ga-</i>
1+2A				<i>ga-marra-</i>	<i>ga-marra-</i>
2A	<i>barr-</i>			<i>nji-n-</i>	<i>nj-dji-</i>
3IA	<i>Ø-arra-</i>	<i>Ø-marra-</i>	<i>Ø-na-</i>	<i>Ø-an-</i>	<i>Ø-iDJ-</i>
3IIA	<i>nji-rra-</i>	<i>nji-marra-</i>	<i>nji-na-</i>	<i>nji-n-</i>	<i>nj-dji-</i>
3IIIA	<i>ma-rra-</i>	<i>ma-marra-</i>	<i>ma-na-</i>	<i>ma-n-</i>	<i>m-iDJ-</i>
3IVA	<i>Ø-arra-</i>	<i>gu-marra-</i>	<i>gu-na-</i>	<i>Ø-an-</i>	<i>nj-dji-</i>

Present.

	1E	1+2E	2E	3ME	3FE
1A			<i>nga-na-</i>	<i>arr-ga-</i>	<i>arr-ga-</i>
1+2A				<i>ga-marra-</i>	<i>ga-marra-</i>
2A	<i>barr-dja-</i>			<i>nji-n-da-</i>	<i>nji-nga-</i>
3IA	<i>Ø-arra-</i>	<i>Ø-marra-</i>	<i>Ø-na-</i>	<i>Ø-n-da-</i>	<i>Ø-aya-</i>
3IIA	<i>nji-rra-</i>	<i>nji-marra-</i>	<i>nji-na-</i>	<i>nji-n-da-</i>	<i>nji-nga-</i>
3IIIA	<i>ma-rra-</i>	<i>ma-marra-</i>	<i>ma-na-</i>	<i>ma-n-da-</i>	<i>ma-nga-</i>
3IVA	<i>Ø-arra-</i>	<i>gu-marra-</i>	<i>gu-na-</i>	<i>Ø-n-da-</i>	<i>Ø-aya-</i>

Order of prefixes : Absolutive-Ergative(-Present) (except for 3E-1+2A. 7-42). The only complexes involving a substantive Present prefix are 2/3A-3ME and 2A-1E.

Irrealis

	1E	1+2E	2E	3ME	3FE
1A			<i>nga-na-n- ~ nga-Ø-n-</i>	<i>arr-ga-n-</i>	<i>arr-ga-n-</i>
1+2A				<i>ga-marra-</i>	<i>ga-marra-</i>
2A	<i>ba-rra-N- ~ ba-N-</i>			<i>nji-nga-n-</i>	<i>nji-ya-n-</i>
3IA	<i>i-rra-N- ~ Ø-N-</i>	<i>Ø-marra-</i>	<i>Ø-na-n-</i>	<i>Ø-nja-n-</i>	<i>Ø-aya-n-</i>
3IIA	<i>nji-rra-N- ~ nji-N-</i>	<i>nji-marra-</i>	<i>nji-na-n- ~ nji-Ø-n-</i>	<i>nji-nga-n-</i>	<i>nji-ya-n-</i>
3IIIA	<i>ma-rra-N- ~ ma-N-</i>	<i>ma-marra-</i>	<i>ma-na-n- ~ ma-Ø-n-</i>	<i>ma-nga-n-</i>	<i>ma-ya-n-</i>
3IVA	<i>gu-rra-N- ~ gu-N-</i>	<i>gu-marra-</i>	<i>gu-na-n- ~ gu-Ø-n-</i>	<i>gu-nga-n-</i>	<i>go-ya-n-</i>

ga- 'here' Directional Irrealis

	1E	1+2E	2E	3ME	3FE
1A				<i>arr-ga-n-</i>	
1+2A				<i>ga-marra-</i>	
2A	<i>barr-ya-n-</i>				
3IA	<i>i-rra-a-n-</i>	<i>Ø-marra-a-n-</i>	<i>Ø-na-a-n-</i>	<i>i-n-ga-n-</i>	<i>Ø-aya-a-n-</i>
3IIA	<i>nji-rra-a-n-</i>				
3IIIA	<i>ma-rra-a-n-</i>	<i>ma-marra-a-n-</i>	<i>ma-na-a-n-</i>	<i>ma-n-ga-n-</i>	<i>ma-ya-a-n-</i>
3IVA	<i>gu-rra-a-n-</i>		<i>gu-na-a-n-</i>	<i>gu-n-ga-n-</i>	<i>go-ya-a-n-</i>

Order of prefixes : Absolutive-Ergative(-here)-Irrealis (except for 3E-1+2A. 7-42). Prefix complexes involving the 1+2 prefix *marra-*, other than those where it is followed by the 'here' prefix, do not show a substantive Irrealis prefix. For those prefix complexes which vary in length, verbs of 1 or 2 syllables take the long alternant, verbs of 3 or more syllables take the short alternant (see 7-50).

## 7.5.1 The Directional Prefixes.

7.5.1.1 *ga-* 'here'.

The *ga-* prefix paradigm indicates motion towards the location of the speaker. There are no verb stems in Gaagudju which indicate motion towards the speaker. Motional verb stems must be interpreted as describing motion away from the location of the speaker, or motion which is not oriented with respect to the location of the speaker.

- (7-30) *gaayu nji-n-da-ba-ng'gee-ni ga'boondji*  
 Neg 3IIA-IRR-exit-Aux-Aux-P house  
 'She has not exited/come/gone out of the house.' (A162)

To indicate motion towards the location of the speaker, the *ga-* 'here' prefixes must be used.

- (7-31) *arr-ga-balaban'djii-ngi='goodo manang'gaarr*  
 1A-here-run-PI=DUR that.IV  
*gu-'djiinba wa'laangandji moonda*  
 IV-reason breath bad  
 'I ran up here. That is why I am puffing.' (A281)

- (7-32) *arr-'gaa-n-yagi goornmalada*  
 1A-here-FU-go back tomorrow  
 'I will come back here tomorrow.'

In the great majority of cases the relevant location of the speaker is the present location. However in some cases it appears that a future location may be intended.

- (7-33) *ma'neerra-ru gu-marra-a'baanj-ma no'woo-mba*  
 1+2-first 3IVA-1+2E-go first-Aux.FU 3-AUG  
*baarri i-'yaa-n-ya ...=nga=mba='baarri*  
 behind 3IA-here-FU-go ...=1IO=AUG=behind  
 'We will go first. That lot, they will come behind me.' (C59)

In (7-33) it is possible that a future location of the speaker, distinct from the present location, could be intended. The present location of the speaker is also an option, and in light of the general patterning of this prefix this option is possibly to be preferred. While the *ga-* 'here' directional prefix is most commonly attested with motion verbs, it is also found with other types of inherently directional verbs.

- (7-34) *ngame'neega ma'gaarra dji'rriingi*  
 why that.I man  
*Ø-a-wornya-'waa-y='miirdi*  
 3IA-here-Aux-Aux-PR=look back  
 'Why is that man looking back here?' (B740)

The verb *gornya(-wa)*='miirdi' 'to look back' describes an inherently directional process. As such it may take the *ga-* prefix, even though it is not a motion predicate. In addition to its productive functions *ga-* is also found in a lexicalised function in two verbal predicates.

(7-35)	'to be(come), to do, to say'
PP	<i>ga-ma</i>
PI	<i>ga-ma-ri</i>
PIRR	<i>ge-n-ma-ri</i>
PR	<i>ga-ma-y</i>
FU	<i>ge-n-mi</i>
CON	<i>ga-ma-ya</i>

	'to come from'	'to get up'
PP	<i>gee-djama</i>	<i>djama</i>
PI	Not attested	<i>dja'maa-yini</i>
PIRR	<i>ga-n-da'maa-yini</i>	<i>dja'maa-yini</i>
PR	Not attested	<i>djama-y</i>
FU	Not attested	<i>djama</i>
CON	Not attested	<i>dja'maa-ya</i>

The verb *gama* 'to be(come), to do, to say' is analysable as consisting historically of the *ga-* 'here' prefix paradigm and a simple verb root \**ma* (not synchronically attested as an independent verb in Gaagudju). The verb *gadjama* 'to come from' consists of the the *ga-* 'here' paradigm and the simple verb *djama* 'to get up'. In both cases the historical derivation of these lexemes is unclear.

#### 7.5.1.2 *ba-* 'there'

The available data does not suffice to present a full description of the meaning of this prefix. A deictic 'there' meaning component is identifiable in most of its occurrences, and to this extent the *ba-* prefix is the non-proximate counterpart of the *ga-* 'here' prefix. However the *ba-* 'there' prefix differs from the *ga-* 'here' prefix, in that it is not restricted in its distribution to inherently directional verbal predicates.

(7-36)	<i>wa'laalu</i>	<i>manang'gaarr</i>	<i>gaardu</i>	<i>m-ba-'yaa-yu=ma</i>
	place	that.IV	water	3IVA-there-PR-lie=SUB
	<i>ra'baalarr</i>	<i>ma-'yaa-yi-ngi</i>	<i>nang'gaabirri</i>	<i>gaanggi</i>
	river	3IIIA-PR-go-PR	IV.there	high
	'That place, there where the water lies, a river goes there up high.' (B255)			

In the verbal form *m-ba-'yaa-yu*, the *ba-* prefix appears simply to convey the meaning 'there'. The available evidence does not indicate the nature of the difference between the two possible methods of expressing 'it lies there', illustrated in (7-37).

(7-37) *m-ba-'yaa-yu*  
3IVA-there-PR-lie

*nj-djaa-yu nang'gaabirri*  
3IVA-PR-lie IV.there

The two methods are not incompatible with one another.

(7-38) *nang'gaabirri arr-'bee-ngi='goodo ma'gaarra dji'rriingi*  
IV.there 1A-there.go-PI=DUR that.I man  
*Ø-ee-bu Ø-an-'geela-bi=nga*  
3IA-here-went 3IVA-3ME-call out-Aux.PP=IIO  
'I was walking along there, when that man came up and called  
out to me.' (A434)

However it should be noted that elicitation bases of the type 'it lies there' were never freely translated with the prefixal alternative. They were always translated with the alternative involving a free form deictic. This suggests either that discourse strategies are centrally involved in the choice between the two alternatives, or that there are extra components to the meaning of the prefix. The available evidence argues against extra components of meaning. In (7-36), the *ba-* prefix in *m-ba-'yaa-yu=ma* could alternatively be interpreted as meaning 'towards there'. However a 'towards there' interpretation is not compatible with other examples involving *ba-*.

(7-39) *ngi'njaa-ru djorr'nggooma garr'maarna*  
2MIN-first go in.IMP after  
*arr-ba-n-dorr'nggooma ral'boodji*  
1A-there-FU-go in cave  
'You go in first. Afterwards I will go in there, the cave.' (C13)

The *ba-* prefix in *arr-ba-n-dorr'nggooma* cannot be interpreted as having a 'towards there' meaning. It could be interpreted as having a 'to there' meaning. However this 'to there' meaning is not an acceptable interpretation in (7-36). The commonality to the occurrences of *ba-* in (7-36 & 7-39) is 'there'. The directional meaning of the verbal form *arr-ba-n-dorr'nggooma* is supplied by the verb stem. It would therefore appear that the choice between the use of *ba-* and a free deictic, as in (7-37), is determined by discourse factors. This hypothesis is supported to some degree by the only situation where the *ba-* prefix was freely elicitable.

(7-40) *njing-ga-n-da'rree-gi*  
2A-here-FU-go down-Aux  
'Are you going to come down here?'

*awoy arr-ba-n-da'rree-gi*  
 yes 1A-there-FU-go down-Aux  
 'Yes, I will go down there/in that direction.' (A158)

The *ba-* prefix was only freely elicitable when describing motion from the location of the speaker to that of the hearer (i.e. motion between the participants in the discourse). It appears that the *ba-* prefix can occur with any motion verb. It is most commonly attested with 'to go'.

(7-41) *ma-ya-ba'rdeedj=ma'djiirli ba'rdaambarda maardarn*  
 place name billabong small  
*marra-ba-'yaa-yi-ngi=mba gaardu nj-djaa-yu=ma*  
 1+2A-there-PR-go-PR=AUG water 3IVA-PR-lie=SUB  
*maardarn roolorr ma'gaadja wa'laalu*  
 small spring that.IV place  
 'Ma-ya-ba'rdeedj=ma'djiirli, it is a small billabong. We go there. There is a small amount of water. It is a spring that place.'  
 (B257)

In addition to its usual distal deictic function, the *ba-* prefix is also found with a distal temporal meaning in ascriptive clauses involving 'to go' (9.10).

### 7.5.2 The Pronominal Prefixes.

There are a number of points of interest in the paradigmatic analysis of pronominal prefixing. The first of these is that the pronominal prefixes largely display an Absolutive - Ergative patterning (9.2); with a couple of exceptions to be discussed in this section. Dixon (1980 : 367) notes that systems of bound pronominals in Australian languages normally display a Nominative - Accusative pattern. However it should be further noted that Nunggubuyu, which is similar to Gaagudju in having a complex system of verbal cross-referencing of noun class, also shows Absolutive - Ergative patterning in the forms of some pronominal prefixes (Heath 1984 : 375). It is also important to note that the verbal Absolutive prefixes are largely identical to the nominal prefixes found in the Adjectival Declensions 1 and 2, especially those of Declension 1 (6-24).

A second point of interest arises from the way the Absolutive - Ergative patterning is constructed in some of the complexes. In the case of prefix complexes involving a 3rd person Ergative, and a 1st person or 1+2 person Absolutive, the Ergative prefix is formally identical to the *ga-* 'here' Directional prefix (Tables 7.3 & 7.4). The *ga-* prefix as a directional prefix indicates that an inherently directional process is directed towards the location of the speaker (7.5.1.1). In historical terms, its Ergative function with 1st and 1+2 Absolutives almost certainly developed through an inverse meaning. However it does not appear that the Ergative and Directional functions can be synchronically united as aspects of the meaning of a single overall prefix. The strongest evidence against such a hypothesis comes from complexes involving a 3rd person Ergative and a

1+2 Absolutive. These complexes are structurally distinct from those involving the Directional prefix and a 1+2 Absolutive.

(7-42)	<i>ga-marra-</i> 3E-1+2A-	<i>marra-a-</i> 1+2A-here-
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The *ga-marra-* '3E-1+2A-' prefix complex involves a structurally irregular Ergative-Absolutive ordering. Prefixes complexes involving a 1st person Absolutive, and a 3rd person Ergative, are structurally regular. They are also structurally identical to those involving a 1st person Absolutive, and the *ga-* 'here' prefix.

(7-43)	<i>arr-'gee-bu</i> 1A-here-went 'I came here.'
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(7-44)	<i>arr-'gee-bu-mu</i> 1A-3E-hit-PP 'He hit me.'
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However the two forms are semantically distinct, and must consequently be analysed as distinct forms. The *ga-* prefix in (7-43) indicates that the process is directed towards the location of the speaker. The *ga-* prefix in (7-44) indicates that the process is directed towards the speaker, rather than towards the location of the speaker. Further the *ga-* prefix in (7-44) indicates that the process is directed by a 3rd person entity. This information must be specified, as 2nd person entities would be equally capable of directing the process towards the speaker (i.e. if *arr-'gee-bu-mu* simply meant "hitting directed towards the speaker", then a 2nd person Subject should be acceptable - it is not). There is one situation where the *ga-* prefix conveys both Directional and Ergative meanings.

(7-45)	<i>nji-n-'gaa-ngga</i> 2A-3ME-take-PP 'He took you.'	<i>arr-'gee-ga-ngga</i> 1A-3E-take-PP 'He took me.'
	<i>nji-n-'gee-ga-ngga</i> 2A-3ME-here-take-PP 'He brought you here.'	<i>arr-'gee-ga-ngga</i> 1A-3E.here-take-PP 'He brought me here.'

As illustrated in (7-45), transitive motional verbs may take the *ga-* 'here' prefix. However prefix complexes involving a 3rd person Ergative and a 1st person Absolutive do not show a double occurrence of the *ga-* prefix to mark the separate Directional and Ergative functions. In other words the form for 'He brought me here' is not as in (7-46).

(7-46)	<i>*arr-ga-ga-'gaa-ngga</i> '1A-3E-here-take-PP'.
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It is rather the form in (7-45) *arr-'gee-ga-ngga*, which is identical to 'He took me'. Synchronically, the *ga-* prefix in forms such as *arr-'gee-ga-ngga* is to be analysed as a portmanteau morpheme. It is not to be analysed as a single morpheme, which is conveying the full range of its potential meanings. Diachronically, these particular prefix complex forms provide very clear evidence of the relationship between the two functions of the *ga-* prefix.

It would also appear that the other Directional prefix, *ba-* 'there' (7.5.1.2), had a role within the pronominal prefix system historically. The commonest form for a complex involving a 1st person Ergative and a 2nd person Absolutive is the portmanteau morpheme *barr-*. However in the Irrealis paradigms, there is a long form *ba-rra-*, which is segmentable as indicated. The *rra-* prefix is identifiable as having a 1st Ergative function. The *ba-* prefix does not occur elsewhere as a 2nd Absolutive prefix. However there is reason to identify it historically with the *ba-* 'there' prefix. The only situation where the *ba-* prefix was freely elicitable in the available data was to describe motion by the Speaker to the location of the Hearer (7-40). Given this apparently prototypical directional meaning, it does not appear unreasonable to posit a historical extension in meaning to indicate direction of the process from the speaker to the hearer.

Another area of considerable interest in the paradigmatic analysis of the pronominal prefixing system are the various morphological neutralisations of the person categories that are evident. Both the Ergative and the Absolutive prefix classes show a major person neutralisation. The Ergative prefixes show a binary Masculine vs Feminine opposition within the third person. Referents from Class I take Masculine concord, whereas referents from Classes II, III and IV take Feminine concord. This neutralisation pattern is also found with the personal pronouns (6.6), with the Numerals (8.5.6), and with the Indirect Object enclitics (8.6). However it should be noted that the Masculine and Feminine forms are not distinct in all cases. As we have seen, in prefix complexes involving a 1st or 1+2 Absolutive, the Masculine and Feminine Ergative are identical. Also there is the prefix *nga-*, which is found as a Masculine Ergative in the Irrealis, and as a Feminine Ergative in the Present. There are also further complications when Number marking comes into play (8.5.2 & 8.5.3).

The Absolutive prefixes show a neutralisation of the 2nd person with the 3II (feminine) person, under the prefix *njiN-*. This prefix is also found in the Adjectival Declensions 1 and 2, as the 3II prefix (6-26). In both verbal and adjectival paradigms this prefix reduces to *N-* before stems commencing with the palatal stop (6-30). However in the adjectival Declensions, the 2nd person is minimally differentiated from the 3II person. The 2nd person takes the prefix *njin-* in adjectival Declensions (6-24). As with the Masculine vs Feminine neutralisation found in the Ergative prefixes, there are certain complications which arise with the 2nd/3II neutralisation, when Number marking comes into play (8.5.2 & 8.5.3).

In addition to these two major neutralisations, there are two minor neutralisations which are reflected in parts of the prefix paradigms.

The first of these is a neutralisation of the 3I and 3IV persons in certain prefix complexes. In Unmarked or Present prefix complexes involving a 1st or 3rd Ergative, and a 3IV Absolutive, the 3IV Absolutive is marked with the null prefix  $\emptyset$ -, which is otherwise a 3I Absolutive prefix. This paradigmatic pattern can also be viewed as neutralisation forms with a 2nd or 1+2 Ergative (i.e. forms which are +2E). There is one exception to this pattern. In the Unmarked 3IVA-3FE complex, the 3IV Absolutive is formally identical to the 3II Absolutive, and not the 3I Absolutive. This is a neutralisation of the 3II and 3IV persons. This neutralisation is also found in Intransitive Present, and in the paradigm of the *ma'gaarra* 'that demonstrative (6-126).

There is reason to believe that these various morphological neutralisations are not simply chance neutralisations which do not have any motivation. Rather there is reason to believe that they represent socially and semantically motivated superclassings. However a consideration of these social and semantic motivations requires a detailed comparison with person marking systems found in other Australian languages, and a consideration of the ideological nature of gender based oppositions within patterns of Aboriginal social organisation. Examination of these issues is beyond the scope of this grammar. They are examined in Harvey (MSa).

There are some other minor groupings of person categories, which are evidenced by patterns other than morphological neutralisations. One of these is a grouping of the 1st and 1+2 persons. As we have seen in this section, complexes involving a 3rd Ergative, and a 1st or 1+2 Absolutive, are constructed on a special pattern. There is some additional evidence for grouping of these two persons from other parts of the verbal complex. In future intransitive paradigms involving a trisyllabic verb, forms with a 1st or 1+2 Absolutive show penultimate stress, whereas forms with a 2nd or 3rd Absolutive show ante-penultimate stress (5-55). Finally there is evidence from the paradigms of the verbs *na* 'to burn (intr)' and *ni* 'to sit'. These two verbs show a person-based variation in the form of the verb stem in the Irrealis tenses (7.7, also see Appendix 2).

(7-47)	'to burn (intr)'	'to sit'
1/1+2A	<i>ngana</i>	<i>ngani</i>
2/3A	<i>na</i>	<i>ni</i>

The 1+2 person is also involved in a grouping with the 3I person in the intransitive Present. These are the only two persons which do not take the *dja*- Present tense prefix in intransitive verbal complexes. The paradigms of the three stance verbs *yu* 'to lie', *ni* 'to sit', and *dji* 'to stand' provide evidence that this does not result simply from the chances of historical deletion. These three verbs show a person-based variation in the form of the verb in the Present (Appendix 2).

(7-48)	'to lie'	'to sit'	'to stand'
1+2/3IA	<i>yo-ri</i>	<i>ni-ri</i>	<i>dji-ri</i>
Other	<i>yu</i>	<i>ni</i>	<i>dji</i>

The final minor grouping involves transitive prefix complexes which involve either a 3M Ergative and 3rd Absolutive, or a 1st Ergative and a 2nd Absolutive. In the Present transitive prefix paradigms, these are the only prefix complexes which take the Present tense prefix *dja-*. As with the other minor groupings, there is supporting evidence from other verbal variations. The 3M Ergative prefix *an-* ~ *n-* and the portmanteau 2A.IE prefix *barr-* are the only Ergative prefixes which do not have a lexical stress (5.1.2). The verb *ma* 'to get' shows a variation in the form of the verb in the Past Perfective, which shows an identical person-base to that found with the *dja-* prefix.

(7-49)	'to get'
2A.1E/3A.3ME	<i>ma-gi</i>
Other	<i>ma</i>

The last two groupings are in turn themselves suggestive of a higher level grouping of the 3rd Masculine, with combinations of the 1st and 2nd persons. As with the morphological neutralisations, there is reason to believe that these groupings are motivated by considerations of superclassing (Harvey MSa).

The 1st, 1+2 and 2nd persons are also involved in a number of other unusual patternings. The construction of 2A.1E complexes has already been discussed. Prefix complexes of the form 1A-2E are unusual in that they involve a 1A form *nga-*, which is not found elsewhere in the prefixal paradigms. The 1+2 person forms are also unusual in a number of aspects. The 1+2 person is the only person which has a constant form, *marra-* which is found in all paradigms, and in both Absolutive and Ergative functions. The only other prefix form which occurs in both Absolutive and Ergative functions is 1st person form *arra-*, which is found as an intransitive Irrealis form, and as an Ergative Unmarked and Present form. It does however seem likely that there is some historical connection between this *arra-* form and the usual 1st person Absolutive form *arr-*.

Prefix complexes involving the 1+2 person are also unusual in that they normally lack Irrealis tense marking. The only forms involving the 1+2 person which standardly show Irrealis tense marking are the forms in the *ga-* 'here' paradigms. In these cases the *ga-* 'here' directional prefix intervenes between the 1+2 prefix and the tense prefix. All other prefix complexes show Irrealis tense marking.

The general consistency of Irrealis marking is one of the factors which singles out the Irrealis paradigm vis a vis the other two paradigms. The Irrealis paradigm is also distinguished by three other factors. Firstly it shows consistent class marking within the 3rd person Absolutives, unlike the other two paradigms. Secondly the 3I Absolutive is distinguished by the occurrence of an *i-* prefix in certain Irrealis prefix complexes. This *i-* prefix is also irregularly found with certain Declension 1 and 2 nominal

stems (6-29). Thirdly it shows an alternation between long and short prefix complex forms in a number of cases. Verbs which are 2 syllables or less in length invariably take the long forms. Verbs which are greater than 3 syllables in length invariably take the long forms. There is some variation with verbs of 3 syllables, depending on their internal morphological structure. Verb forms which consist of a trisyllabic verb stem invariably take the short forms of the prefix complexes. However verb forms which involve a mono- or di-syllabic verb stem, and a suffix, show variation.

(7-50)	<i>ma-rra-ng-ga'rraa-ri</i>	<i>ma-ng-ga'rraa-ri</i>
	3IIIA-1E-IRR-have-P	3IIIA-1E.IRR-have-P
	'I did not have it.'	'I did not have it.'

For transitive verbs involving the *ga-* 'here' Directional prefix, it was only the Irrealis paradigm that could be elicited with consistency. The Unmarked and Present paradigms appeared to be individually lexicalised to each verb (readers are advised to examine the paradigms of 'to bring', 'to bring back' and 'to send here' in Appendix 2). There are no examples of the other Directional prefix, *ba-* 'there', occurring with a transitive verb in the available data. The intransitive prefixal paradigms for forms involving the *ba-* 'there' prefix are somewhat uncertain, as this prefix is not well attested. One of the forms, the 3IVA Irrealis form is apparently structurally irregular.

(7-51)	<i>gu-n-ba-</i>	* <i>gu-ba-n-</i>
	3IVA-IRR-there-	*3IVA-there-IRR-

This form is presently attested only with the verb *ya* 'to go' (Appendix 2). It shows an irregular ordering of the Tense prefix to the left of the Directional prefix. However given the fact that the other forms in the Irrealis *ba-* paradigm show a regular ordering, it seems likely that it is either a mistake, or is a form lexicalised within the paradigm of 'to go'.

## 7.6 Conjugational Groupings.

The variation in suffixal paradigms in Gaagudju is such that it is not profitable to attempt any precise conjugational groupings. However an examination of the paradigms reveals that in most cases they fall within one of two super-conjugations.

(7-52)	Conjugation 1	Conjugation 2
PP	-Ø	-Ø/-gi
PI/PIRR	-ri/-ni/-yini	-ngi
PR	-Ø/i_, -y	-ngi
FU	-Ø	-Ø/-ya
CON	Vowel grade/-ya	-gi

There are approximately 30 simple verbs in Conjugation 1, and approximately 20 in Conjugation 2 (allowing for the inherent problems in

distinguishing between simple and compound verbs in Gaagudju. 7.2). Conjugation membership is entirely arbitrary. There is independent evidence supporting these super-conjugations, in terms of choice of detransitiviser (9.6.1). Transitive verbs from Conjugation 1 take the *-y* detransitiviser, whereas transitive verbs from Conjugation 2 take the *-dji-gi ~ -nggi ~ -gi* detransitiviser. The Conjugation 2 detransitiviser itself belongs to Conjugation 1, and thereby derives a Conjugation 1 verb. The only exception to this pattern is the Conjugation 1 auxiliary *-ba* (7-9 following), whose detransitivised form is *-ba-nggi*.

This correlation between suffixal paradigmatic patterns, and choice of detransitiviser, argues that the super-conjugations have some kind of synchronic status in Gaagudju. Exactly how this synchronic status is to be formally represented remains unclear. The diachronic development of the super-conjugations is also rather uncertain. A few of the allomorphic variations can be eliminated historically. The variation between  $\emptyset$  and *-y* in the PR of Conjugation 1 has a direct phonological explanation. The  $\emptyset$  suffix is only found after /i/, and presumably results from a straightforward deletion of *-y* after /i/. The *-yini* PI/PIRR variant in Conjugation 1 is only found with a few intransitive verbs. The PI/PIRR form of the Conjugation 1 detransitiviser is *yi-ni*, and it seems likely that the *-yini* suffix has been adopted from this form.

#### 7.7 Tense, Aspect, and Mood Categories.

The following tense, aspect and mood categories are marked in in the Verbal Complex.

(7-53)	Past Realis Perfective	PP
	Past Realis Imperfective	PI
	Past Irrealis	PIRR
	Present	PR
	Future	FU
	Conditional	CON
	Hortative	HOR
	Positive Imperative	IMP

Even though these categories involve a variety of aspect and mood meanings, as well as tense meanings, I use the term "tense" as a cover term for "Tense, mood and aspect category". I recognise that this is not entirely satisfactory, but it accords with traditional practice, and there is no generally accepted alternative designation. Among the tenses, the Hortative and the Positive Imperative, are morphologically differentiated from the other tenses. The Hortative is a minor tense, which is only morphologically differentiated from the Future in a few intransitive verb paradigms (7.8). The Positive Imperative takes a very different structure in its prefix complex, to that found with all the other tenses (7.9 & 9.4). Given these morphological differences, the Hortative and the Positive Imperative are analysed separately from the other tenses.

The other six tenses pattern together morphologically. An example of the standard pattern for the morphological realisation of these tenses is given in (7-54), which lists the relevant forms of the verb 'to paint' with a 3I Absolutive and a 3M Ergative.

(7-54)

PP	Ø-an-'beerra-wa	'He painted him.'
PI	Ø-an-ba'r'raa-wa-ri	'He was painting him.'
PIRR	Ø-nja-n-ba'r'raa-wa-ri	'He was going to paint him.'
PR	Ø-n-da-ba'r'raa-wa-y	'He is painting him.'
FU	Ø-nja-n-ba'r'raa-wa	'He will paint him.'
CON	Ø-an-ba'r'raa-wa-ya	'He might paint him.'

The distribution of prefixal paradigms is invariant across all verbs. The PIRR and FU take the Irrealis paradigm; the PR takes the Present paradigm; and the other tenses, the PP, the PI and the CON, take the Unmarked paradigm. The PI and PIRR always take the same suffix, when a suffix is segmentable. This suffix is nearly always distinct from the suffixes found in the PP and in the FU. In this way the PI is normally distinguished from the PP, and the PIRR from the FU, by suffixation. If a suffixal opposition of a substantive suffix vs the null suffix -Ø is involved, then the PI and PIRR will always take the substantive suffix, as in (7-54).

If there is no segmentable suffix, then this means that the verb shows irregular stem variation according to tense. In this case the PI and PIRR will normally show the same stem, and this stem will be different from that found in the PP and/or FU. There are only two verbs which have identical PP and PI forms; *ni* 'to sit' and *dji* 'to stand' (Appendix 2). Similarly there are only two verbs which have identical PIRR and FU forms; *nawa* 'to put' and *warra* 'to take back' (Appendix 2).

It seems likely that the substantive stem and suffixal identities between the PI and PIRR indicate that there are certain semantic commonalities between the two tenses, which serve as basis for grouping them together. I suggest that they are grouped together against the PP, within the overall Past tense category. There is evidence in many of the northern languages for groupings of forms marking realis imperfective aspect with forms marking irrealis mood (Merlan 1981b, own fieldwork on other languages). I suggest that one of the major semantic commonalities between realis imperfective aspect and irrealis mood, as opposed to realis perfective aspect, is that both realis imperfective aspect and irrealis mood involve some modification of the event. Realis perfective aspect, on the other hand, simply presents the event as an unmodified whole (see 7.7.1 for a discussion of the differences between perfective and imperfective aspect). This hypothesis clearly requires further investigation on an areal comparative basis, particularly as to the nature of "modification" (see Merlan 1981b for a textual understanding of this "modification").

The PR also shows some tendency to group with the PI and PIRR, in terms of substantive suffixal morphology. The PR takes the same substantive suffix as the PI and PIRR in approximately 25% of verbs. The stem augment suffix *-ngga*, which occurs with verbs belonging to the *-ba*

Auxiliary conjugation (7-9), is found only in the PI, PIRR and the PR. These substantive suffixal identities between the PR and the PI/PIRR may also signal a degree of semantic commonality between the PR and the PI/PIRR. In the great majority of its occurrences, the PR is imperfective in aspect. As such the PR may be classed to a considerable degree with the PI. However, some of the occurrences of the PR are perfective in aspect, and consequently the PR cannot be classed with the PI/PIRR absolutely. This accords with the fact that the PR takes its own distinctive suffix with approximately 40% of verbs. This degree of suffixal independence shown by the PR, is matched by its partial prefixal independence. A number of Present prefix complex forms are distinctive. However in a considerable number of cases, they are identical to the Unmarked forms (Tables 7.3 & 7.4).

The PR may also fall together with the PP and FU, when all three tenses are marked with the  $-\emptyset$  suffix. This happens with approximately 15% of verbs. However this does not reflect any semantic commonalities between the PR, and either the PP or the FU. Rather it simply represents a default identity that has arisen through historical chance. The verbs having a  $-\emptyset$  PR suffix, are nearly all verbs with /i/ final stems which belong to Conjugation 1. The  $-\emptyset$  suffix in this case almost certainly results historically from the deletion of the usual Conjugation 1 Present tense suffix  $-y$  following /i/ (7.6).

The common marking of the PP and the FU by the  $-\emptyset$  suffix appears to be a somewhat different matter. Firstly it has a high frequency, occurring in 65% of all verbs. Secondly, there are a number of verbal paradigms which show other types of formal identities distinctive of the PP and the FU.

(7-55)	'to jump'	'to be full up'
PP	<i>ba'leeburrbu</i>	<i>ba'loolburrbu</i>
PI/PIRR	<i>balabarra-'gee-ni</i>	<i>balbarra-'gee-ni</i>
PR	<i>balaba'rree-gi</i>	<i>balba'rree-gi</i>
FU	<i>ba'leeburrbu</i>	<i>ba'loolburrbu</i>
CON	<i>balabarra-'gee-ya</i>	<i>balbarra-'gee-ya</i>
	'to forget'	'to look around'
PP	<i>gadawa'rrarrama</i>	<i>gornya</i>
PI/PIRR	<i>gadawarra'maa-yini ~ -ri</i>	<i>gornya-'waa-yini</i>
PR	<i>gadawarra'maa-y</i>	<i>gornya-wa-y</i>
FU	<i>gadawa'rraarrama</i>	<i>gornya-gi</i>
CON	<i>gadawarra'maa-ya</i>	<i>gornya-'waa-ya</i>
	'to chase'	'to track'
PP	<i>ba'geerna-wa</i>	<i>djirr'boolo-wa</i>
PI/PIRR	<i>baga'rnaa-wa-ri</i>	<i>djirrbo'loo-wa-ri</i>
PR	<i>baga'rnaa-wa-y</i>	<i>djirrbo'loo-wa-y</i>
FU	<i>ba'gaarna-wa</i>	<i>djirr'boolo-wa</i>
CON	<i>baga'rnaa-wa-ya</i>	<i>djirrbo'loo-wa-ya</i>

In the paradigms of 'to jump', 'to be full up', and 'to forget', the PP and FU are marked by a common form, which is not regularly related to the forms in the other tenses. In the paradigm of 'to look around', the PP and FU both lack the auxiliary *-wa*, which is found in the other tenses. In the paradigms of 'to chase' and 'to track', the PP and the FU both show an irregular ante-penultimate stress on the verb stem, as opposed to the regular penultimate stress found with the other tenses. The formal identities in (7-55) suggest that the frequent common marking of the PP and the FU with  $-\emptyset$  is not simply a chance default sharing.

A full analysis of the potential grouping of the PP and the FU would require a larger database. In terms of the available material, the most plausible hypothesis appears to be an analysis in terms of equivalences between oppositions. I would suggest that one of the primary oppositions in the Gaagudju tense system is that between the Irrealis and the Unmarked/Present. We have seen in (7.5.2) that this is the major tense opposition within the prefixal system. The Unmarked/Present is largely a Realis category, and therefore the opposition can be described in prototypical terms as a Realis/Irrealis opposition.

I would further suggest that the PP and the FU are the primary focal tenses within each category of this Realis/Irrealis opposition. The high frequency of  $-\emptyset$  suffixing in both tenses, and the formal identities in (7-55), can be understood as indicating that the PP and the FU are the primary exemplars of the Realis/Irrealis opposition. Within the Irrealis category, the FU is of course opposed to the PIRR. Within the Realis category, the paradigmatic evidence indicates that the PP is most prominently opposed to PI. The PR is, to a degree, an independent tense. However in paradigmatic terms it clearly classes with the Realis tenses, rather than the Irrealis tenses.

The proposed Realis/Irrealis opposition encounters a significant anomaly with the CON tense. Semantically the CON is an Irrealis tense, and indeed in any scalar analysis of the Realis/Irrealis relationship, it would count as the most Irrealis tense. Nevertheless it takes the Unmarked prefixal paradigm, which otherwise marks Realis tenses. Further the CON is in fact only minimally differentiated from the PP. In a number of verbal paradigms, it is formally identical to the PP, and in a number of other verbal paradigms, it is only formally differentiated from the PP by a more extensive occurrence of vowel grade (4.7.2 & Appendix 2).

I do not have an explanation for the apparently anomalous marking of the CON, nor for its formal relationship to the PP. Consequently it must be treated as an anomaly within the paradigmatic analysis of the tense system presented here. However it is worth noting that very similar anomalies occur in at least two other languages of the Top End. The Daly River language Marrithiyel (Green 1989 : 147) shows a fundamental Realis/Irrealis opposition in its verbal tense system, similar to that of Gaagudju. Nevertheless the most Irrealis tense within the tense system of Marrithiyel, the Apprehensive tense, takes Realis marking formally. The Nunggubuyu language from south-eastern Arnhemland shows a broadly similar pattern (Heath 1984 : 337 - 338). The occurrence of this apparently anomalous pattern in three widely separated, and



essentially unrelated, languages suggests that the functioning of Conditional-like tenses with respect to the Realis/Irrealis opposition requires further investigation.

### 7.7.1 The Past Perfective and the Past Imperfective.

These two tenses are best examined together, as they are in an immediate binary opposition with one another, in both morphological and functional terms. The morphological opposition is examined in (7.7). This section examines the functional opposition. Comrie (1976 : 16) gives the following definitions of perfectivity and imperfectivity "perfectivity indicates the view of the situation as a single whole, without distinction of the various separate phases that make up the situation; while the imperfective pays essential attention to the internal structure of the situation." This summation appears to capture the nature of the difference between these two Gaagudju tenses in an adequate manner. Their patterns of usage correlate with the prototypical cross-linguistic patterns of usage for perfective and imperfective forms (Comrie 1976 : 16 - 40). The PP is normally used to convey past punctual meanings.

- (7-56)    *Ø-arro-o'ree-garra*  
 3IA-1E-see-Aux.PP  
 'I saw him.'

The PI is normally used to convey past habitual meanings, and to indicate setting situations.

- (7-57)    *ba'rraangirr    arr-ga-marda-ba'raa-ni    djaarra*  
 old days            1A-3E-carry-Aux-PI            horse  
*Ø-arra-baga'rnaa-wa-ri    mboodaru    gaala    gaayu*  
 3IA-1E-chase-Aux-PI    now            okay Neg  
 'In the old days, I used to ride horses, and chase (cattle), but not now.' (B141)

- (7-58)    *arr-'gee-bu            ngaanj-ma            nj-djo'ree-ni=mba*  
 1A-here-went    1MIN-PRM            2A-lie-PI=AUG  
*ngo'rroongirr*  
 sleep  
 'When I came here, you lot were sleeping.' (16)

However the usage of the PP and PI is not necessarily controlled by the nature of the real world situation. As Comrie (1976 : 4) stresses, it is possible to present a particular situation from both a perfective, and an imperfective, viewpoint.

- (7-59)    *nga'meena    Ø-ee-ni-ngi='goodo            ma'gaadja    u'luunggulu*  
 what            3IA-3FE-cook-PI=DUR    that.II            old woman  
 'What was that old woman cooking?'

*Ø-ee-ni-gi*                      *bu'djoodu*  
 3IA-3FE-cook-PP    *goanna*  
 'She cooked a goanna.' (361)

- (7-60)    *Ø-an-ba'rree-wa-ri=da*                      *Ø-an-'beerra-wa=da*  
 3IA-3ME-paint-Aux-PI=MA    3IA-3ME-paint-Aux.PP=MA  
*iinjdu*            *nga'meena='naawu*    *iinjdu*    *i-n-'daarra-bu=da*  
 S.A.            what=3MDAT            S.A.    3IA-FU-dance-Aux=MA  
 'They were painting them. They painted them. I wonder what  
 for? Maybe they will dance.' (B24)

One factor which is important in the construction of the perfective/imperfective opposition is the punctual vs iterative contrast. (Comrie 1976 : 41 - 44). In Gaagudju, verbs with a punctual inherent aspect appear in the PP, unless some meaning prototypically associated with the PI is intended. Similarly verbs with an iterative inherent aspect appear in the PI, unless some meaning prototypically associated with the PP is intended. The significance of inherent aspect is illustrated by usual past tense forms shown by the pairs of verbs in (7-61).

- |        |                    |                        |
|--------|--------------------|------------------------|
| (7-61) | Usually PP         | Usually PI             |
|        | <i>go'do-biri</i>  | <i>godo-bidj-'biri</i> |
|        | 'to cut'           | 'to cut up'            |
|        | <i>go'rronj-ma</i> | <i>mard-'borda</i>     |
|        | 'to get water'     | 'to get wood'          |

In their unmarked interpretations at least, the verbs which normally take the PP have a punctual inherent aspect, whereas the verbs which normally take the PI have an iterative inherent aspect. Aspectual interpretations do not however depend solely on the inherent aspect of the verbal predicate. They are compositional interpretations, which are also influenced by the other constituents of the clause/proposition (Comrie 1976 : 16, Dowty 1979 : 71). In the case of Gaagudju the nature of the Object is also relevant.

- (7-62)    *ma'gaarra*    *ma-n-'daa-ri='godo*                      *djaamu*    *ma-'baalgi*  
 that.I            3IIIA-3ME-eat-PI=DUR    tucker    III-lots  
*manang'gaarr*    *gu-'djiinba*    *gu'djiirri*  
 that.IV            IV-cause    sick  
 'That (kid) ate lots of tucker. That is why he is sick.' (B289)

- (7-63)    *maada*            *Ø-a'rree-ba*    *djaarli*    *Ø-baalgi*  
 yesterday    3IA-1E-ate    meat    I-lots  
 'Yesterday I ate lots of meat.' (A220)

- (7-64)    *ma'gaarra*    *dji'rriingi*    *Ø-n-darroba'rroo-ma*                      *cigarette*  
 that.I            man            3IVA-3ME-smoke-Aux.PP

*no'woogoda*

M.one

'That man smoked one cigarette.' (B299)

The verb 'to eat' has an unmarked punctual inherent aspect. However in (7-62), an iterative interpretation arises from the fact that a large amount of food was eaten. This iterative interpretation is overtly signalled by the use of the PI. As (7-63) demonstrates, the iterative interpretation is not obligatorily marked. The verb 'to smoke', on the other hand, has an unmarked durative/iterative inherent aspect. However in (7-64), the specification that only one cigarette was smoked provides a punctual interpretation, which is overtly signalled by the use of the PP. It seems likely that the same factors would also be relevant with Intransitive Subjects, though this is not attested in the available data.

The available data is not sufficient to permit a full analysis of the distribution of the PP and the PI. Their distribution appears to show a degree of lexicalisation. Table 7.5 lists the verbs which normally take the PI, when describing a Past Realis situation. There do not appear to be any immediately obvious distinguishing criteria which would group the verbs in Table 7.5 together as a coherent class or classes. The apparently lexicalised nature of some of the appearances of the PP and PI suggests that a more detailed analysis of inherent lexical aspect would prove profitable.

It should be noted that there is some evidence that the PP is the unmarked partner in this pairing of tenses (morphologically it is the unmarked tense. 7.7). There are occasional examples of the PP conveying a prototypical meanings of the PI: the past habitual.

(7-65) *nganj-'ngiirla wa'laaladama njing-gordoma-'djee-gi=nga*  
 1MIN-aunt always 3IIA-tell off-Aux-Aux.PP=1IO  
 'My aunt always used to tell me off.' (B606)

(7-66) *ba'rraanggirr Ø-a'rree-ma=mba ngaarndjil*  
 old days 3IA-1E-got=AUG fish  
*Ø-a'rree-ma=mba ngaarndjil dju'raadjunu mboodaru*  
 3IA-1E-got=AUG fish file snake now  
*irribin'djoori Ø-idj-'baalgi*  
 crocodile I-Aug-lots  
 'In the old days we used to get fish and file snakes (there). Now there are lots of crocodiles.' (A557)

There are no examples of the PI being used to convey the prototypical punctual meaning of the PP. The apparently unmarked status of the PP with respect to the PI, correlates with its apparently unmarked status with respect to the PIRR (7-76 & 7-77). Both the PP and the PI are used to convey Present Perfect meanings.

(7-67) *arr-'geema=nja ngo'yoondjida i-'laawala*  
 1A-say.PP=2IO already I-little  
 'I have already told you once little boy.'

Table 7.5 : Verbs Usually Taking the PI

<i>dja'rre-ni-ngi</i>	'to be in pain'
<i>ga'lamarr-wa</i>	'to be jealous'
<i>barda-'winjminj-ma</i>	'to blink'
<i>garda-'winjminj-ma</i>	'to break up (tr)'
<i>godo-bidj-'biri</i>	'to cut up'
<i>dja'rra-bu</i>	'to dance'
<i>ga'djirr-ma</i>	'to dig'
<i>dja-wa</i>	'to dislike'
<i>ga='woorro</i>	'to drag'
<i>mard-'borda</i>	'to get wood'
<i>djardamanj-'ma-gi</i>	'to go around'
<i>djurr-wa</i>	'to grind'
<i>gada'rra-bu</i>	'to hang out (intr)'
<i>ma'rdedji</i>	'to hide (intr)'
<i>bard-ba-nggi</i>	'to hang up (intr)'
<i>garra</i>	'to have'
<i>balabarr'barra</i>	'to jump about'
<i>gambiri</i>	'to laugh'
<i>gardaba</i>	'to look for'
<i>burri</i>	'to rub string'
<i>go'do-biri</i>	'to be open'
<i>ba'rra-wa</i>	'to paint'
<i>djardaga'rdega</i>	'to play'
<i>ga'djirrba-ba</i>	'to poke around'
<i>ma'da-wa</i>	'to rub firesticks'
<i>gardabal-'bu-y</i>	'to rub back'
<i>balaba'bandji</i>	'to run around'
<i>mo'no-ma-gi</i>	'to scratch (detr)'
<i>goro-ga'rra-y</i>	'to see (detr)'
<i>bula'rra-bu</i>	'to shake (intr)'
<i>ba'rla-bu</i>	'to sing'
<i>barna'ree-ga</i>	'to slide'
<i>djarroba'rro-ma</i>	'to smoke'
<i>gordongo'lo-wa-y</i>	'to sway'
<i>gardanganj'ngara</i>	'to swim'
<i>ba'la-bu</i>	'to talk'
<i>djirrbolo-wa</i>	'to track'
<i>ma'rre-wa</i>	'to wait for'
<i>djarrawi'wi</i>	'to walk about'
<i>raga='maarr</i>	'to want'
<i>djirr'ba-gi</i>	'to warm up'
<i>raga</i>	'to weave'

*ngo'yoogoda arr-'geenmi=nja ba-'rree-m-bu*  
 F.one 1A-say.FU=2IO 2A-1E-FU-hit  
 'If I have to tell you again, I will hit you.' (B125)

(7-68) *djoorr-wa wurri'djoonggo*  
 grind-Aux.IMP lily seed  
 'Grind up the lily seeds!'

*ngo'yoondjidida Ø-arra-djurr-'waa-ri='godo*  
 already 3IVA-1E-grind-Aux-PI=DUR  
*wurri'djoonggo*  
 lily seed  
 'I have already ground up the lily seeds.' (B38)

(7-69) *arr-'djii-ngi='godo goornmu ma-'rree-ni-ngi='godo*  
 1A-stand-P=DUR morning 3IIIA-1E-cook-PI=DUR  
*djaamu gaala Ø-dja-a'rdaa-bu-njdji ngo'rroonggadi*  
 tucker okay 1A-PR-tired-Aux-PR back  
*ga'rree-ni-ngi*  
 hurt-Aux-PI  
 'I have been standing up all morning, cooking tucker. I am  
 tired. My back is hurting.' (B798)

### 7.7.2 The Past Irrealis

The PIRR conveys all types of past unactualised meanings. It occurs in two major construction types. The first of these is a Past Negative construction, which involves the Negator *gaayu*. This Past Negative construction is examined in (9.7.2). The other construction type is the simple PIRR verb form. This construction conveys all types of non-negative past unactualised meanings.

(7-70) *gu'djiirri m-bee-ngi=nga dja'rroonggoda*  
 sick 3IVA-go.there-PI=1IO near  
*arra-warr'gee-ni*  
 1A.IRR-die.P  
 'I was sick. I nearly died.' (A4)

(7-71) *arr-ga'rdaa-garra=mba dji'rriingi ma-'naabirri*  
 1A-argue-Aux=AUG man PRM-I.there  
*i-'rree-wu-ni biirndi naawu*  
 3IA-1E-give-PIRR money 3MMIN  
 'We had an argument with that man. He wanted me to give  
 him money.' (377)

(7-72) *ngame'neega gaayu ma-'naa-n-da-ri djaamu i-'laawala*  
 why Neg 3IIIA-2E-IRR-eat-P tucker I-little  
 'Why didn't you eat your tucker, little boy?'

*gaayu ma-rra-ra'gaa-nj='maarr djaarli i-'rree-nj-dja-ri gaala*  
 Neg 3IIIA-1E-Aux-PR=like meat 3IA-1E-IRR-eat-P okay  
 'I do not want it. I would have eaten meat, okay.' (A260)

- (7-73) *i-'yaa-n-yi-ngi=mba goornmu ma'gaarra=mba gaayu*  
 3IA-here-IRR-go-P=AUG morning that.I=AUG Neg  
*i-'yaa-n-yi-ngi=mba*  
 3IA-here-IRR-go-P=AUG  
 'They should have come this morning, (but) they did not come.' (B199)

- (7-74) *ma-'naabirri Ø-nja-n-ba'raa-ni gada gaayu*  
 PRM-I.there 3IA-3ME-IRR-spear-P but Neg  
*Ø-an-marra'miiri*  
 3IA-3ME-miss.PP  
 'That bloke tired to spear it, but no, he missed it.' (B135)

The simple PIRR construction may convey an admonitive meaning.

- (7-75) *gooyu nj-djee-bara=nga i'deengarda nji-wa'laawala*  
 mother 3IVA-3FE-strike=1IO jaw II-little  
 'Mother the little girl struck me on the jaw.'

*nji-'naa-n-bu-ni ngiinja njin-marra'waarra*  
 3IIA-2E-IRR-hit-P 2MIN 2-big  
 'You should not have hit her (first). You are bigger.' (A546)

This admonitive meaning is presumably related to the Past Negative function of the PIRR (9.7.2). It is possible that the Negator *gaayu* is understood as an ellipsed constituent within examples of the type of (7-75). In addition to PIRR verb forms, there are also occasional examples of PP verb forms conveying Past Irrealis meanings.

- (7-76) *go'ree-garra=wa ma'gaadja raada*  
 watch-Aux.IMP=out that.II bullant  
*nji-'nii-ngi=a'rdaadji raada='nggaana*  
 2A-sit-P=down bullant=LOC  
 'Watch out for those bullants!. You nearly sat down on the bullants.' (A431)

- (7-77) *Ø-arro-o'rdee-ni-gi gu'djaali ma-'naabirri gada*  
 3IVA-1E-light-Aux-PP fire PRM-I.there but  
*gaayu gaayu gu-ng-go'rdee-ni-ngi iinjdu nang-'giirdi*  
 Neg Neg 3IVA-1E-IRR-light-Aux-P S.A. IV-wet  
 'I tried to light a fire there, but no, I could not light it. (The wood) must have been wet.' (B435)

These forms may simply be mistakes. However given that both examples involve partial performance of the action, the use of a Realis tense form can be viewed as motivated. (7-76 & 7-77) would also correlate with (7-65 & 7-66) in suggesting that the PP is the unmarked tense functionally, among the three Past tenses.

### 7.7.3 The Present.

The Present occurs in two constructions in Gaagudju. One of these is the Negative Imperative, which involves the Negator *gooyida* 'Don't' (9.7.1). The other construction is the simple Present tense verb form. Following Comrie (1985 : 38), the meaning of this construction may be defined in the following terms "the situation referred to by the verb in the present tense is simply holding literally at the present moment". There are two major ways in which this situation may be satisfied. The situation may actually be instantiated at the present moment. Alternatively it may be predicated as true of the present, even if it is not actually instantiated at the present moment. This second possibility represents the generic Present.

(7-78) *ma'gaarra dji'rriingi wa'laaladama arr-'gaa-wo-y djaarli*  
 that.I man always 1A-3E-give-PR meat  
 'That man always gives me meat.' (B284)

(7-79) *gaardu ma'gaadja gu-ma'rree-y=mba gooyida*  
 water that.IV 3IVA-1+2E-eat.PR=AUG Don't  
*nj-dja-ardanga'ree-ngi=mba*  
 2A-PR-swim-PR=AUG  
 'That water is for us to drink. It is not for you mob to swim in!'  
 (B406)

There are however some verbs in Gaagudju which appear to pose a problem for Comrie's analysis of the two types of Present meanings, as involving a single underlying Present meaning.

(7-80) *arr-ba'lolburrbu*  
 1A-full up.PP  
 'I am full up/I have become full up.'

(7-81) *ma'gaarra i-'laawala Ø-balba'rree-gi wa'laaladama*  
 that.I I-little 3IA-full up-Aux.PR always  
 'That little boy is always full up.' (B166)

The verb *ba'lolburrbu* 'to be full up' appears in the PP when describing a particular Present instantiation, but appears in the PR when describing the generic Present. The verbs *ga'rdawi-dji* 'to be broken' and *dju'rrinj-dji* 'to be blocked/closed' also show this pattern. The pattern in (7-80 & 7-81) could be taken as providing evidence for a distinction between ordinary and generic Presents in Gaagudju.

However the difference between the two Presents in (7-80 & 7-81) is clearly related to the semantics of the three verbs. In terms of Dowty's (1979 : 60) classification of verbal predicates, they are all classifiable as Achievements in the ordinary Present. Achievements are characterised by the inchoative operator BECOME. In terms of an inchoative analysis of the ordinary Present of these verbs, the use of the PP for particular Present instances can be understood as having a Present Perfect meaning (7-H). The use of the PP indicates that the change of state described by the inchoative predicate has occurred. The generic Present of these verbs, on the other hand, is not an Achievement. It is rather a State (Dowty 1979 : 60), and takes the Present inflections, like all other States.

The exact synchronic status of this Achievement/State analysis is not entirely certain. Other apparently inchoative verbs, such as *ga'rda-bu* 'to be tired', *ga'raga-dji* 'to be ashamed', or *ga'lamarr-wa* 'to be jealous', do not show this alternation. It may be that these verbs do not admit inchoative interpretations, unlike *ba'lolburrbu* 'to be full' etc. Further material is required to resolve this question.

#### 7.7.4 The Future and The Conditional.

The Future and the Conditional both describe future situations. However there are a number of significant differences between them, and their relationship is not parallel to that between the PP and the PI (7.7.1). In the available data, the most salient difference between the two tenses is in terms of their syntactic distribution. The Future occurs in both independent and dependent constructions, whereas the Conditional is essentially not found in dependent constructions. It is found in three construction types: Future Negatives which involve the Negator *i'bardbi* (9.7.2), Hypothetical Conditionals (9.12), and Evitatives (9.12.2). Given that both the Future and the Conditional are found in dependent constructions, the difference between them cannot be described in terms of the dependent/independent dichotomy. Rather this syntactic patterning reflects other, more basic, differences.

In dependent environments, such as Conditional sentences where the two tenses contrast directly, the difference between the use of the two tenses in Conditional sentences appears to involve the familiar modal distinction in the probability of the predication they make about the Future. The Future implies intention and/or obligation, and its truth-value is testable in the Future (Comrie 1985 : 44). The Conditional merely asserts that the predication is possible.

(7-82) *ma'gaadja i-'yeenmi gaala djiirri gu-'ngaa-n-ma*  
 that.IV 3IA-do.FU okay trouble 3IVA-3ME-FU-get  
 'When/If he does that, okay he will get trouble.' (B125)

(7-83) *biirndi Ø-a'rree-ma-gi ma'gaarra*  
 money 3IA-1E-get-CON that.I



Ø-an-ga'leemarr-wa=nga                      biirndi='naawu  
 3IVA-3ME-jealous-Aux.CON=IIO    money=3MDAT  
 'If I get money, that fellow might be jealous of me over the  
 money.' (B410)

The intentional/obligational implication of the Future is also found in its independent uses.

(7-84)    *a'rree-ya*  
 1A.FU-go  
 'I will go/I want to go/I ought to go.'

This intentional/obligational meaning of the Future must however be described as an implicature, as it may be cancelled by the modal particle *iinjdu* 'maybe, must be, I wonder' (9.13).

(7-85)    *iinjdu a'rree-ya*  
 maybe 1A.FU-go  
 'Maybe I will go.'

There are therefore two constructions which convey future possibility in Gaagudju. One is the *iinjdu* 'maybe' + Future construction illustrated in (7-85). The other involves the use of Conditional verb forms.

(7-86)    *ma'rree-ya=mba a'rdaadji garda'gaaya*  
 1+2A-go.FU=AUG    inside    rain  
 Ø-adjirr-ba-ng'gee-ya  
 3IA-rain-Aux-Aux-CON  
 'Let's go inside. It might rain.' (B93)

The available data does not suffice to permit a definitive statement on the differences between the two constructions in (7-85 & 7-86). However it seems highly likely that considerations of Speaker-oriented vs Subject-oriented modality are relevant, however these are to be analysed (see Lyons 1977 : ch17). The *iinjdu* 'maybe' + Future construction appears to involve Speaker-oriented modality, whereas the Conditional construction appears to involve Subject-oriented modality.

In summary it appears that the differences between the Conditional and the Future are ones of modality. The exact nature of the interaction between the various modal differences are not fully elucidated in the available data. The difference in syntactic distribution presumably follows from the modal differences. In fact it is altogether probable that the syntactic difference would disappear in a larger database. A wider range of text styles would probably contain a reasonable exemplification of independent uses of the Conditional.

## 7.8 The Hortative.

As a formal category, the Hortative is only minimally differentiated from the Future. It was only for intransitive motion and stance verbs that distinctive Hortative forms could be elicited. Even for these verbs, the Hortative was only distinct for 3rd person Absolutives.

(7-87)	'to sit.FU'		'to sit.HOR'
1A	<i>a'rree-ni</i>		<i>a'rree-ni</i>
1+2A	<i>ma'rree-ni</i>		<i>ma'rree-ni</i>
3IA	<i>i-n-'ngaani</i>		<i>ii-ni</i>
3IIA	<i>nji-n-'ngaani</i>		<i>njii-ni</i>
3IIIA	<i>*ma-n-'ngaani</i>		<i>*maa-ni</i>
3IVA	<i>*gu-n-'ngaani</i>		<i>*goo-ni</i>

The \*forms in (7-87) are the predicted realisations of unattested forms. The Hortative takes the same pronominal prefixes as the Future (Table 7.3). It also takes the same form of the verb as the Future. The verb *ni* 'to sit' shows an irregular variation in verb forms in the Future (*ni ~ ngaani*). The Hortative shows only the regular verb form (*ni* is the basic stem - Appendix 2). The major formal difference between the two categories, is that the Hortative lacks the Irrealis tense prefix *n-*, which is characteristic of the Future (Table 7.3).

The Hortative occurs only rarely. In some examples it has the prototypical hortative permissive function.

- (7-88) *gooyida ma-'naa-ga-njdji djaamu mo'geerdidj-bi*  
 Don't 3IIIA-2E-take-PR tucker leave-Aux.IMP  
*maa-yu nang'gaarri*  
 3IIIA-lie.HOR IV.here  
 'Don't take that tucker. Leave it. Let it lie here.' (B907)

- (7-89) *no'woo-yirri ii-ni ga'rdaaman*  
 3MMIN-self 3IA-sit.HOR quiet  
 'Let him sit quiet, by himself.' (C28)

However in other examples Hortative forms have a positive imperative function.

- (7-90) *maa-yu='baarri djaamu*  
 3IIIA-lie.HOR=behind tucker  
 'Leave the tucker'  
 [lit. 'Let the tucker lie behind.'] (B453)
- (7-91) *ma-'bee-waga=da djaamu*  
 3IIIA-there-Aux=move tucker  
 'Move the tucker over there!'  
 [lit. 'Let the tucker move over there.'] (B608)

- (7-92) *gu-'weega=da* *ma'gaadja raanggin*  
 3IVA-Aux.HOR=move that.IV paperbark  
 'Move that paperbark!'  
 [lit. 'Let the paperbark move.'] (B577)

It would appear that (7-90 - 7-92) should be interpreted as indirect speech acts. Cross-linguistically, imperatives are frequently expressed via indirect speech acts. A 3rd person Hortative (the literal translations of 7-90 - 7-92) which expresses the result desired by the Speaker, without overtly marking the 2nd person Agent, would appear to be a good candidate for an indirect speech act Imperative. It would seem likely that the distinction between the two possible ways of conveying imperative meanings is the familiar one of politeness: the Hortative imperative 'Leave!' in (7-90) being more polite than the standard verbal imperative 'Leave!' in (7-88).

For forms other than those involving the 3rd person Absolutives of intransitive motion and stance verbs, Hortative meanings are conveyed by the Future.

- (7-93) *ma'rree-ya*  
 1+2A.FU-go  
 'Let's go.'

- (7-94) *mo'geerdidj-bi=mba* *ba-mo'geerdidj-bi=mba* *a'rree-ni*  
 leave-Aux.IMP=AUG 1A-leave-Aux.IMP=AUG 1A.FU-sit  
*ga'rdaaman*  
 quiet  
 'Leave! Leave me!, Let me sit quiet.' (C130)

- (7-95) *gooyida* *ma-'naa-ga-njdji* *djaamu* *mo'geerdidj-bi*  
 Don't 3IIIA-2E-take-PR tucker leave-Aux.IMP  
*i-'laawala* *ma-'ngee-n-da*  
 I-little 3IIIA-3ME-FU-eat  
 'Don't take the tucker. Leave it! Let the little boy eat it.' (C104)

### 7.9 The Positive Imperative.

The Positive Imperative form of the verb is usually identical to the Future form of the verb found with a 1st or 1+2 Subject. The qualification concerning 1st or 1+2 Subjects is necessary to account for those verbs which show variation in stress placement determined by person of the Subject (5-55). With these verbs the Positive Imperative shows the same penultimate stress placement as do forms with a 1st or 1+2 Subject. There are only three verbs which have irregular Positive Imperative forms.

(7-96)	Verb	Future	Positive Imperative
	'to consume'	<i>dja</i>	<i>djaawu</i>
	'to go'	<i>ya</i>	<i>ngoorro</i>
	'to lie'	<i>yu</i>	<i>djoogoro</i>

The Positive Imperative of 'to consume' appears to be related to the Future form in some way. The Positive Imperative of 'to lie' is related to the PP form *djogori*, though the relationship, if any, of these two forms to the Future *yu* is unclear. The Positive Imperative of 'to go' is entirely independent, though it may be noted that the Positive Imperative of 'to come' is regular (7-97).

Positive Imperative verbal complexes are formally distinguished from other types of verbal complexes in Gaagudju by their prefixing possibilities. The only substantive prefix that is found with Positive Imperatives is *bara-* ~ *ba-*. This prefix indicates direction of the process either towards the present location of the speaker, or simply towards the speaker (i.e. 1st person Direct Objects).

(7-97) *ba'ree-ya*  
here-go.IMP  
'Come here!'

(7-98) *ba'raa-wu*                      *djaarli*  
here/1A-give.IMP    meat  
'Give the meat here!/Give me the meat!' (A172)

(7-99) *ba'raa-ma*    *gooyu*  
1A-get.IMP    mother  
'Pick me up, mother.' (B890)

(7-100) *ba'raa-ma=nga*    *maarri='maarri*    *i-'laawala*  
here-get.IMP=1IO    knife                      I-little  
'Bring the knife here for me, little boy!' (A156)

(7-101) *ba-ma'rree-wa*  
1A-wait-Aux.IMP  
'Wait for me!' (B625)

The choice between the directional and Direct Object interpretations depends on the semantics of the verbal predicate, and the context. If the verbal predicate is non-motional, as in (7-101), then only the Direct Object interpretation is possible. However if the verbal predicate is motional, then either interpretation is possible. In some cases, such as (7-99), the context will disambiguate the choice. However in other cases, both interpretations are possible. A relationship between the 'here' directional prefix, and 1st person Direct Objects is also found in the Indicative prefix complexes (7.5.2), though the relationship there is rather different. The Indicative 'here' prefix *ga-*, does not mark the 1st person Direct Object itself. Rather it marks a 3rd person Ergative acting upon a 1st

person Absolutive. Further the 'here' and Ergative functions of the *ga-* prefix must be formally differentiated. It does not appear that the 'here' and '1st Direct Object' functions of the *bara-* ~ *ba-* prefix have to be formally differentiated.

Not only is the relationship between the 'here' and 1st person Direct Object prefix complexes rather different in the Positive Imperative, but also the form of the Positive Imperative 'here/1A' prefix is in itself rather unusual in comparison to the forms found elsewhere. With the other tenses *ba-* is the 'there' directional prefix, signalling motion away from the present location of the speaker (7.5.1.2). It is therefore somewhat surprising to find a *bara-* ~ *ba-* prefix signalling the converse 'here' meaning with Positive Imperatives.

It is of course possible that the two prefixes involving *ba* are unrelated. The existence of the longer *bara-* variant of the Positive Imperative 'here' prefix suggests this. General diachronic principles would suggest that this is the original form of the Positive Imperative 'here' prefix. The variation between the long and the short forms of the Positive Imperative 'here' prefix follows a pattern similar to that found with those Irrealis prefixes which show long and short variants (Table 7.4). The principal difference is that trisyllabic verb forms consistently take the long variant (see also 7-50).

(7-102) *bara-ya'rree-gi*  
 here-go down-Aux.IMP  
 'Come down here!' (370)

(7-103) *bara-yorr'nggooma a'rdaadji*  
 here-go in.IMP      inside  
 'Come here inside!' (B15)

The lack of any other type of substantive prefixing for Positive Imperatives is open to two interpretations. One is that Positive Imperatives simply do not have any other prefixal categories. As we will see, the overall evidence argues that this the correct choice. The second interpretation is that Positive Imperatives do have the pronominal prefix categories that are found with all other verbal complexes, but that these are filled with  $\emptyset$ - prefixes. Null prefixes are posited extensively in this grammar (9.4), and they are common cross-linguistically with Positive Imperatives. Therefore the second alternative cannot be rejected on a priori grounds.

Nevertheless in the present case, there is paradigmatic and phonological evidence which argues against positing null prefixes. Gaagudju shows a generally Absolutive-Ergative organisation to its prefix complexes (7.5.2). Applying this pattern to Positive Imperatives, it would be necessary to posit a  $\emptyset$ - Ergative prefix. Ergative prefixes are otherwise substantive in Gaagudju. Against this it can be argued that Positive Imperatives universally show an Accusative-Nominative patterning (Dixon 1979 : 112 - 114). Applying this pattern to Positive Imperatives, it would be necessary to posit a  $\emptyset$ - Nominative prefix. This is a common

pattern cross-linguistically. However in Gaagudju, this would imply a morphological neutralisation between the 2nd person and the 3I person, which is frequently realised by Ø-. The 2nd person otherwise shows morphological neutralisation with the 3II person in Gaagudju (7.5.2). As such neither the Ø- Nominative, nor the Ø- Ergative, option appears particularly well supported.

The most convincing paradigmatic evidence against positing null prefixes comes from the 3rd person Direct Object forms. In all other prefix complexes 3I, 3II, and 3III Direct Objects are morphologically distinguished from one another. 3IV Direct Objects are morphologically distinguished in some cases. In other cases, they show morphological neutralisation with the 3I or 3II persons (7.5.2). The most common 3I Direct Object prefix is Ø-, and therefore bare Positive Imperatives are to be expected with 3I Direct Objects.

- (7-104) *ma'gaarra i-'laawala woo djaamu*  
 that.I I-little give.IMP tucker  
 'Give that little boy some tucker!' (B220)

3II and 3III Direct Objects are never otherwise cross-referenced with Ø-, and consequently bare Positive Imperatives are not predicted with these classes of Direct Objects.

- (7-105) *woo ma'gaadja njing'gooduwa ma-'yaa-n-ga*  
 give.IMP that.II woman 3IIIA-3FE-FU-take  
 'Give it to that woman! She will take it.'

- (7-106) *djaamu ba'raa-ga=nga djaarli deernmi ba'raa-ga*  
 tucker here-take.IMP=1IO meat as well here-take.IMP  
 'Bring some tucker here to me! Bring some meat here as well!'  
 (193)

If there was a Direct Object prefixal category in Positive Imperatives, then the predicted Positive Imperative forms would be as in (7-107 & 7-108)

- (7-107) *\*njii-wu ma'gaadja njing'gooduwa ma-'yaa-n-ga*  
 3IIA-give.IMP that.II woman 3IIIA-3FE-FU-take  
 'Give it to that woman! She will take it.'

- (7-108) *\*djaamu ma-ba'raa-ga=nga djaarli deernmi*  
 tucker 3IIIA-here-take.IMP=1IO meat as well  
 Ø-ba'raa-ga  
 3IA-here-take.IMP  
 'Bring some tucker here to me! Bring some meat here as well!'  
 (193)

This suggests that there are no prefixal categories found with Positive Imperatives, other than that for *bara-* ~ *ba-*. This analysis is

further supported by phonological evidence. Positive Imperatives are the only verb forms which consistently fail to undergo initial lenition of the palatal stop (4.6.5), and of the velar stop (4.6.3). Resistance to initial lenition is otherwise a characteristic of being in initial position in a morphological template (5.6.3). Consequently this suggests that Positive Imperatives lack prefixal categories, other than that found with *bara-* ~ *ba-* (where they do undergo lenition with. e.g 4-79). In overall terms, therefore, the evidence is consistently against the positing of any other prefixal categories for Positive Imperatives.

While Positive Imperatives lack the usual pronominal prefix categories, this should not be taken to mean that they do not show any kind of pronominal reference. Clearly in terms of their meanings, they are capable of pronominal reference. For example, Positive Imperatives are understood as having a 2nd person Subject. (9.4) examines how this type of pronominal reference is to be formally modelled. It should be noted that Negative Imperatives do show a standard pattern of pronominal prefixing. However Negative Imperatives are constructed on an entirely different formal basis to Positive Imperatives. They consist of the Negator *gooyida* 'Don't' and a Present tense verb form with the appropriate inflection (9.7.1).

## CHAPTER 8

## THE PHRASE

There are two major types of phrases in Gaagudju. One type of phrase is definable in terms of formal configurationality. The constituents of this formal phrase type must occur in an order, which is describable in terms of their formal categorisation. The formal phrase type is itself divided into two major classes (8.2): right-headed phrases which are compounds, and left-headed phrases which are chiefly formed via enclisis. The other type of phrase is definable in terms of functional configurationality. The Noun Phrase conforms to this phrasal type (8.1).

## 8.1 The Noun Phrase.

There is no formally definable NP constituent in Gaagudju. Gaagudju displays all the characteristics of a prototypical non-configurational language in this respect. There is no required ordering, in terms of formally definable parts of speech, among a group of nominals with a common referent.

(8-1)      *njoogi*             $\emptyset$ -*idj-'baalgi*  $\emptyset$ -*a'r-raa-ma*  
white ochre I-Aug-lots 3IA-1E-got  
'I got lots of white ochre.'

*ma'gaadja* *njing'gooduwa*  $\emptyset$ -*iinj-ma*       $\emptyset$ -*baalgi* *njoogi*  
that.II      woman                      3IA-3FE-got I-lots      white ochre  
'That woman got lots of white ochre (too).' (A367)

Further, groups of nominals with a common referent may occur discontinuously.

(8-2)      *boonjman*  $\emptyset$ -*arro-o'ree-garra*  $\emptyset$ -*marra'waarra*  
rat                      3IA-1E-see-Aux.PP I-big  
'I saw a big rat.' (268)

These patternings are characteristic of the great majority of Australian languages (Dixon 1980 : 441 - 443). This is not to deny that groups of nominals with a common referent are united at some level, other than the purely syntactic. Nor is it to deny that the term 'NP' is an appropriate term for referring to this unification. However the exact level at which the unification operates, is the subject of considerable debate (e.g. Blake 1983, Heath 1984 : Ch15, McGregor 1990, Simpson 1991). I follow Simpson in arguing that the unification operates in terms of grammatical functions (9.2 & 9.8). That is, a group of nominals with a common referent which, for example, function as the Subject of a predicate, are unified at the level of their common Subject function.

In most Australian languages, the unification of groups of nominals with a common referent is formally constrained by case



marking patterns. Most Australian languages have reasonably complete case marking systems, and a nominal bearing a particular case relation must be marked for that relation. As such, case marking formally limits the range of possible unifications that a particular nominal may undergo. Case marking does not however function as a significant constraint on possible unifications in Gaagudju. Only Dative and Locative roles receive case marking in Gaagudju, and even this is optional (9.9). It is not possible to posit any kind of default case marking, with a null realisation, for other roles. Any such proposal would mean that all nominal arguments, other than those bearing overt Dative and Locative case marking, took null case marking. A grouping of this nature is manifestly vacuous. Consequently nominals in Gaagudju frequently show multiple unification possibilities.

An examination of (8-2) might suggest another type of formal commonality which could serve as a constraint on the unification of groups of nominals with a common referent: concord. The modifier adjective *Ø-marra'waarra* 'I-big' shows concord with the head noun *boonjman* 'rat', which is Class I. However it will be obvious from the discussion of adjectival Declension membership (6.3), and concordial superclassing patterns (6.5), that concord patterns cannot serve as a significant formal constraint on unification.

- (8-3)      *ma'gaarra ngoondji i-'laawala Ø-eema*  
           that.I      other      I-little      3IA-say.PP  
           'That other little boy said it.' (B180)

The putative NP *ma'gaarra ngoondji i-'laawala* 'that other little boy' in (8-3) presumably involves a head adjective *i-'laawala* 'I-little', and two modifiers *ma'gaarra* 'that.I' and *ngoondji* 'other'. Of these two modifiers, only *ma'gaarra* shows concord with the head. Formally, *ngoondji* is a noun, and does not show concord.

Despite the fact that it is not possible to define an NP constituent in formal terms, there are nevertheless certain ordering tendencies among groups of nominals with a common referent, which must be accounted for. The putative NP in (8-3), *ma'gaarra ngoondji i-'laawala* 'that other little boy' may serve as an example of these ordering tendencies. Firstly it is much more likely that the members of this group will occur continuously, than discontinuously. Secondly, while other orderings are possible, all of them are of low frequency.

The best way of accounting for these ordering tendencies appears to be in terms of the analysis of the NP proposed by McGregor (1990 : 253 - 276) in his analysis of Gooniyandi. Under this analysis the NP is conceived of as a group of nominals with a common referent, which occur in an ordered functional sequence. McGregor analyses the NP in Gooniyandi as involving the functional sequence, set out in (8-4).

- (8-4)      (Deictic) + (Quantifier) + (Classifier) + Entity + (Qualifier)

Each of these functions may be realised by a variety of formally definable nominal subclasses. For examples, nouns can function as

classifiers, entities, qualifiers, or quantifiers (McGregor 1990 : 256). Further a function may be realised by more than one nominal (McGregor 1990 : 259 & 266 - 267). As indicated by the formula in (8-4), the Entity is the only obligatory function. This does not however mean that an Entity function is necessarily realised by an overt nominal. Like the other functions it may have a null realisation. However McGregor (1990 : 254 - 255) argues that the null realisation of the Entity function is different in nature from the null realisation of the other functions. The Entity function may only have a null realisation if the relevant Entity is recoverable from context. The other functions may have a null realisation simply because the speaker has not chosen to provide information about them, whether or not they are recoverable from context.

The ordering preferences found within NPs in Gaagudju would appear to reflect a functionally structured NP, similar to that proposed by McGregor for Gooniyandi. This NP appears to have the functional structure set out in (8-5).

(8-5) (Deictic) + Entity + (Qualifier)

There is no equivalent of the Gooniyandi Classifier function in Gaagudju. Nominal classification is marked by morphological means in Gaagudju (6.1). Similarly it does not appear that there is an equivalent of the Gooniyandi Quantifier function. Again quantification is marked chiefly by enclitics in Gaagudju (8.5). The function indicated by a particular class of nominals depends on its position within the NP. Thus demonstratives normally occur initially in an NP, and fulfill a Deictic function of contextualising the NP. However, they may also occur finally in an NP, in which case they have a Qualifier function, and point to a particular referent in the context.

(8-6) *gooyu djaarli naarri biirda i'bardbi i-'ree-nj-dja*  
 mother meat I.here tough Neg 3IA-1E-FU-eat  
 'Mother, this meat here is tough. I cannot eat it.' (A540)

Like demonstratives, pronouns appear to occur initially as Deictics, and finally as Qualifiers.

(8-7) *ngaayi aardi m-balba'rraaga*  
 1MIN clothes 3IVA-torn  
 'My clothes are torn.' (B182)

(8-8) *gaayu i'bardbi ee-n-yu i-n-'meegi wa'laalu*  
 Neg Neg 3IA-FU-sleep 3IA-FU-go back camp  
*naawu-ma*  
 3MMIN-PRM  
 'No, he will not sleep (here). He will go back to (that) camp of his.' (B157)

The final occurrence of pronouns as Qualifiers is uncommon. Following McGregor (1990 : 270), I assume that it differs from the initial occurrence as a Deictic, in the manner indicated. Numerals may also occur as both Deictics and Qualifiers, depending upon their position. The difference between these two functions is most clearly illustrated with the Numeral 'one'.

(8-9) *nang'gaabirri ma-'djii-ngi magana'boobu ngo'yoogoda*  
 IV.there 3IIIA-stand-P banyon F.one  
 'There used to be one banyon tree there.' (A432)

(8-10) *gaayu i-n-balabarra-'gee-ni ngo'yoogodawa djaamu*  
 Neg 3IA-IRR-full up-Aux-P F.one tucker  
*ma-'ngee-n-da ma-n-da-ra'gaa-nj='maarr*  
 3IIIA-3ME-FU-eat 3IIIA-3ME-PR-Aux-PR=want  
 'No he is not full up. He wants to eat more tucker.' (A423)

Finally, 'one' has a strict count function. In initial position it has an indefinite Deictic function 'a certain (amount)/same'. The Deictic function may be realised by two nominals. All such examples involve a definite Deictic preceding an indefinite Deictic. The only common combination of definite and indefinite Deictics is the combination 'that other', as in (8-11).

(8-11) *njing'gooduwa='ngaayu Ø-an-ga'leemarr-wa=nu*  
 woman=3FDAT 3IVA-3ME-jealous-Aux.PP=3MIO  
*ma'gaarra ngoondji dji'rriingi*  
 that.I other man  
 'He is jealous of that other man over the woman.' (357)

As in Gooniyandi, it would appear that all NPs in Gaagudju involve an Entity function, though this Entity function may be ellipsed.

(8-12) *gaadju arr-'gee-bi maada*  
 dog 1A-3E-bit yesterday  
 'The dog bit me yesterday.'

*ma'naarr no'woogoda arr-'gee-bi mboodaru*  
 that.I M.one 1A-3E-bit today  
 'That same (dog) bit me today.' (B398)

In NPs consisting of a noun and an adjective, the adjective most commonly follows the noun.

(8-13) *djoorrgu gu-marra'waarra Ø-aa-yi-ngi*  
 wind IV-big 3IA-here-go-PR  
 'A big wind is coming here.' (249)

This is consistent with the Entity + Qualifier ordering proposed in (8-5). However there a reasonable number of examples where the Qualifier precedes the entity.

(8-14) *gu-'baalgi buurri Ø-arra-bu'rree-ngi='goodo*  
IV-lots string 3IVA-1E-rub-PI=DUR  
'I rubbed lots of string.' (A355)

(8-15) *i-'laawala nja'noomala Ø-a'rree-garra-y*  
I-little boil 3IA-1E-have-PR  
'I have a little boil.' (A357)

(8-16) *ma'gaarra Ø-eema moonda dja'gaardu*  
that.I 3IA-said bad word  
'That (boy) said bad things.' (B179)

However there appears to be a significant difference, in terms of intonation patterns, between the pre- and post-Entity occurrences of Qualifiers. When the Qualifier occurs in the pre-Entity position, it appears that it constitutes a separate intonational unit. When it occurs in the post-Entity position, it forms a single intonational unit with the Entity. More detailed research on the intonational patterns of Gaagudju is required to test these hypotheses fully. However I will provisionally analyse the pre-Entity occurrences of Qualifiers as being appositional in nature. Thus (8-16) would be more accurately translated as 'That (boy) said the bad ones, the words.' These appositional combinations may be quite complex.

(8-17) *gooyida nj-djaa-yu ma'gaadja ana'baarru*  
Neg.IMP 2A-PR-sleep that.IV buffalo  
*nji-n-'boonj-ma-gi nji-n-'buu-ya no'woogoda*  
2A-3ME-smell-Aux-CON 2A-3ME-kill-CON M.one  
*djiirri='djiirri=nu ana'baarru*  
R=cheeky=3MIO buffalo  
'Don't sleep there. A buffalo might smell you and kill you, a certain one, a cheeky one, a buffalo.' (B299)

(8-18) *i'bardbi na-ardambarn'geengi gu-nga-n-ga'rree-ri*  
Neg I-black 3IVA-3ME-IRR-Aux-P  
*wa'laalu ma'gaarra gabala'baala gaadju Ø-an-'gaarra-ri*  
bark that.I white dog 3IVA-3ME-Aux-PI  
*wa'laalu*  
bark  
'It was not the black (dog) that was barking. It was that one, the white one, the dog that was barking.' (A2)

It may be noted that there are no examples of NPs where more than one qualifier occurs in the post-Entity position. This is probably a lacuna in the data. However it seems likely that NPs with multiple qualifiers in post-Entity position would be uncommon in any case. NPs of

this type do not appear to be common in any Aboriginal language, including Kriol. The modification of the Entity by more than one qualifier appears to be a highly marked pattern within the discourse structurings of Aboriginal languages. Clearly a more detailed analysis of discourse structures, and particularly of intonational structures, is needed for a more constrained analysis of the internal functional structuring of the NP.

## 8.2 Formal Phrase Structures.

The class of formal phrase structures consists of those constructions whose ordering may be described in terms of the lexical and/or part of speech classifications of syntactic words. There are two types of words in Gaagudju: phonological words, and syntactic words (5.6). A phonological word is any sequence bounded by pauses. A syntactic word is the output of the lexicon. A phonological word consists of one or more syntactic words. If a phonological word involves more than one syntactic word, then these syntactic words are bound together by clisis (4.2). A phrase consists minimally of two syntactic words. A phrase may consist of a single phonological word, or it may consist of two phonological words. If a single phonological word constitutes a phrase, then it must involve at least two syntactic words. Constructions involving enclitics are examples of phrases which consist of a single phonological word.

- (8-19) *a'rree-ya=nu*  
 1A.FU-go=3MIO  
 'I will go to him.'

The verb *a'rree-ya* and the Indirect Object enclitic *=nu* are both syntactic words. They must appear in the order shown, and consequently (8-19) is a phrase. Phrases may also consist of two independent phonological words. Inchoatives are an example of this phrasal type (8.3).

- (8-20) a) *moonda ng-geema*      b) *\*ng-geema moonda*  
 bad      3IVA-became      3IVA-became bad  
 'It became bad.'      'It became bad.'

Inchoatives are phrases because the nominal must precede the verb. Thus 'It became bad.' is only attested as in (8-20a). The version in (8-20b) with the nominal following the verb is unattested. The nominal and the verb must occur as independent phonological words. They cannot be cliticised together.

Having examined the phonological structuring of phrases, we may now turn to consider their syntactic structuring. The evidence suggests that phrases should be divided into two classes in terms of the relationships that hold between their constituents. One class consists of those phrase types which are analysable as compounds. The other class consists of those phrase types which are not analysable as compounds. This second class of formal phrases displays a Head-Modifier ordering.

Before examining the two classes of phrases, it is firstly necessary to choose among the various theories of compounding. I will be adopting that of Lieber (1983)<sup>1</sup>, because the model of the lexicon adopted in this grammar is that of Lieber (1981). Lieber (1983 : 252 - 253) sets out the following universals for morphemic combination.

- (8-21) All features of a stem morpheme, including category features, percolate to the first non-branching node dominating that morpheme.
- (8-22) All features of an affix morpheme, including category features, percolate to the first branching node dominating that morpheme.
- (8-23) If a branching node fails to obtain features by (8-22), features from the next lowest labelled node automatically percolate up to the unlabelled branching node.

She also sets out the following convention, which applies language specifically.

- (8-24) If two stems are sisters (i.e. they form a compound), features from the right-hand stem percolate up to the branching node dominating the stems.

The converse of this convention is set out in (8-25). It applies in languages where (8-24) does not apply.

- (8-25) If two stems are sisters (i.e. they form a compound), features from the left-hand stem percolate up to the branching node dominating the stems.

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<sup>1</sup> Sproat (1985 : 164 - 235) presents a detailed examination of the constraints arising from thematic subcategorisation on compounding. He offers significant revisions to Lieber's theories on the percolation and satisfaction of subcategorisation requirements. However Sproat accepts Lieber's analysis of the percolation of the category features of morphemes (1985 : 41, 170 & 216 - 225). Therefore compounds show largely similar structures under Sproat's theories.

Di Sciullo & Williams (1987) present an account of morphological structuring which argues that the internal ordering of the word is akin, though not identical, to that of phrases. Central to Di Sciullo & Williams' account is the notion of a "head" of a word, which is the morpheme determining the "general features of the word" (1987 : 24). There are serious problems with the concept of the "head" of a word, which Di Sciullo & Williams discuss (1987 : 25 - 28). To avoid these problems they propose the notion of a relativised head, which they define in the following terms (1987 : 26) "The head [F] of a word is the rightmost element of the word marked for the feature [F]". I do not adopt Di Sciullo & Williams' approach. It seems to me that Lieber's proposals capture the relevant generalities satisfactorily, without resort to notions such as that of a relativised head. In any case, the notion of a relativised head appears to be devoid of substantively falsifiable content as a theoretical construct.

The choice between the two conventions in (8-24 & 8-25) determines the headedness of compounds in a particular language. (8-24) produces right-headed compounds, whereas (8-25) produces left-headed compounds. It should be noted that these conventions are concerned with formal headedness only: that is with the constituent which determines the part of speech classification, and syntactic behaviour, of the overall compound. It is possible to argue that another constituent is the functional or semantic head of the compound, in a number of cases. The ensuing discussion is concerned only with formal headedness.

Within Lieber's theory, there is only one type of lexical compounding in Gaagudju. This is the formation of compound verb stems (7.2). An examination of the general formula for the verbal complex (7-1) shows that this type of compounding is right-headed. In other words, lexical compounding in Gaagudju follows the convention in (8-24). There are a number of post-lexical phrasal structures, which can also be analysed as right-headed compound structures. These structures are listed in (8-26).

- (8-26) Verbal predicates formed with *gama* 'to be(come), to do' (8.3)  
 Ascriptive predicates formed with *warra* 'to suffer' (9.10)  
 Ligature structures (5.6.1)  
 Nominal compounds (5.6.1)  
 Phrasal nominal lexemes (6.2)  
 The *wa'laalu* 'times' numeral phrase (8.5.6)

The right-headed nature of these phrasal structures is most clearly illustrated with forms involving a nominal and a verb.

- (8-27) *gordo'giinggi gu-'weenmi*      *ma'rree-ya*  
 shallow      3IVA-become.FU      1+2A-go.FU  
*nji-Ø-n-go'ree-garra*  
 3IIA-2E-FU-see-Aux  
 'When it gets shallow, we will go, and you can see her.' (C90)
- (8-28) *awoy Ø-arra-ba'laa-bara*      *nang-'goodji Ø-waarridji*  
 yes      3IA-1E-cover-Aux.PP      IV-cold      3IA-suffer.PP  
 'Yes, I covered him up. He was cold.' (370)
- (8-29) *ngame'neega=da=Ø-'nee-bu-mu*  
 why=Lig=3IA-2E-hit-PP  
 'Why did you hit him?'

The inchoative phrase *gordo'giinggi gu-'weenmi* 'When it gets shallow' in (8-27); the ascriptive phrase *nang-'goodji Ø-waarridji* 'He was cold.' in (8-28); and ligature structure in (8-29), are all presumably to be characterised as verbal phrases. If they were characterised as nominal phrases, then these nominal phrases would be capable of expressing the full range of verbal tense, mood and aspect possibilities. In cross-linguistic terms, it would appear to be most undesirable that nominal phrases should have this capacity. The patterning of phrasal forms consisting of

nominals also appears to be right-headed. This is shown by the patterning of forms involving an adjective and a noun.

- (8-30) *ma-ma'rraagadi=ma'djiirli*  
 III-big=sand  
 'A place name referring to a beach in Ngaduk country.'
- (8-31) *ma-'djaawurdu=idj-ga'rdaabirr*  
 III-short=Aug-hair  
 'short hair' (137)
- (8-32) *Ø-baalgi idj-'buurri Ø-baalgi=da='buurri*  
 I-lots Aug-string I-lots=Lig=string  
*nj-dji-bu'rree-ngi='goodo*  
 3IVA-3FE-rub-PI=DUR  
 'She made lots of string.' (A257)

While nominal phrases and ligature structures have a somewhat marginal status (5.6.1), it is presumably desirable to classify these phrases as noun phrases, rather than as adjective phrases. It would therefore appear that the phrase types listed in (8-26), are all right-headed phrases. This does not however establish that these phrases should be analysed as compounds. Their right-headed nature would also follow, if phrases showed a Modifier-Head ordering in Gaagudju.

The critical evidence which establishes that phrases cannot be uniformly analysed as showing a Modifier-Head ordering, comes from phrases which have a verb as their leftmost constituent.

- (8-33) *gooyida gu-'naa-garra-y=nga='goordo ba'leeru*  
 Neg.IMP 3IVA-2E-grab-PR=1IO=arm lest  
*gu-na-a'rdee-gama=nga ...='goordo*  
 3IVA-2E-break-Aux.CON=1IO ...=arm  
 'Don't hang on to my arm (so tightly), lest you break it.' (B925)

(8-33) involves two phrasal incorporation structures: *gu-'naa-garra-y=nga='goordo* and *gu-na-a'rdee-gama=nga...='goordo* (8.7). The phrase structure tree for these constructions is given in (8-34)

- (8-34)
- |                          |             |                |
|--------------------------|-------------|----------------|
| Phrase                   |             |                |
| Verb                     | IO enclitic | Noun           |
| <i>gu-'naa-garra-y</i>   | <i>=nga</i> | <i>'goordo</i> |
| <i>gu-na-a'rdee-gama</i> | <i>=nga</i> | <i>'goordo</i> |

These phrasal incorporation structures should presumably be analysed as verbal phrases, for the same reasons that the phrases in (8-27 - 8-29) were analysed as verbal phrases. Given that the verb is the head of



the phrases in (8-33), these phrases are therefore left-headed phrases. This analysis will also hold for phrases involving the noun quantifier *geegirr* 'all' (8.5.5), and for phrases which have enclitics as their rightmost constituents.

(8-35) *wa'laalu Ø-naana geegirr*  
country 3IVA-burnt all  
'The country is all burnt.' (A507)

(8-36) *ma'rree-ni=nu=mba='njoorno='goodo*  
1+2A-sit.FU=3MIO=AUG=plS+O=DUR  
'We will sit with them for a while.'

The phrase *Ø-naana geegirr* 'all burnt' is a left-headed phrase, as is the phrase in (8-36). The majority of phrasal verbs are also left-headed.

(8-37) *Ø-a'yaa-ga-njdji='woorro gu'djaali*  
3IVA-3FE-Aux-PR=drag firewood  
'She is dragging the firewood (to camp).'

 (A487)

Those phrasal verbs, which like *ga='woorro* 'to drag' have a fixed ordering, are left-headed. There are a few phrasal verbs which do not show a fixed ordering (7.4). Given that they do not show a fixed ordering, these phrasal verbs do not satisfy the formal criterion for classification as phrases. Consequently they are not of relevance to a consideration of formal phrase structures. The final class of phrases to be considered, are those which have a nominal as their leftmost constituent.

(8-38) *gaadju nam-ba'rdeeba=nu='djaarli*  
dog III-long=3MIO=tail  
'The dog has a long tail.' (475)

There is no evidence which bears directly on the formal headedness of these phrases. However they are structurally and semantically isomorphic to verbal phrases, such as (8-33). Therefore they are analysed as left-headed.

In overall terms therefore, it is not possible to provide a uniform analysis for formal phrase structures in Gaagudju. Formal phrase structures may be either left-headed or right-headed. I have already suggested that the difference in headedness between the two classes follows from significant differences in their internal structurings. One class of phrases are formally analysable as compounds. These phrases are right-headed, because compounds are right-headed in Gaagudju. Some support for a compound analysis of right-headed phrases is provided by the negatives of phrases with *gama* 'to be(come), to do' and *warra* 'to suffer'.

(8-39) *ma'gaadja aardi nang-'giirdi ng-'geema maada*  
 that.IV clothes IV-wet 3IVA-became yesterday  
 'Did those clothes get wet yesterday?'

*gaayu nang-'giirdi gu-'weenma-ri*  
 Neg IV-wet 3IVA-become.IRR-P  
 'No they did not get wet.' (B680)

(8-40) *gaayu go'yaalu arra-warr-'gee-ni djaamu ma-'baalgi*  
 Neg hunger 1A.IRR-suffer-Aux-P tucker III-lots  
*djaarli Ø-a'rree-ba maada*  
 meat 3IA-1E-ate yesterday  
 'No, I was not hungry. (I ate) lots of tucker. I ate meat yesterday.'  
 (A46)

In negative verbal constructions, the negator normally immediately precedes the verb (see 8-45 - 8-47 for exceptions). In (8-39 & 8-40), the nominal intervenes between the verb and the negator. This is precisely the pattern that is predicted by a compound analysis of the right-headed phrases. Further evidence would be required to determine whether these examples constitute a standard pattern, as they are not commonly attested.

The formal analysis of this class of phrases as compounds is reasonably well motivated semantically. The set of right-headed phrase types, as listed in (8-26), involves some prototypical compounds. These are the nominal compound forms, such as (8-30), where two lexemes are compounded to form a new lexeme. The other right-headed phrase types in (8-26) can also be viewed as involving the formation of new lexemes or predicates (see exemplification 8-27 - 8-32).

The phrase types belonging to the left-headed class are not formally analysable as compounds. Neither do they generally appear to be analysable as compounds in a semantic sense. In semantic terms, this class of phrases shows a variety of relationships: predicate-modifier, predicate-argument, proposition-modifier. In the most general terms, these various relationships can be viewed as realisations of an overall Head-Modifier pattern. This pattern is also found, to a degree, within the functionally ordered NP (8.1). This pattern is not derivable from any other patterns, but must simply be specified for left-headed phrases.

For comparative purposes, this ordering may be analysed as the formal phrasal ordering for Gaagudju. The left-headed phrases convey the Head-Modifier relationships which are prototypically associated with the universal notion of the phrase. As discussed, the right-headed phrases do not convey prototypical Head-Modifier phrasal relationships, but rather form new predicates. The semantic distinction between instantiating a Head-Modifier relationship, and compounding to form a new predicate is of course, a fine one. It is unsurprising to find that there are areas of apparent formal and semantic mismatches. Most of the phrasal verbs (Table 7.2), are formally left-headed phrases. However semantically, they

are all compounds, because the verb + particle combinations in most phrasal verbs are not semantically compositional (7.4).

While Gaagudju has configurationally definable phrases, it does conform to the patternings of non-configurational languages, in that it permits discontinuous phrases. Discontinuities are however very uncommon in the available data, and they appear to differ between the two classes of phrases. The discontinuities that occur in left-headed phrases appear to involve afterthought structures (8-60 & 8-61). There are only two examples of a discontinuity with right-headed phrases.

(8-41) nam-'boordbi ma'gaarnamu ma-'geema=nga  
 III-dry throat 3IIIA-became=1IO  
 'My throat has become dry.' (A531)

(8-42) Ø-marro-o'ree-garra=mba='njoorno play cards Ø-eema-ri=mba  
 3IA-1+2E-see-Aux.PP=AUG=plS+O play cards 3IA-do-PI=AUG  
 'We saw them. They were playing cards.' (56)

It is not in fact certain that these are examples of real discontinuities. The verb *gama* 'to be(come), to do' may in fact be compounding to combinations which are themselves already compounded: *nam-'boordbi ma'gaarnamu* 'dry throat' and *play cards*. This is particularly suggested in the case of (8-42).

In addition to the constructions, so far examined, there are two other classes of constructions which are relevant in an examination of phrasal constructions. One of these classes of constructions consists of the "fronted" counterparts of incorporation constructions. These are examined in (8.8), and in (9.7.3). The other class consists of negative constructions. In negative constructions, the negator must precede the negated constituent.

(8-43) a) *gaayu i-n-'yii-ngi* b) *\*i-n-'yii-ngi gaayu*  
 Neg 3IA-IRR-go-P 3IA-IRR-go-P Neg  
 'He did not go.' 'He did not go.'

(8-44) a) *gaayu djaamu* b) *\*djaamu gaayu*  
 Neg tucker tucker Neg  
 'There is no tucker.' 'There is no tucker.'

Negatives therefore satisfy the criterion for formal phrasal structures. In terms of the phrasal classes, they are presumably right-headed phrases. However there is evidence which suggests, that these constructions differ from other phrasal constructions in important aspects. Firstly they do not class semantically with the other right-headed phrases, which are compounds. It does not appear that negatives can be viewed as compounds of the negated constituent and the negator. Secondly there is cross-linguistic evidence which argues that the requirement for the negator to precede the negated constituent, arises from other factors. This constraint characterises a number of Australian languages, which are

otherwise non-configurational (Dixon 1980 : 442). Some at least of these languages, such as Nunggubuyu (Heath 1984), lack any analogue of the right-headed phrases which occur in Gaagudju. Thirdly negatives show discontinuities with somewhat greater frequency than do other phrasal types.

- (8-45) *gaayu ngiinja Ø-na-n-a'gaa-ri gu'rneembu*  
 Neg 2MIN 3IA-2E-IRR-shoot-P goose  
*Ø-arro-o'ree-garra ngoondji dji'rriingi Ø-a'n-eegi*  
 3IA-1E-see-Aux.PP other man 3IA-3ME-shot  
 'You did not shoot the goose. I saw another man shoot it.'  
 (A429)

- (8-46) *anmarra'baalbu gaayu maarlarl gu-nga-n-ga'rree-ri*  
 old man Neg leaf 3IVA-3ME-IRR-have-P  
*gaayu u'luunggulu Ø-ii-wu*  
 Neg old woman 3IA-3FE-give.PP  
 'The old man did not have any (tea)leaves, none. The old woman gave him some.' (A174)

- (8-47) *gooyida ma'gaadja goordo='goordo gu-na-mogi'rdeedj-bi*  
 Neg.IMP that.IV shirt 3IVA-2E-leave-Aux.PR  
*ba'leeru m-balbarra-'buu-ya*  
 lest 3IVA-tear-Aux-CON  
 'Don't leave that shirt (outside), lest it get torn.' (B755)

Discontinuities are not common with negatives, and (8-47) is the only example of two words intervening between the constituents of the negative. Moreover it may be noted that the two nominals in (8-47), *ma'gaadja goordo='goordo* 'that shirt' refer to a single subcategorised argument. There may be a constraint on possible discontinuities in negative constructions, requiring them to refer to a single constituent, which may possibly have to be a subcategorised argument.

The overall evidence, particularly the cross-linguistic evidence, suggests that the configurationality of negative constructions is different in nature to the other types of phrasal configurationality in Gaagudju. Consequently, I will not be analysing them as phrases. The available evidence does not fully illuminate the nature of the differences between the two types of configurationality. However, as Heath (1984 : 532) suggests in his analysis of this issue in Nunggubuyu, certain functional factors appear to be of importance. The principal factor appears to be clausal polarity. In communicative terms, a requirement for an indication of negative polarity early in the clause appears to be well-motivated. As such, the ordering of negative constructions reflects not so much a requirement that the negator precede the negated constituent, but a requirement for an early marking of negative polarity.

The other factors are scope, and the nature of the negated constituent. The negator will presumably be placed immediately before the constituent, which it has scope over. When a predicate is negated, the

negator definitely has scope over the predicate. This would explain why, in verbal negation, the negator usually immediately precedes the verb. However, it also potentially has scope over the arguments of that predicate, at least by extension. This would explain why it may also precede a combination of the verb and one of its arguments.

I suspect that the differences in functional motivation between the two types of configurability would prove to be matched by formal differences in a larger database. Specifically, I would suggest that there would be formalisable differences in the area of discontinuities. As discussed with (8-41 & 8-42), I would hypothesise that right-headed phrases do not in fact permit discontinuities, though they may involve triple constituent compounds. On the other hand, negative constructions clearly do permit discontinuities, though the potential range of discontinuities may be constrained by considerations of scope.

### 8.3 Phrasal Compound Verbs.

There are two types of formally compounded verbs in Gaagudju: those which are compounded in the lexicon (7.2), and those which are syntactically compounded. The verbs which are syntactically compounded, take the simple verb *gama* 'to be(come), to do, to say, to think' as their auxiliary. This auxiliary simple verb appears as the rightmost constituent, and is consequently the formal head of the phrasal compound. Both nominals and particles may be compounded with *gama*. The compounding of nominals forms inchoatives. The compounding of particles forms new verbal predicates.

Adjectives and "adjectival" nouns (6-31), are the nominals most commonly attested with inchoative meanings.

- (8-48)  $\emptyset$ -a'n-ooowa=mba                      gaabay                      gu'djaali='nggaana  
 3IVA-3ME-put.PP=AUG    ironwood    fire=LOC  
 $\emptyset$ -yi'leeyili    i-'yeenmi  
 I-soft                      3IA-become.FU  
 'They put the ironwood wax over the fire. It will become soft.'  
 (B644)

- (8-49) gordo'giinggi    gu-'weenmi                      ma'rree-ya  
 shallow                      3IVA-become.FU    1+2A-go.FU  
 nji- $\emptyset$ -n-go'ree-garra  
 3IIA-2E-FU-see-Aux  
 'When it gets shallow, we will go and you can see her.' (C90)

Other types of nouns are also attested with an inchoative meaning.

- (8-50) ma'rree-ya    ba'leeru    maadada    ng-geema-ya  
 1+2A-go.FU    lest                      night                      3IVA-become-CON

*goornmu=da=wa'laalu*

dark

'We had better go, lest it become night, (and gets) dark.' (B410)

The inchoative construction is not attested with human reference nominals, in senses such as "he became a man". However this is probably simply a lacuna in the available data. It is attested with bodily conditions.

(8-51) *niinjdja arr-'djaa-dji nang'gaarri moodurr arr-'geema*  
just 1A-PR-stand IV.here cramp 1A-became

*baada*

leg

'I am just standing up, because I have a cramp in my leg.' (254)

The other major function of the *gama* phrase is to derive new verbal predicates by compounding with particles.

(8-52) *wuurrgim arr-'geema-ri*  
work 1A-do-PI  
'I was working.' [lit. 'Work I was doing.']

(8-53) *tired arr-'gaama-y*  
tired 1A-do-PR  
'I am tired.' [lit. 'Tired, I am being/doing it.] (55)

Whenever my two fluent consultants borrowed a Kriol or English verbal expression into Gaagudju, they used the *gama* construction. Dixon (1980 : 121 - 122 & 436) notes that Australian languages normally borrow English verbal concepts in a nominalised form, and then verbalise this nominalised form. The use of the *gama* construction in Gaagudju to verbalise particles borrowed from English conforms to this pattern.

The *gama* construction was the only productive method of forming new verbal predicates in the available data. However, all known verbal predicates conforming to this construction type involve loans from English. Therefore it does not appear that this construction was used to construct verbal predicates in the pre-contact period. Given that its productive use in verbalising particles apparently post-dates contact, there were presumably some other method(s) of constructing new verbal predicates in pre-contact Gaagudju. There is no indication as to these methods in the presently available data. It is of course possible that new verbal predicates were only required comparatively infrequently in pre-contact times.

#### 8.4 The Enclitic Phrase.

In Gaagudju, the ordering of directly encliticised syntactic words conforms to the phrasal template set out in (8-54).

- (8-54) Indirect object enclitic + Number enclitic + Plural subject and object enclitic + Incorporated nominal/Phrasal nominal or particle + Durative enclitic

The orderings of the Indirect Object enclitics and the Number enclitics, both with respect to one another, and with respect to the other enclitics, are extensively illustrated elsewhere in this grammar. The following examples illustrate the orderings of the other constituents, when directly encliticised.

- (8-55) *bardan'geeya=njdja*  $\emptyset$ -an-ba'rraa-wa-ri=mba='goodo  
old women=FUA 3IA-3ME-paint-Aux-PI=AUG=DUR  
*\emptyset*-an-ba'rra-wa-ri=mba='njoorno='goodo *dji'rdeewan*  
3IA-3ME-paint-Aux-PI=AUG=plS+O=DUR girl  
'The old women painted the girls for a while.' (B51)  
[Plural subject and object enclitic + Durative enclitic]
- (8-56) *ma'rree-ya=nu=mba='njoorno='baarri*  
1+2A-go.FU=3MIO=AUG=plS+O=behind  
'We will follow them.' (C155)  
[Plural subject and object enclitic + Phrasal nominal]
- (8-57) *ma'gaadja njing'gooduwa nj-djee-ga-njdji='woorro='goodo*  
that.II woman 3IVA-3FE-Aux-PI=drag=DUR  
*gu'djaali wa'laalu*  
firewood camp  
'Did that woman drag the firewood to camp?' (B503)  
[Phrasal particle + Durative enclitic]
- (8-58) *ma-n-'maa-ngi=wo'reenjgu='goodo*  
3IIIA-3ME-Aux-PI=whistle=DUR  
*ma-n-'maa-ngi=wo'reenjgu goornmu \emptyset*-njaarnnga  
3IIIA-3ME-Aux-PI=whistle morning I-keep on  
'He kept on whistling all morning.' (C18)  
[Phrasal particle + Durative enclitic]

There are no examples in the available data of an incorporated nominal occurring with either the 'plS+O' enclitic =*njoorno*, or with the Durative enclitic =*goodo*. However incorporated nominals, and phrasal particles and nominals, are otherwise identical in terms of ordering. Consequently it is reasonable to assume that incorporated nominals would show the same ordering with respect to the Durative and 'plS+O' enclitics, as the phrasal nominals and particles do. It should be noted that the ordering of the Durative enclitic illustrated in (8-57 & 8-58) only operates in encliticised phrasal constructions.

- (8-59) *\emptyset*-an-'gaarra=mba='goodo *waala*  
3IVA-3ME-Aux.PP=AUG=DUR bark  
'(The dogs) barked for a while (last night).' (187)

In phrasal verb constructions which consist of two phonological words, such as *garra waala* 'to bark', the Durative enclitic attaches to the verbal constituent. The orderings found with indirect enclisis (4.2) are normally the same as those found with direct enclisis. However there are occasional examples where indirect enclisis involves a different ordering.

- (8-60) *ma'gaarra* *Ø-an-gardaga'dee-gaba* *gaadju* ...=*nga='boordo*  
 that.I 3IA-3ME-drown-Aux.PP dog ...=*IIO=IM*  
 'That fellow drowned my dog.' (B935)  
 [usual *Ø-an-gardaga'dee-gaba=nga='boordo gaadju*]

- (8-61) *nji-wa'laawala* *m-iinj-ma=wo'reenjgu*  
 II-little 3IIIA-3FE-Aux.PP=whistle  
*m-iinj-ma=wo'reenjgu* ...=*yu ngoondji nji-wa'laawala*  
 3IIIA-3FE-Aux.PP=whistle ...=*3FIO other II-little*  
 'The little girl whistled to the other little girl.' (A619)  
 [usual *m-iinj-ma=yu=wo'reenjgu*]

Both of these examples involved the typical "afterthought" function of indirect enclisis (4.2). It is almost certainly the case that a larger database, involving a greater range of more spontaneous speech, would produce a much larger number of examples of the type illustrated in (8-60 & 8-61). It may be noted that in (8-60), the ordering of the indirectly encliticised morphemes, with respect to one another, conforms to the template set out in (8-54). (8-61) shows a departure from the template in (8-54). However it also involves the lexicalised phrasal verb *ma=wo'reenjgu* 'to whistle'. This lexicalisation may be a relevant factor in the departure from the ordering in (8-54).

In addition to the enclitics so far examined, there are also two other enclitics, whose placement in the enclitic phrase is uncertain: *=ma* 'Subordinator' (9.12.1), and *=ru* 'first' (9.12.2). The *=ma* enclitic is not attested with any of the other enclitics. The *=ru* enclitic is attested with the Number enclitics, which it follows.

- (8-62) *ngi'njee-mba-ru* *njing-'gee-bu=mba=ru*  
 2-AUG-first 2A-here-went=AUG=first  
 'You lot came here first.' (B426)

In terms of their meanings at least, it would be predicted that these enclitics would be peripheral enclitics. They would presumably have scope over incorporated nominals and particles, and as such would appear to the left of these. The nature of their ordering with respect to each other, and with respect to the Durative enclitic *=goodo*, remains uncertain, even in semantic terms.



## 8.5 Quantification.

## 8.5.1 The Number enclitics.

The Number enclitics are the principal quantifiers found in Gaagudju. They are listed in Table 8.1, along with the other quantifiers. The Number enclitics, like nearly all morphological systems in Gaagudju, show a Minimal vs Augmented pattern of quantification. That is, in terms of the usual singular vs plural distinction, the 1+2 combination behaves as if it was a singular category. The category including the 1+2 combination and the singulars is known as the Minimal category in Australianist practice. The Unit Augmented and Augmented categories are largely equivalent to the familiar dual and plural categories. They indicate that a Minimal form has been augmented by one, or by more than one, respectively. The term "Augmented" is also used as a general cover term for both the non-Minimal categories.

The usage of the Number enclitics is dependent upon animacy hierarchy considerations (Silverstein 1976). They are regularly used only with human referents. They show a reasonable frequency of occurrence with higher animate referents, but are rare with any other type of referent. Bound quantifiers standardly show this animacy hierarchy controlled pattern of usage among Australian languages. With higher animate referents, it appears that verbal transitivity and grammatical function are also of importance in controlling the appearance of Number marking.

- (8-63) *moobiyu geerrmada ma-n-gada'laa-biri=mana*  
 animal two.M 3IIIA-3ME-cross-Aux.PP=MUA  
*Ø-ee-bu=mana gaba'loowadi='nggaana*  
 3IA-here-went=MUA road=LOC  
*Ø-yo'ree-ni=mana*  
 3IA-lie-PI=MUA  
 'Two snakes came and crossed the road. They lay (there).'

*Ø-arro-o'ree-garra Ø-arra-yirr'boolo-wa='godo ma'gaarra*  
 3IVA-1E-see-Aux.PP 3IA-1E-track-Aux.PP=DUR that.I  
 'I saw (their tracks), and tracked them for a while.' (B115)

The participants common to all the clauses in (8-63) are the two snakes. The Number enclitics appear on the intransitive verbs which have the two snakes as their Subject<sup>2</sup>. The Number enclitics do not appear on the transitive verbs which have the two snakes as their Direct Object. This is the standard pattern in Gaagudju. Non-singular higher animates are only rarely attested as Transitive Subjects in the available data, and as such it is not possible to make any definitive comments on the patterning of the Number enclitics with higher animate Transitive Subjects.

<sup>2</sup> The verb *gada'la-biri* 'to cross', though formally transitive, is semantically intransitive (9-47).

Table 8.1 : The Quantifiers.

	<u>Abbreviation</u>	<u>Full Gloss</u>	<u>Meaning</u>
<i>=mana</i>	MUA	Masculine Unit Augmented	The group consists of a minimal unit and a male
<i>=njdja</i>	FUA	Feminine Unit Augmented	The group consists of a minimal unit and a female
<i>=da</i>	MA	Masculine Augmented	The group consists of a minimal unit and two or more other. All members of the group are masculine.
<i>=mba</i>	AUG	Augmented	The group consists of a minimal unit and two or more others. At least one member of the group is feminine.
<i>=njoorno</i>	plS+O	Plural Subject + Object	Both the Subject and the Object in a transitive construction are plural in number.
<i>geegirr</i>			all

## 8.5.2 The Unit Augmented Enclitics.

The marking of human referents is dependent on gender. Groups consisting of a Minimal unit and a female take the FUA enclitic =*njdja*, and those consisting of a Minimal unit and a male take the MUA enclitic =*mana*. To illustrate the general patterning of the UA enclitics, we may take the Future tense paradigm of 'to go' as a point of departure.

(8-64)	'to go (Future)'
1A	<i>a'rree-ya</i>
1+2A	<i>ma'rree-ya</i>
2A	<i>njee-n-ya</i>
3IA	<i>ee-n-ya</i>
3IIA	<i>njee-n-ya</i>

(8-64) lists the forms from this paradigm which have human reference, at least potentially (i.e. the 3IIIA and 3IVA forms are excluded because they cannot have human reference). The following UA forms may be based on this paradigm.

(8-65)		
1A	<i>a'rree-ya=njdja</i> M/Fsp + F	<i>a'rree-ya=mana</i> M/Fsp + M
1+2A	<i>ma'rree-ya=njdja</i> M/Fsp, M/Fadd + F	<i>ma'rree-ya=mana</i> M/Fsp, M/Fadd + M
2A	<i>njee-n-ya=njdja</i> M/Fadd + F	<i>njee-n-ya=mana</i> M/Fadd + M
3IA	<i>ee-n-ya=njdja</i> M + F	<i>ee-n-ya=mana</i> M + M
3IIA	<i>njee-n-ya=njdja</i> F + F	

The principal area of interest for human number marking, is with mixed gender combinations. With forms showing marking for 1st person, the particular form used for a mixed gender combination depends on the gender of the speaker. A female speaker will use *a'rree-ya=mana*, whereas a male speaker will use *a'rree-ya=njdja*. Forms with marking for 1+2 person show the same pattern, *ma'rree-ya=mana* with a female speaker, and *ma'rree-ya=njdja* with a male speaker. The gender of the addressee is irrelevant with the 1+2 person, as the addressee forms part of the Minimal unit. In paradigms which show marking for the various categories within the 3rd person, mixed gender 3rd person combinations invariably follow the pattern shown in (8-65). That is, these combinations consist of a stem which shows marking for the 3rd Masculine person, and the FUA enclitic.

The patterning of forms showing marking for the 2nd person depends on who these forms are understood to be addressed to. They could be addressed to a single addressee, concerning that person and another person. In this situation, the particular form used for a mixed gender combination depends on the gender of the addressee. The form *njee-n-ya=njdja* is used to a male addressee, whereas *njee-n-ya=mana* is used to a female addressee. The form *njee-n-ya=mana* is of interest in more general paradigmatic terms. As illustrated in (8-65), the Absolutive forms for the 2nd and 3II persons are identical. This morphological neutralisation is found throughout the verbal prefix paradigms (7.5.2). However the neutralisation does not extend into the UA paradigm. The form *njee-n-ya=mana* can only have 2nd person reference. It is not possible to combine the form *njee-n-ya*, when it has 3II reference, with the MUA enclitic =*mana*.

The other possibility for 2nd person forms is that they could be addressed jointly to two addressees. In this situation *njee-n-ya=njdja* is used to a mixed gender pair of addressees. This is the pattern found with stems which do not bear any morphologically localisable marking for a particular person category, or which are not categorised for a particular person. One such class of stems is that of Positive imperatives, which do not bear any morphologically localisable marking for Subject (7.9).

- |        |  |   |
|--------|--|---|
| (8-66) | <i>ngoorro</i><br>go.IMP<br>'You (sg) go!' (M/F)         | <i>ngoorro=njdja</i><br>go.IMP=FUA<br>'You two go!' (F+F/M+F) |
|        | <i>ngoorro=mana</i><br>go.IMP=MUA<br>'You two go!' (M+M) |   |

There are also a number of kin nouns which form another such class, as they do not categorise for gender.

- |        |  |   |
|--------|--|---|
| (8-67) | <i>nganj-'maaba</i><br>1MIN-wC<br>'my daughter/son'      | <i>nganj-'maaba=njdja</i><br>1MIN-wC=FUA<br>'my two daughters, my daughter and son' |
|        | <i>nganj-'maaba=mana</i><br>1MIN-wC=MUA<br>'my two sons' |   |

In contrast with the Augmented enclitics (6.7.2 & 9.6), indefinite Unit Augmented meanings are conveyed by the Masculine enclitic.

- (8-68) *arr-'djii-ngi goornmu gada gaayu i'bardbi warra*  
 1A-go-PIRR morning but Neg Neg who  
*arr-'djii-ngi=mana*  
 1A-go-PIRR=MUA  
 'I wanted to go yesterday, but no, there was nobody to go with.'  
 (B850)

UA marking with higher animates conforms to the predicted patterns: referents from Class I take Masculine concord, and referents from Class II take Feminine concord.

- (8-69) *geerrmanda gaadju Ø-yoo-ri=mana ma'gaayobu='nggaana*  
 two.M dog 3IA-lie-PR=MUA shade=LOC  
 'Two dogs are lying in the shade.' (12)  
 [*gaadju* 'dog' is Class I]

- (8-70) *gooyida Ø-na-yarrangga-'bee-ngga-y=mana*  
 Neg.IMP 3IA-2E-put in-Aux-Aug-PR=MUA  
*badik='nggaana ba'leeru Ø-ma'laa-y=mana*  
 paddock=LOC lest 3IA-kick-detr.CON=MUA  
 'Don't put the two (horses) in the paddock, lest they kick each other.' (B590) [*djaarra* 'horse' is 'Class I']

- (8-71) *geendjada gaba'rdeeba nji-rro-o'ree-garra=ndja*  
 two.F emu 3IIA-1E-see-Aux.PP=FUA  
 'I saw two emus.' (86) [*gaba'rdeeba* 'emu' is Class II]

Owing to the rarity of Number marking with lower animate referents, there is only one example of UA marking with a referent belonging to Class III or IV.

- (8-72) *moodiga geendjada ma-ya-balaban'djoo-ri=ndja*  
 car two.F 3IIIA-PR-run-PR=FUA  
 'Two cars are running along.' (B701)

*moodiga* 'car' belongs to Class III, and takes the Feminine UA form. The fact that it does so, provides fairly good evidence that the distinction between the two UA enclitics follows the same pattern found elsewhere in Gaagudju with the Masculine vs Feminine opposition. Referents from Class I take Masculine concord, and Referents from Classes II, III, and IV take Feminine concord (Personal pronouns 6.6, Numerals 8.5.6, Indirect Object enclitics 8.6).

### 8.5.3 The Augmented Enclitics.

The distinction between the two Augmented enclitics is similar, but not identical to that found elsewhere with the Masculine vs Feminine distinction. Despite this, for the purposes of comparability with analyses elsewhere in this grammar, the appearance of the MA enclitic is described

as Masculine concord, and the appearance of the AUG enclitic is described as Feminine concord. (8-73) illustrates the patterning of Augmented marking that is found in speech, when the speaker is specifically monitoring the nature of Augmented marking. The forms from the Future paradigm of 'to go' are the stems (8-64).

(8-73)

1A	<i>a'rree-ya=da</i> <i>a'rree-ya=mba</i>	Msp + 2 or more males Any other combination
1+2A	<i>ma'rree-ya=da</i> <i>ma'rree-ya=mba</i>	Msp, Madd + 2 or more males Any other combination
2A	<i>njee-n-ya=da</i> <i>njee-n-ya=mba</i>	Madd + 2 or more males Any other combination
3IA	<i>ee-n-ya=da</i> <i>ee-n-ya=mba</i>	3 or more males Any other combination

The Augmented enclitics pattern somewhat differently from the UA enclitics. The MA enclitic, =*da*, indicates that the Augmented combination consists exclusively of males. The AUG enclitic, =*mba*, is used when an Augmented combination involves one or more females. As such the gender(s) of the Minimal unit are a determining factor for Augmented marking in all situations. For UA marking, they are relevant only in certain mixed gender situations (8.5.2).

Turning to the stems, the chief point to be noted is the absence of the form *njee-n-ya*, with 3II reference (8-64). If a paradigm shows marking for the various categories within the 3rd person, then the patterning of Augmented forms invariably follows the pattern illustrated in (8-73). That is, only the stem which shows marking for the 3rd Masculine person is found with the Augmented forms. With the Augmented enclitics, there is no form such as that in (8-74), which would indicate a group consisting exclusively of females (parallel to the exclusively female form in 8-65).

(8-74)	<i>*njee-n-ya=mba</i> 3IIA-FU-go=AUG 'They will go.' (3 or more females)
--------	--

The lack of an exclusively feminine form correlates with the fact that the opposition between the two Augmented enclitics is an opposition of 'masculine' vs 'the rest'. The form *njee-n-ya=mba* does occur, as does the corresponding masculine form *njee-n-ya=da* (8-73). However these forms can only be interpreted as having 2nd person reference. As such, the neutralisation between the 2nd and 3II persons in the Absolute, which is characteristic of the pronominal prefix paradigms (7.5.2), does not extend to the Augmented number category. The patternings of Augmented marking, illustrated in (8-73), are also found with stems which do not bear

any morphologically localisable marking for a particular person category, or which are not categorised for a particular person (cf 8-66 & 8-67).

- (8-75) *ngoorro=da*  
go.IMP=MA  
'You three or more go!' (all males)
- (8-76) *ngoorro=mba*  
go.IMP=AUG  
'You three or more go!' (any other combination)
- (8-77) *nganj-'maaba=da*  
1MIN-wC=MA  
'my sons'
- (8-78) *nganj-'maaba=mba*  
1MIN-wC=AUG  
'my daughters, my daughters and sons'

As mentioned, the patterns illustrated in (8-73 - 8-78) are the patterns found in speech, where the nature of Augmented marking is being specifically monitored. In speech where it is not being specifically monitored, certain variations from this pattern are attested. Combinations consisting exclusively of males, may take the AUG enclitic in less carefully monitored speech.

- (8-79) *na-woma'laagardi Ø-baalgi=mba Ø-yo'ree-ni=mba*  
I-young man I-lots=AUG 3IA-lie-PI=AUG  
'Lots of young men used to camp (there).' (B280)
- (8-80) *Ø-baalgi=mba dji'rriingi Ø-yoo-ri=da ngo'rroongirr*  
I-lots=AUG man 3IA-lie-PR=MA asleep  
'Lots of men are sleeping.' (12)

As (8-80) illustrates, a particular referent may show both Masculine and Feminine concord. The factors conditioning the appearance of Masculine vs Feminine concord with human referents are not fully certain. Nevertheless, it is possible to provide an indication as to some of the parameters which appear to underlie these concord patterns. One parameter which appears to be of central importance is a culturally defined concept of human masculinity. The appearance of the MA enclitic explicitly registers such a concept of human masculinity.

As a starting point in examining this concept of human masculinity, it is useful to examine the Masculine/Class I category, as it is constructed in the other morphological systems of Gaagudju. The categories associated with the Masculine/Class I category are set out in (6-33, repeated here as 8-81 for convenience).

- (8-81) Human males, most animates, European material objects, rain

Following Lakoff (1986 : 17) I would argue that human masculinity is the central prototypical concept in the Masculine/Class I category. The other morphological systems in Gaagudju do not distinguish between the central and the peripheral concepts associated with the Masculine/Class I category. Consequently they do not allow for any delineation of the central concept. However Augmented Number concord does distinguish the central from the peripheral concepts. Class I higher animate referents normally show Feminine Augmented Number concord.

- (8-82) Ø-baalgi=mba gaadju Ø-yoo-ri=mba ma'gaayobu  
 I-lots=AUG dog 3IA-lie-PR=AUG shade  
 'Lots of dogs are lying in the shade.' (7)

There is only one example where a Class I animate referent shows Masculine concord.

- (8-83) Ø-baalgi dii gaadju Ø-n-dee-bi=da  
 I-lots sandfly dog 3IA-3ME-PR-bite=MA  
 'There are lots of sandflies, they are biting the dog.' (B523)

The referent in this case is a lower animate, Class I, entity *dii* 'sandfly'. The occurrence of Masculine concord in this case is presumably to be understood in terms of the Masculine/Class I category associations, set out in (8-81). There is nevertheless a considerable difference in frequency of Masculine concord for human male referents as opposed to non-human, Class I referents. Therefore Masculine Augmented Number concord may reasonably be described as singling out human masculinity.

The relevant concept of human masculinity cannot however be equated with human male reference in any simple fashion. (8-79 & 8-80) explicitly demonstrate that no such exclusive connection exists. This is not to deny that there is an important connection between human male reference and Masculine concord.

- (8-84) wa'laaladama Ø-n-da-ma'laa-y=mba dji'rriingi ma'gaarra  
 always 3IA-3ME-PR-kick-PR=AUG people that.I  
 djaarra  
 horse  
 'That horse is always kicking people.' (B517)

The lexeme *dji'rriingi* 'man, person, people' is a Class I noun. In (8-84) it appears in its common gender sense 'people', and shows Feminine concord. It appears likely that these two facts are related. The lack of any specifically masculine value to *dji'rriingi* in (8-84) militates against the appearance of Masculine concord. The AUG enclitic is also the usual form, when no specific referent is given (see also 6.7.2 & 9.6 for the indefinite and detransitivising functions of the AUG enclitic).



- (8-85) *Ø-baalgi=mba ya-bu=mba*  
 I-lots=AUG 3IA-went=AUG  
 'A big mob went.' (7)
- (8-86) *gaadju Ø-an-'bii-ri=mba='goodo garr'maarna*  
 dog 3IA-3ME-bite-PI=AUG=DUR later  
*Ø-a'n-eega=da*  
 3IA-3ME-shoot.PP=MA  
 'The dog kept on biting people, and so they had to shoot it.'  
 (B448)

(8-86) is of interest, as it involves both an environment which favours Feminine concord, and an environment which favours Masculine concord. In the first clause of (8-86), there is a generic non-specific referent 'people', which favours Feminine concord. However the second clause describes an activity 'shooting' which is normally carried out by men. Masculine concord is favoured in this environment. (8-87 & 8-88) provide further examples of this preference.

- (8-87) *ya-Ø-'gaama-y=mba*  
 what-3IA-do-PR=AUG  
 'What are they doing?'
- Ø-n-dee-gaba=da anmarra'baalbu*  
 3IA-3ME-bury-Aux.PP old man  
 'They have buried the old man.' (B29)
- (8-88) *gu-nga-n-go'doo-biri=da gaabay*  
 3IVA-3ME-FU-cut-Aux=MA ironwood  
 'They are going to cut the ironwood tree (down).'
- gu-nga-n-mo'geerdidj-bi=mba manang'gaarr goo-n-yu*  
 3IVA-3ME-FU-leave-Aux=AUG that.IV 3IVA-FU-lie  
 'They are just going to leave it to lie there.' (B760)

The activities of 'burying somebody' and 'cutting down trees' were traditionally carried out by men, and they show Masculine concord. The activities of 'doing' and 'leaving', on the other hand, do not have any traditional gender associations, and they show Feminine concord. (8-89) provides a particularly interesting example of 'traditional gender association'.

- (8-89) *baagu ba'rraanggirr*  
 kangaroo old days  
*Ø-arra-ra'gaa-ri=nu=da ...=ngoolhgirr*  
 3IA-1E-Aux-PI=3MIO=MA ...=roast in hot sand  
 'In the old days, we used to roast kangaroos in hot sand.' (B145)

(8-89) was given by a female speaker. In the great majority of cases, this would mean that the MA enclitic could not be used. However (8-89) is a statement about how a generic "we", the Aboriginal people of the relevant area, used to perform a particular traditional activity. In parts of northern Australia, the cooking of kangaroos was an activity traditionally performed by men (M. Walsh : p.c.). I do not know if this was the case in the northern Kakadu - Oenpelli area, but (8-89) suggests that it was. It appears that the "we" in (8-89) is sufficiently generic for a traditional gender association to affect Number marking. Masculine concord is not obligatory with activities which have a gender association.

- (8-90) *ba'rraangirr baagu Ø-a'n-aaga-ri=nu=mba*  
 old days kangaroo 3IA-3ME-Aux-PI=3MIO=AUG  
 ...=*ngoolhgirr*  
 ...=roast in hot sand  
 'In the old days they used to roast kangaroos in hot sand.' (B554)

Given that Masculine concord is not entirely determined by either lexical or referential factors, it appears that discourse level factors must also have a role to play. The available data does not provide any indication as to the nature of these discourse level factors. Speculatively, the interpersonal elements of discourse structuring would seem to be a promising area of investigation. It seems likely that the use of Masculine concord would depend on the speaker's assessment of the desirability of marking Masculine concord for the hearer.

Other than in situations such as (8-89), it appears that any Augmented combination involving a Class II, III or IV referent would take Feminine concord. Owing to the rarity of number marking with lower animates, there is only one example of Augmented marking with a Class II lower animate.

- (8-91) *njimba'daabumbu njim-'baalgi noonjbu*  
 grasshopper II-lots grass  
*ma-n-'daa-y=mba*  
 3IIIA-3ME-PR-eat=AUG  
 '(I can see) lots of grasshoppers. They are eating grass.' (B616)

There is only one example of Augmented marking potentially involving a Class IV referent.

- (8-92) *gooyida gu-na-mo'geerdidj-bi=mba aardi ma'booliyo*  
 Neg.IMP 3IVA-2E-leave-Aux.PR=AUG clothes outside  
*ba'leeru Ø-an-bal'beerra-ri=mba*  
 lest 3IVA-3ME-tear-CON=AUG  
 'Don't leave the clothes outside, lest somebody tear them.'  
 (B518)

This example is somewhat uncertain. The Subject of the first verb appears to be singular, and consequently the AUG enclitic would

refer to the clothes (*aardi* Class IV). However the AUG enclitic in the second verb has a general indefinite meaning (6.7.2), and it is possible that the AUG enclitic on the first verb may also be conveying an indefinite meaning. There are no examples of Augmented marking with Class III referents.

#### 8.5.4 Number Marking in Transitive Verbs.

Number marking in transitive verb forms may be interpreted as applying to either the Subject or the Object, depending essentially on semantic and contextual plausibility. The only formal constraints are those described for Number marking in (8.5.2 & 8.5.3). In the Unit Augmented category, mixed gender combinations must involve a stem which takes masculine prefixing, and the FUA enclitic.

- (8-93) *Ø-an-go'ree-garra=njdja*  
 3IA-3ME-see-Aux.PP=FUA  
 'He and her saw him./He saw him and her.'

These two mixed gender combinations cannot apparently be conveyed by the constructions in (8-94 & 8-95).

- (8-94) *Ø-i-yo'ree-garra=mana*  
 3IA-3FE-see-Aux.PP=MUA  
 \*'She and him saw him.' [acceptable as 'She saw him and him.']

- (8-95) *nji-n-go'ree-garra=mana*  
 3IIA-3ME-see-Aux.PP=MUA  
 \*'He saw her and him.' [acceptable as 'He and him saw her.']

If the Subject is Augmented, then a stem with a Masculine Ergative must be used.

- (8-96) *Ø-an-go'ree-garra=da*  
 3IA-3ME-see-Aux.PP=MA  
 'They saw him./He saw them.' [all referents must be Masculine]

- (8-97) *Ø-an-go'ree-garra=mba*  
 3IA-3ME-see-Aux.PP=AUG  
 'They saw him./He saw them.' [referents may be of any Class]

Forms with a Feminine Ergative do not occur, even when the Augmented Subject is exclusively Feminine.

- (8-98) *bardan'geeya=mba garrma'noogodawa*  
 old woman=AUG three.M  
*ya-an-u=mba maada djaamu*  
 3IA-3ME-give.PP=AUG yesterday tucker  
 'The three old women gave him tucker yesterday.' (C50)

It appears that Feminine Ergatives occur if the Subject is Minimal, and the Object is Augmented.

- (8-99) *njing'gooduwa* Ø-*iidj-bu-mu=da* *na-baya'laala=da*  
 woman 3IA-3FE-hit-PP=MA I-child=MA  
 Ø-*a'rdaa-garra=mba*  
 3IA-argue-Aux.PP=AUG  
 'The woman hit the boys. They were arguing.' (A332)

This requires confirmation however. If the Object is Augmented, it appears that forms with a Feminine Class II Absolutive do not occur, even when the Object is exclusively Feminine.

- (8-100) *dji'rriingi* Ø-*an-'boo-mu=mba* *gendjongo'yoogoda*  
 man 3IA-3ME-hit-PP=AUG three.F  
*njing'gooduwa*  
 woman  
 'The man hit the three women.' (98)

Class II Absolutives occur when the Object is Minimal and the Subject is Augmented.

- (8-101) *goornmalada* *nji-'meerra-wu=mba* *u'luunggulu*  
 tomorrow 3IIA-1+2E-give.FU=AUG old woman  
 'Tomorrow, we will give the old woman (some beef).' (111)

Minimal Class III and IV Absolutives are commonly attested in combination with Augmented Subjects. If both the Subject and the Object are Augmented, then a special Number Enclitic =*njoorno* 'plS+O' may be used.

- (8-102) *u'luunggulu* *geeninjdjada* Ø-*an-go'ree-garra=mba='njoorno*  
 old woman two.F 3IA-3ME-see-Aux.PP=AUG=plS+O  
*dji'rriingi* *geerrmada* Ø-*an-go'ree-garra=mba='njoorno*  
 man two.M 3IA-3ME-see-Aux.PP=AUG=plS+O  
 'The two old women saw the two men.' (A330)

As illustrated in (8-102), this enclitic has its own structural position, immediately following the position for the other Number enclitics (8.4). The =*njoorno* enclitic also differs from the other Number enclitics in its quantification pattern. The other Number enclitics operate on a Minimal/Augmented basis. The =*njoorno* enclitic operates on a singular/plural basis.

- (8-103) *ga-marro-o'roo-garra-y=mba='njoorno* *ngiinja-ma*  
 3E-1+2A-look-Aux-PR=AUG=plS+O 2MIN-PRM

*ngaanj-ma iinjdu ga-'meerra-bu=mba='njoorno*  
 1MIN-PRM S.A. 3E-1+2A-hit.FU=AUG=plS+O  
 'They are looking at you and me. Maybe they will hit you and me.' (84)

The Object in (8-103) is Minimal, but also plural. The plurality of this Object is a sufficient basis for the appearance of =*njoorno*. Given that both the Subject and the Object are Augmented in constructions involving =*njoorno*, only Masculine Absolute and Ergative prefix forms appear. The 'plS+O' is invariably attested in collocation with the AUG enclitic =*mba*. This is the case even when all referents are human males, and it would appear that the MA enclitic =*da* should be possible.

(8-104) *anmarra'baalbu ya-Ø-'aama-y=mana*  
 old man what-3IA-do-PR=MUA  
 'What are the two old men doing?'

*Ø-n-da-ba'r-raa-wa-y=mba='njoorno na-woma'laagardi*  
 3IA-3ME-PR-paint-Aux-PR=AUG=plS+O I-young person  
*iinjdu i-n-'daarra-bu=da*  
 S.A. 3IA-FU-dance-Aux=MA  
 'They are painting the young men. Maybe they will dance.'  
 (A589)

The enclitic sequence =*mba='njoorno* in fact normally forms a tightly bound unit phonologically. There are only a few examples where the two enclitics are separated by a pause.

(8-105) *njing'gooduwa Ø-an-'boo-mu=mba ...='njoorno*  
 woman 3IA-3ME-hit-PP=AUG ...=plS+O  
*garrma'noogoda=mba Ø-an-'boo-mu=mba ...='njoorno*  
 three.M=AUG 3IA-3ME-hit-PP=AUG ...=plS+O  
*i-'laawala=mana*  
 I-little=MUA  
 'The three women hit the two little boys.' (A30)

In the great majority of cases, if a pause does occur, it occurs before the =*mba* enclitic in the sequence =*mba='njoorno*. Given the animacy hierarchy constraints on Number marking (8.5.1), it is unsurprising to find that the =*njoorno* enclitic is only attested once with a non-human referent.

(8-106) *geerrmada gaadju geerrmada gaadju Ø-an-'gaarra=mana*  
 two.M dog two.M dog 3IVA-3ME-Aux.PP=MUA  
*waala*  
 bark  
 'The two dogs barked.'

Ø-an-go'ree-garra=mba='njoorno      naabirri=mba naabirri=mba  
 3IA-3ME-see-Aux.PP=AUG=plS+O I.there=AUG I.there=AUG  
 na-burlanj=naawu Ø-aa-yi-ngi=mba      gaardu  
 I-burlanj=3MDAT 3IA-here-go-PR=AUG water  
 'They saw the na-burlanj men coming with water.' (79)

Dogs are the entities next in animacy status to humans. It is therefore unsurprising to find that the single non-human example involves dogs (see 8-150 : Indirect Objects). While the =njoorno enclitic occurs with some reasonable frequency, it is not obligatory. Verbs where both the Subject and the Object are Augmented may simply bear the appropriate AUG enclitic.

(8-107) anmarra'baalbu Ø-an-ba'rraa-wa-ri=da='goodo      ga'rdiirri  
 old man      3IA-3ME-paint-Aux-PI=MA=DUR red ochre  
 'The old men painted (the young boys) with red ochre.' (A373)

(8-108) Ø-an-'baara=mba=da      njing'gooduwa geeninjdjada  
 3IA-3ME-Aux=AUG=find woman      two.F  
 'Did they find the two women?' (A556)

#### 8.5.5 geegirr 'all'.

This quantifier is a free nominal, rather than an enclitic. Nevertheless it patterns with the Number enclitics in two significant respects. The most salient of these is its apparent configurational patterning in verbal clauses. In verbal clauses, *geegirr* is invariably attested immediately following the verb. As such it appears that the verb + *geegirr* construction is a phrasal construction. This phrasal construction follows the preferred template for phrasal verbs (7.4). The ordering of verb + quantifier in this phrasal construction is structurally parallel to the ordering of the Number enclitic quantifiers (8.4).

Apart from showing a high degree of structural parallelism with the Number enclitics, *geegirr* also appears to show a high degree of functional parallelism. In verbal clauses, *geegirr* is usually attested modifying Intransitive Subjects and Transitive Objects.

(8-109) dji'rriingi njing'gooduwa yaa-bu=mba      geegirr  
 man      woman      3IA-went=AUG all  
 'The men and women have all gone.' (5)

(8-110) wa'laalu Ø-naana      geegirr  
 country 3IVA-burn.PP all  
 'The country is all burnt.' (A507)

(8-111) ba-'rree-ng-ga=mba      geegirr ma'rree-ya=mba      geegirr  
 2A-IE-FU-take=AUG all      1+2A-go.FU=AUG all  
 'I will take all of you. We will all go.' (71)

- (8-112) *niinjdja arr-ga'rdaa-garra=mana djaarli='naawu gaayu*  
 just 1A-argue-Aux.PP=MUA meat=3MDAT Neg  
*arr-ga-n-ga'dee-ga-njdji Ø-een-ba geegirr*  
 1A-3E-IRR-think about-Aux-P 3IA-3ME-ate all  
 'We just argued over beef. He did not think of me. He ate it all up.' (A343)

However it does not appear that it is formally restricted to an Absolutive patterning. There is one example where *geegirr* was clearly intended from context to modify a Transitive Subject.

- (8-113) *Ø-meerra-ma=mba geegirr maada*  
 3IA-1+2E-get.FU=AUG all yesterday  
*Ø-meerra-ma=mba geegirr djaamu*  
 3IA-1+2E-get.FU=AUG all tucker  
 'We all got it yesterday. We all got tucker.' (129)

Some further examples of *geegirr* unambiguously modifying a Transitive Subject would be desirable, to confirm that this is indeed a potentiality. The possibility of modifying either Subject or Object in transitive constructions aligns *geegirr* with the Number enclitics (8.5.4). In overall terms *geegirr* is most similar in ordering and function to the 'plS+O' enclitic =*njoorno* (8.5.4). The similarities are sufficient to suggest that prior to becoming an enclitic, =*njoorno* was historically a free nominal in a configurational phrasal relationship with the verb. There is one example where *geegirr* occurs in a verbless clause.

- (8-114) *waarra=nu='geegirr njing'gooduwa*  
 who=3MIO=all woman  
 'Who are all (those) women?' (6)

This is an incorporation construction, where *geegirr* specifies the applicability of *waarra* 'who' to *njing'gooduwa* 'woman'. (see also 8-185).

### 8.5.6 Numerals.

The cardinal numerals occurring in Gaagudju are set out in (8-115).

- |         |                           |                          |
|---------|---------------------------|--------------------------|
| (8-115) | Masculine                 | Feminine                 |
| 'one'   | <i>no'woogoda(wa)</i>     | <i>ngo'yoogoda(wa)</i>   |
| 'two'   | <i>geerrma(n)da</i>       | <i>geen(inj)djada</i>    |
| 'three' | <i>garrma'noogoda(wa)</i> | <i>gendjongo'yoogoda</i> |

As elsewhere in Gaagudju referents from Class I show Masculine concord, and referents from Classes II, III and IV show Feminine concord. The exact status, both formal and semantic, of the forms in this paradigm requires some consideration, as we will see. We

may begin by examining their morphological construction. The morphological construction of the forms for 'one' has already been examined in (6.6). The long variants of these two forms belong to the *-gaduwa* 'alone' paradigm of personal pronouns. This paradigm appears in Table 6.2, and is repeated here as (8-116) for convenience.

(8-116)	<i>-gaduwa</i>	'alone'
1	<i>ngadj-'gaaduwa</i>	'me alone'
1+2	<i>ma'nee-gaduwa</i>	'you and me alone'
2	<i>ngi'njaa-gaduwa</i>	'you alone'
3M	<i>no'woo-godawa</i>	'him alone'
3F	<i>ngo'yoo-godawa</i>	'her alone'

The long variants are attested with both the pronominal 'alone' function, and with the numeral 'one' function. The short variants are attested only in the numeral function. The short variants are overwhelmingly the preferred forms for expressing the numeral function. The short variants were attested in this function from the very beginning of fieldwork. The long variants were only attested much later in fieldwork. Further they were only attested in the numeral function after they had been first attested in the 'alone' function. As such it appears that for my principal consultant P.B, at least, the numeral use of the long variants was primed by their 'alone' use. The differences, both in the range of the variants, and in their frequencies in the numeral function, appear to be sufficient to establish 'M.one' and 'F.one', as separate lexemes from 'him alone' and 'her alone'.

The forms for 'two' and 'three' appear to have been historically analysable in the manner set out in (8-117).

(8-117)	Masculine	Feminine
'two'	<i>geerrma(n)da</i> <i>*garr-mana-da</i> <i>*garr-MUA-SUB</i>	<i>geen(inj)djada</i> <i>*garr-njdja-da</i> <i>*garr-FUA-SUB</i>
'three'	<i>garrma'noogoda</i> <i>*garr-mana-no'woogoda</i> <i>*garr-MUA-M.one</i>	<i>geendjongo'yoogoda</i> <i>*garr-njdja-ngo'yoogoda</i> <i>*garr-FUA-F.one</i>

Historically it appears that these forms were built on a root *\*garr*. This root is not synchronically attested in Gaagudju as an independent form, though it may also appear in the compound *gaarrmadja=da=wa'laalu* 'already' (8-121 in this section). In addition to this *\*garr* root, it appears that these forms all involve the appropriate UA number enclitic (8.5.2). The other morpheme found in the forms for 'two' is *\*da*, which is most probably to be identified with the Substantiviser *=da* (6.2). The forms for 'three' involve the appropriate form for 'one'. It may be noted that the long variants for 'one' are only attested once in a form for 'three' (8-98).



The numeral forms for 'two' and 'three' are formally classifiable as demonstratives (6.1). They show variation for noun class, but are neither adjectives, kin nouns, or personal pronouns. If 'one' and 'alone' can indeed be established as separate lexemes, then 'one' would also be formally classified as a demonstrative. However given the uncertainties which surround the potential separation of the 'one' and 'alone' forms, there is insufficient support in the available data for the adoption of this formal classification.

The formal classification of some, if not all, of the numerals as demonstratives correlates with their semantic functioning. Hale (1975) has suggested that forms glossed as numerals in Australian languages do not have counting as their primary purpose. Rather he suggests that they are indefinite determiners with meanings such as 'singular' or 'dual' etc. It is not possible to comment on the usage of numerals in Gaagudju for obvious reasons. However it would appear that Hale's analysis is applicable to Gaagudju. There are two pieces of evidence which favour its adoption. Firstly, there are a number of examples where the numeral 'one' clearly functions as an indefinite determiner (8-10). Secondly, and perhaps of more general significance, Hale's proposal provides an explanation for why there are only numerals up to 'three'. If the primary purpose of the numerals was counting, it is difficult to understand why they should only go up to 'three'. On the other hand, a limitation in indefinite determiners to 'singular', 'dual' and 'triple' is quite understandable.

Despite the apparent suitability of Hale's indefinite demonstrative analysis, I will nevertheless continue to describe the forms in (8-115) as cardinal numerals for a number reasons. Firstly this is the term in use for equivalent paradigms generally in Australian languages. Secondly the term recognises that these forms do involve exact enumeration. Thirdly it recognises the part these forms play in more extensive lexical systems of counting.

There is evidence which suggests that Gaagudju did have a more extensive counting system of this type. Gaagudju has a phrasal lexeme meaning 'five': *yaagada ngaadjay*. One of the members of this phrasal lexeme is *ngaadjay* 'hand'. The other member *yaagada* does not have an assignable individual meaning. It occurs in a reduplicated form *yaagada* = '*yaagada* 'the other side', and in a compound lexeme *baada* = '*yaagada* 'short leg' (*baada* 'leg'). The existence of an apparently lexicalised form for 'five' suggests there was probably a more extensive counting system in Gaagudju, than that remembered by my consultants. More complex counting systems occur in other languages from the coastal areas of northern Australia, that underwent direct or indirect Macassan influence (Harris 1982).

The Feminine forms of the cardinal numerals also occur in a right-headed phrasal construction expressing the 'times' concepts: once, twice, etc.

- (8-118) *Ø-eembiri ngo'yoogoda wa'laalu*  
 3IA-laugh.PP F.one time  
 'He laughed once.' (B45)
- (8-119) *ma'gaarra ngoondji i-'laawala arr-'gee-bara giimbi*  
 that.I other I-little 1A-3E-struck stone  
*geenindjada wa'laalu*  
 two.F times  
 'That other little boy struck me with a stone twice.' (B786)
- (8-120) *ba'rraangirr ma'gaarra i-'laawala gu'djiirri m-bee-ngi*  
 old days that.I I-little sick 3IVA-go there-PI  
*gu-'baalgi wa'laalu mboodaru gu-'ngaarndada*  
 IV-lots times now IV-good  
 'In the old days, that little boy used to be sick all the time. Now he is okay.' (B825)

The Feminine forms of the numerals occur because the other member of the phrase, *wa'laalu* 'times', is a Class IV noun, as demonstrated in (8-120). The form *wa'laalu*, is homonymous in Gaagudju. The set of meanings most prominently associated with this form is that of 'camp, country, place etc'. This set of meanings does not appear to be synchronically relatable to the 'times' meaning that *wa'laalu* displays in (8-118 - 8-120). Diachronically, the two sets of meanings are most probably related via the common use in Australian languages of 'camp' to count nights: e.g. 'We stayed there four camps/nights'. It appears that the 'times' meaning is of some antiquity, as there are four lexicalised combinations which appear to have involved *wa'laalu* in this sense.

- (8-121) *wa'laaladama* 'always'  
*maada=yu=wa'laalu* 'the day before yesterday' (6.9)  
 [maada 'yesterday']  
*goornmu=da=wa'laalu* 'darkness'  
 [goornmu 'morning']  
*gaarrmadja=da=wa'laalu* 'already'

The exact meaning of the fourth form in (8-121) is uncertain. It was only attested once, as a spontaneous form.

- (8-122) *nganamba'rree-ni-ya gaardu*  
 boil-Aux-IMP water  
 'Boil the water!'
- gaarrmadja=da=wa'laalu Ø-arra-nganamba'rree-ni-gi*  
 already? 3IVA-1E-boil-Aux-PP  
 'I have already boiled it.' (B186)

P.B translated it as meaning 'first'. However the specifically ordinal meaning 'first' is expressed by the enclitic =ru (9.12.2). It therefore

appears that *gaarrmadja=da=wa'laalu* expresses some other meaning of temporal priority. It did not prove possible to elicit forms expressing the other ordinal concepts, such as 'second' or 'third'. With respect to ordinal concepts, it is worth noting that Gaagudju has the following birth order terms.

(8-123)	<i>ganjdji'laarrama</i>	'oldest brother'
	<i>njing-'geerradama</i>	'oldest sister'
	<i>-marra'buumbada</i>	'second born'

### 8.5.7 The Reference and Scope of the Number Enclitics.

The use of the terms "Unit Augmented" and "Augmented" to describe the quantity categories of the Number enclitics has an inherent tendency to suggest a particular analysis of their referential properties. This analysis is that in Number marked forms, the stem refers to a minimal unit, and the Number enclitic refers to the entities augmenting this minimal unit. However there are two pieces of evidence which argue against such an analysis of the referential meaning of the Number enclitics.

Firstly, 3rd person Augmented forms built on gender-variable stems, always use a stem bearing masculine marking, even when the group of referents consists solely of females (8.5.3). In situations such as this, the stem is presumably not to be understood as having a particular minimal reference. Therefore the Number enclitic presumably cannot be understood as indicating augmentation of the stem quantity by a particular amount. Rather the Number enclitic indicates that the referent of the overall form is a group with a particular internal constitution.

The other piece of evidence, which unambiguously supports this alternative analysis, comes from the patterning of the Number enclitics with the Numerals. If stems refer to minimal units, and the Number enclitics refer to augmenting entities, then Number enclitics should not occur with the Numerals. In fact, the full range of possible combinations of the Numerals and the Number enclitics occurs.

(8-124)	<i>geerrma(n)da=mana</i>	'M+M'
	two.M=MUA	
	<i>geerrma(n)da=njdja</i>	'M+F'
	two.M=FUA	
	<i>geen(inj)djada=njdja</i>	'F+F'
	two.F=FUA	
	<i>garrma'noogoda(wa)=da</i>	'three males'
	three.M=MA	
	<i>garrma'noogoda(wa)=mba</i>	'three'
	three.M=AUG	

The Number enclitics in (8-124) do not alter the inherent number reference of the numerals. They simply specify the internal constitution of the group. If a group of referents is of mixed gender, then

the use of the appropriate form from (8-124) is apparently obligatory. The presently available data does not fully illuminate the nature of distinctions, such as that between the use of *geen(inj)djada* and *geen(inj)djada=ndja*, where the appearance of the enclitic cannot provide additional information about the internal constitution of the group of referents. However it may be noted that the forms without the enclitics tend to occur chiefly in NPs with overt heads, whereas the forms with enclitics occur in both NPs with overt heads, and those with ellipsed heads (8.1).

The same patterning of Number marking is found with other nominals that have an inherent lexical specification for number. In Gaagudju, as in most Australian languages, the great majority of nominals do not bear any inherent lexical specification for number. However if a nominal does bear such a specification, then it will take Number marking. There is only one pair of noun roots which contrast in number specification.

(8-125)	<i>bardan'geeya</i> 'old women'	<i>u'lunggulu</i> 'old woman'
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The stem *bardan'geeya* appears to indicate more than simple non-singularity. It appears more precisely to indicate collectivity (i.e. 'pair ~ group' meanings). The stem *u'luunggulu* is not specified as singular (see 8-102). There is also a pair of nominal stems which contrast in number specification.

(8-126)	<i>na-baya'laala</i> 'children'	<i>ba'yaalala</i> 'child'
---------	------------------------------------	------------------------------

The relationship between the two stems *na-baya'laala* 'children' and *ba'yaalala* 'child' is somewhat uncertain. *na-baya'laala* is formally a Declension 2 adjective stem (6-26), while *ba'yaalala* is formally a noun stem. The two are obviously historically related, but are synchronically formally differentiable by the presence of the noun class prefix on *na-baya'laala*, and by their differing stress placements. Despite their formal synchronic differentiability, it does appear from the available data that *ba'yaalala* is inherently specified as singular, and that *na-baya'laala*, while most commonly attested in collective contexts, is simply a non-singular.

Whatever the exact relationship between these two stems, the point of interest for the present discussion is the patterning of the non-singulars with the Number enclitics. The non-singular stem in (8-126) obligatorily takes the Number enclitics, as does the non-singular collective root in (8-125). On the other hand, nouns which do not bear an inherent lexical specification for number, do not normally show Number marking. There is only one example where such a noun occurs with a Number enclitic.

- (8-127) *ma'gaarra=da dji'rriingi=da ya-Ø-'gaama=da*  
 that.I=MA man=MA what-3IA-do.PR=MA  
 'What are those men doing?' (B247)

The usual pattern is illustrated in (8-125).

- (8-128) *ya-Ø-'gaama-y=mba ma'gaarra=mba njing'gooduwa*  
 what-3IA-do-PR=AUG that.I=AUG woman  
 'What are those women doing?' (B118)

The status of the form *dji'rriingi=da* 'man=MA' in (8-127) is somewhat uncertain. It may simply be a mistake. If it is an acceptable form, then it constitutes a major departure from the norm. As such there is presumably some significant difference between (8-127) and (8-128), though no difference was immediately obvious in the data. The most likely candidate for the difference would be variations in the possibilities for unifying the reference of nominals in an NP (see 8-133 following).

Number marking is obligatory for pronouns (6.6). It is not obligatory with adjectives, kin nouns, and verbs. However examples of adjectives, kin nouns, and verbs lacking Number marking are very rare.

- (8-129) *ba'rraanggirr nji-n-'gaarra-ri njing'gooduwa njim-'baalgi*  
 old days 3IIA-3ME-have-PI woman II-lots  
*ma'gaarra anmarra'baalbu*  
 that.I old man  
 'In the old days that old man had lots of wives.' (B851)

In all available examples there is some other overt reference to the augmented status of the group. (8-129) involves the adjective *-baalgi* 'lots', which is inherently augmented when it has human reference. The only clear cut examples of adjectives lacking Number marking all involve *-baalgi* 'lots'. In the absence of any overt reference to the augmented status of the group, it appears that adjectives and verbs must be interpreted as having minimal reference. The same pattern appears to hold for demonstratives (6.1 & 6.7).

- (8-130) *ma'naarr Ø-yii-ngi=ngdja // gaba'loowadi*  
 that.I 3IA-go-PR=FUA road  
 'Those two are going // along the road.' (51)

In (8-130), the presence of the FUA enclitic on the verb signals the augmented status of the referents of *ma'naarr* 'that.I'. Given the limited attestation of many demonstrative forms (6.7.1), it is not possible to be certain that the constraint requiring some other overt reference to the augmented status of the group, holds for all of them. The extent of the domain for the "other overt indication", found with adjectives, demonstratives, and verbs, is not clear on the presently available evidence. It is not limited to the clause.

- (8-131) *Ø-baalgi dji'rrringi // naamba Ø-nii-ri*  
 I-lots man emph.I 3IA-sit-PR  
 'There are lots of men. // They are sitting there.' (25)

(8-131) involves two clauses, with overt augmented reference occurring only in the first. It seems likely that discourse-based constraints on coreference would be the critical factors. The absence of a reasonable text basis prevents detailed comment on this. The one factor which can be excluded is scope, in the sense that "scope" is usually understood to relate to quantifiers.

- (8-132) *ma'gaarra=mba njing'gooduwa Ø-a'n-aaga-ri=mba*  
 that.I=AUG woman 3IVA-3ME-weave-PI=AUG  
*go'yaabi*  
 basket  
 'Those women wove (lots of) baskets.' (A619)

The NP *ma'gaarra=mba njing'gooduwa* 'those women' in (8-132) shows the typical distribution of the Number enclitics. On initial examination it might appear that the Number enclitic =*mba* has scope over both *ma'gaarra* 'that.I' and over *njing'gooduwa* 'woman'. This would in turn imply that the Number enclitics were phrasal in scope. However if the Number enclitics were phrasal operators, then they should presumably occur on nouns, when nouns are the only constituents of an NP.

- (8-133) *ba'rraangirr Ø-yii-ngi=da baagu*  
 old days 3IA-go-PR=MA kangaroo  
 'In the old days (the men) used to go for kangaroos.'

*arr-ga-mogi'rdeedj-bi-ri=mba='njoorno njing'gooduwa*  
 1A-3E-leave-Aux-PI=AUG=plS+O woman  
*wa'laalu*  
 camp  
 'They would leave us women in camp.' (B536)

As (8-133) illustrates, this does not happen. Therefore it does not appear that the Number enclitics can be analysed as phrasal operators. Consequently NPs such as *ma'gaarra=mba njing'gooduwa* 'those women' in (8-132) must be analysed as involving some type of unification between the quantified reference of *ma'gaarra=mba*, and the unquantified reference of *njing'gooduwa*.

The distribution of Number marking in Gaagudju is summarised in (8-134).

- (8-134) Obligatory : Personal pronouns, kin nouns, nominals with inherent non-singular reference, numerals referring to mixed gender groups

Optional : Adjectives, demonstratives, verbs, numerals referring to single gender groups

Exceptional : Nouns

The most salient distinction is that between nouns, and the other formally definable parts of speech. This distinction does not result from chance, but correlates with another important distinction. Nouns are the only nominal part of speech in Gaagudju which do not show any morphological variation for person and/or gender (Table 6.1). All other nominal parts of speech, and verbs, convey information about person and/or gender. Kin nouns frequently do not themselves convey this information. However when they have a referential function, they obligatorily occur in compounds which do so (3.5). The Number marking system also provides information about gender. Consequently it may be viewed as forming part of an overall system for morphologically coding information on person, gender and number. This accords with Corbett's (1991 : 132) analysis that "Number is the category most intimately bound up with gender." The importance of the formal distinction is brought out in (8-135).

(8-135) *waarra=nu='geegirr njing'gooduwa*  
 who=3MIO=all woman  
 'Who are all (those) women?' (6)

The lexeme *waarra* 'who' is semantically a determiner, but it is formally a noun, rather than a demonstrative (6.7.3). Presumably like other nouns, it could only take Number marking in exceptional circumstances. In (8-135) reference to the augmented status of the referents is achieved by the use an incorporation construction (8-185).

The distribution pattern shown by the Number enclitics can be understood as following from a constraint against leaving the expression of information on person, gender and number incomplete. As nouns do not provide any information on person or gender, they are not subject to this constraint. All other parts of speech are subject to the constraint. The exceptional nouns which bear an inherent non-singular specification, are also subject to the constraint. They provide information on number, and consequently participate in the system, unlike other nouns.

For nominals with an inherent non-singular specification, the constraint operates obligatorily to the extent that Number marking further specifies the reference of the nominal. For the Numerals, this is only with mixed gender groups. For the other non-singular nominals, Number marking always serves to further specify reference. If Number marking does not further specify, then it is optional. This is the situation found with Numerals having referents of a single gender. The obligatory nature of Number marking with personal pronouns and kin nouns is presumably a reflection of their status as the highest members of the animacy hierarchy (Silverstein 1976). Otherwise Number marking is

optional to the extent that it may be omitted if there is some other overt indication of augmented status.

#### 8.5.8 =*godo* Durative.

The Durative enclitic indicates temporal duration. The classification of this enclitic as a quantifier may appear somewhat unusual at first sight. Its function in indicating temporal duration might suggest that it forms part of the system for marking aspect, specifically imperfective aspect (7.7). However as Comrie (1976 : 41 - 44) points out, durativity and imperfectivity are independent notions. The behaviour of the Durative enclitic in Gaagudju provides a particularly clear exemplification of the distinction between the two notions. The Durative enclitic, while most commonly attested with the Past Imperfective (7.8.1), may occur with any tense in Gaagudju.

- (8-136) *maada* Ø-*an-ma'rree-wa=mba='godo*  
 yesterday 3IA-3ME-wait for-Aux=AUG=DUR  
 'Yesterday he waited for them, for a while.' (B28)  
 [Past Perfective]
- (8-137) *ngame'neega nga-no-o'roo-garra-y='godo*  
 why 1A-2E-stare-Aux-PR=DUR  
 'Why are you continuing to stare at me?' (A262)  
 [Present]
- (8-138) *gooyida gu-na-a'lee-bi='godo*  
 Neg.IMP 3IVA-2E-yell out-Aux.PR=DUR  
 'Don't keep on yelling out!' (A78)  
 [Negative Imperative]
- (8-139) *goornmalada iinjdu go-ya-n-ga'djiirra-ba='godo*  
 tomorrow maybe 3IVA-3FE-FU-poke around-Aux=DUR  
 'Tomorrow, maybe she will poke around (for turtles) for a  
 while.' (411) [Future]
- (8-140) *gooyida* Ø-*naa-ga-njdji=mba nang'gaabirri miiding*  
 Neg.IMP 3IA-2E-take-PR=AUG IV.there meeting  
*wa'laalu ba'leeru ma'gaarra i-laawala* Ø-*ambi'ree-ya='godo*  
 country lest that.I I-little 3IA-laugh-CON=DUR  
 'Don't take that little boy there to the meeting about country,  
 lest he keep on laughing (too much).' (B537). [Conditional]

(8-136 - 8-140) show that the Durative enclitic does not form part of the system for marking verbal tense and aspect. The positioning of the Durative enclitic in the enclitic template also argues that it does not form part of this system. The Durative enclitic is the outermost enclitic in the enclitic template (8.4). It occurs immediately following the quantifying Number enclitics. Therefore both its meaning, and its position within the



enclitic template, argue that it should be analysed as a quantifier. It indicates duration for an event (i.e. a verbal predicate + fully specified range of participants).

### 8.6 The Indirect Object Enclitics.

The Indirect Object enclitics have a wide range of functions in Gaagudju. As well as marking a wide range of Indirect Object roles, they are also integral constituents of the templates for Declension 3 adjectives (6.3), and incorporation constructions (8.7). The Indirect Object enclitic paradigm appears historically to have been derived from the minimal basic pronoun paradigm (Table 6.2).

(8-141)	Indirect Object enclitic	Free Pronoun
1	= <i>nga</i>	<i>ngaayi</i>
1+2	= <i>mani</i>	<i>ma'neerra</i>
2	= <i>nja</i>	<i>ngiinja</i>
3M	= <i>nu</i>	<i>naawu</i>
3F	= <i>yu</i>	<i>ngaayu</i>

As with the personal pronouns (6.6), Class I referents take Masculine concord, whereas Class II, III, and IV referents take Feminine concord. The Masculine enclitic is used to code indefinite human reference (6-105). The following examples show the range of roles cross-referenced by the Indirect Object enclitics.

- (8-142) *maa=nga naabirri gabala'baala*  
 get.IMP=1IO I.there white  
 'Get the clean one for me!' (391) [Benefactive]
- (8-143) *nj-djaa-wadja=yu djaamu*  
 3IIA-PR-cry=3FIO tucker  
 'She is crying for tucker.' (139) [Purposive]
- (8-144) *irribin'djoori ra'baalarr=nu*  
 crocodile river=3MIO  
 'The saltwater crocodile's home is the big rivers.' (71) [Genitive]
- (8-145) *ma'gaarra dji'rriingi ma-n-'deeba=yu djaamu*  
 that.I man 3IIIA-3ME-send.PP=3FIO tucker  
*nowo-'ngiirla=da*  
 3M-aunt=MIN  
 'That man sent tucker to his aunt.' (A282) [Goal/Recipient]
- (8-146) *gaadju Ø-an-'gaarra=nga wa'laalu maada*  
 dog 3IVA-3ME-Aux.PP=1IO bark yesterday  
 'The dog barked at me yesterday.' (413) [Goal]

- (8-147) *ma'rree-ya=nu*                      *ma'naarra='djaadja*    *garr'maarna*  
 1+2A-go.FU=3MIO    1+2MIN=uncle                      later  
*ga-'meerra-wu*                      *djaarli*  
 3E-1+2A-give.FU    meat  
 'We will go to our uncle later. He will give us meat.' (B795)  
 [Allative]

The Indirect Object enclitics may cross-reference any entity which is either affected by the predicate, or is the target of the predicate. As would be expected, the Indirect Object enclitics most commonly have human reference. It does appear that animacy hierarchy considerations have some role to play in Indirect Object marking.

- (8-148) *yaana-Ø*    *nji-wa'laawala*    *njing-gadawa'rraarrama=yu*  
 where-I    II-little                      2A-forgot=3FIO  
 'Where is the little girl? Have you forgotten her?' (B523)
- (8-149) *njing-gadawa'rraarrama*    *djaamu*  
 2A-forgot                                      tucker  
 'Did you forget the tucker?' (B503)

The situation in (8-148 & 8-149), where the human entity receives cross-reference, and the non-human does not, is representative of the general patterning. However there is no prohibition on non-human entities taking cross-referencing as an Indirect Object. Apart from (8-143 & 8-144) preceding, the following examples also show Indirect Object cross-referencing of non-human entities.

- (8-150) *awoy*    *ma-'rraa-ma=nu=wo'reenjgu*                      *gaadju*    *i-'rree-ng-ga*  
 yes    3IIIA-1E-Aux.PP=3MIO=whistle    dog                      3IA-1E-FU-take  
*bu'djoodu*    *Ø-njaa-n-bu*  
 goanna                      3IA-3ME-FU-kill  
 'Yes. I whistled for the dogs. I will take them to kill goannas.'  
 (A435)
- (8-151) *u'luunggulu*    *ya-njing-'geenmi=nu*                      *ma'gaarra*    *djaarli*  
 old woman    what-3IIA-do.FU=3MIO    that.I                      meat  
 'What is the old woman going to do with that meat?' (A427)

#### 8.6.1 Malefactive.

In addition to the roles already discussed, the Indirect Object enclitics also convey malefactive meanings. There are two classes of malefactive: directly and indirectly affected malefactive. Directly affected malefactive are marked simply with the Indirect Object enclitics.

- (8-152) *dju'baarra*    *ma-a'rdeenj-bimi=nu*                      *ma'gaarra*    *dji'rriingi*  
 tree                      3IIIA-fall-Aux.PP=3MIO    that.I                      man  
 'The tree fell on that man.' (B546) [Malefactive]

Indirectly affected malefactives may also be marked simply with the Indirect Object enclitics.

- (8-153) *ma'gaarra Ø-an-'boo-mu ...=nga i-'laawala*  
 that.I 3IA-3ME-hit-PP ...=1IO I-little  
 'That bloke hit my kid.' (B647) [Propositus malefactive]
- (8-154) *ma'gaadja njing'gooduwa Ø-ii-raga=nga gaadju*  
 that.II woman 3IA-3FE-shot=1IO dog  
 'That woman shot my dog.' (A335) [Possessor malefactive]

However indirectly affected malefactives are usually marked by a clitic construction, consisting of an Indirect Object enclitic and the form *boordo*, as illustrated in (8-155).

- (8-155) *ma'gaarra Ø-an-'boo-mu=nga='boordo gaadju*  
 that.I 3IA-3ME-hit-PP=1IO=IM dog  
 'That bloke hit my dog.' (B620)

This Indirect Malefactive construction is an incorporation construction (8.7). As an independent lexeme, the constituent *boordo* is a homophone meaning both 'eye' and 'old woman' in Gaagudju. Its usage in this construction presumably derives from the body part 'eye' meaning. Body parts are the most commonly incorporated class of nominals (8.7). Further there is a plausible course of development from a meaning of 'eye' to an Indirect Malefactive meaning. The lexeme 'eye' has a secondary meaning of 'face' in other Australian languages. This is not the case synchronically in Gaagudju, where instead *giini* 'nose' is used for 'face'. However it is plausible that *boordo* 'eye' did historically have this secondary meaning in Gaagudju. Taking this as a point of departure, the course of development set out in (8-156) appears reasonable.

- (8-156) face -> affected persona

The connection in (8-156) does not operate synchronically, and the *boordo* constituent in the Indirect Malefactive construction must be given an independent lexical entry. The Indirect Malefactive construction is most commonly attested with relationships of possession or potential possession.

- (8-157) *gooyida ma-'naa-y djaamu ba'leeru*  
 Neg.IMP 3IIIA-2E-eat.PR tucker lest  
*ma-'rraa-ga-ya=nja='boordo*  
 3IIIA-1E-take-CON=2IO=IM  
 'Don't eat the tucker, lest I take it away from you.' (B854)
- (8-158) *ma'gaarra dji'rriingi Ø-n-dirrbo'loo-wa-ri='godo baagu*  
 that.I man 3IA-3ME-track-Aux-PI=DUR kangaroo

*gada gaayu yaa-bu=nu='boordo Ø-an-mo'geerdidj-bi*  
 but Neg 3IA-went=3MIO=IM 31A-3ME-leave-Aux.PP  
 'That man was tracking a kangaroo for a while, but no, it got  
 away on him, and he left it.' (A528)

The Indirect Malefactive construction shows a degree of lexicalisation. For example, there is no single verb 'to steal' in Gaagudju. Rather the meaning 'to steal' is a potential interpretation of Indirect Malefactive constructions based on other verbs.

(8-159) *biirndi Ø-nee-ma=nga='boordo*  
 money 3IA-2E-got=1IO=IM  
 'You stole my money.'  
 [lit. 'You got the money affecting me.'] (B174)

(8-160) *ma-n-ma'rdee-gaba=nga='boordo baagi*  
 3IIIA-3ME-hide-Aux.PP=1IO=IM tobacco  
 'He stole my tobacco.'  
 [lit. 'He hid the tobacco affecting me.'] (A480)

The 'to steal' interpretation is not an obligatory interpretation of these Indirect Malefactive constructions.

(8-161) *gooyida ma-na-na'wee-gi dji'boolu ba'leeru ma'gaarra*  
 Neg.IMP 3IIIA-2E-put-PR didgeridoo lest that.I  
*i-'laawala ma-n-bal'beerra-ri*  
 I-little 3IIIA-3ME-crack-CON  
*ma'rdee-gaba=nu=mba='boordo*  
 hide-Aux.IMP=3MIO=AUG=IM  
 'Don't put the didgeridoo (there), lest that little boy crack it!  
 Hide it from him!' (B485)

The Indirect Malefactive usually has a human referent. However there are two examples with non-human referents.

(8-162) *gooyida gu-na-arda'wiinjminj-ma-ngi=nu='boordo i'bardbi*  
 Neg.IMP 3IVA-2E-break up-Aux-PR=3MIO=IM Neg  
*njing-go'lee-yagi waadji gululu'waara*  
 3IIA-lay-CON egg chicken  
 'Don't break up her (nest). The chicken won't lay any eggs.'  
 (B881)

(8-163) *gaayu gu-n-'ngaana-ri maalbarr moonda gu'djaali*  
 Neg 3IVA-IRR-burn-P properly bad fire  
*moonda=yu='boordo*  
 bad=3FIO=IM  
 'The fire did not burn properly. It was a bad fire, it was no good.'  
 (A504)

A larger database would almost certainly produce examples of Indirect Malefactive constructions with other types of non-human referents.

### 8.7 Incorporation.

Incorporation constructions form an area of some interest in the syntactic description of Gaagudju. The following are typical examples of incorporation constructions in Gaagudju.

- (8-164) *ngoormorl mee-n-bi=nga='ngaardi*  
 fly 3IIIA-3ME-bit=1IO=head  
 'A fly bit me on the head.' (B479)
- (8-165) *ma-'djaawurdu=yu=ga'rdaabirr*  
 III-short=3FIO=hair  
 'She has short hair/She is short-haired' (431)
- (8-166) *biirda=yu='goordo*  
 strong=3FIO=arm  
 'She has strong arms/She is strong-armed' (138)

In Gaagudju, incorporation constructions consist of three syntactic words (5.6). The first syntactic word is referred to as the "incorporating predicate". In the available data, adjectives, demonstratives, nouns, numerals and verbs are all attested as incorporating predicates. The second syntactic word is an Indirect Object enclitic. The third syntactic word is referred to as the "incorporated nominal". The incorporated nominal may be either a noun or a demonstrative. The Indirect Object enclitic is the critical constituent. Incorporation constructions may be formally defined as that set of constructions which involve the use of the Indirect Object enclitics as ligatures.

The Indirect Object enclitics may be classified as ligatures when their presence is essential for the cliticisation of the other two syntactic words. In (8-164 - 8-166) the Indirect Object enclitic must be present, if the other two constituents are to be cliticised. However this is not always the case.

- (8-167) *ma'gaarra galarr'geengi Ø-nii-ngi=nga=a'rdaadji ngaanj-ma*  
 that.I flying fox 3IA-sit-P=1IO=down 1MIN-PRM  
 'That flying fox sat down on me.' (C19)
- (8-168) *Ø-nii-ngi=a'rdaadji*  
 3IA-sit-P=down  
 'He sat down.'

this phrasal verb may be cliticised independently of the presence of an Indirect Object enclitic. This means that despite its formal surface identity with the incorporation constructions in (8-164 - 8-166), the construction  $\emptyset$ -*nii-ngi=nga=a'rdaadji* in (8-167), is not an incorporation construction. There are two phrasal verbs which require the Indirect Object enclitics (Table 7.2).

- |         |  |   |
|---------|--|---|
| (8-169) | <i>dji=nu='ngaardi</i><br><i>raga=nu='ngoolhgirr</i> | 'to carry on the head'<br>'to cook in hot sand' |
|---------|--|---|

These two phrasal verbs are in formal terms, examples of incorporation constructions. None of the other phrasal verbs require the Indirect Object enclitics, and consequently they do not constitute incorporation constructions. It may be noted that the two phrasal verbs in (8-169) are also examples of lexicalised incorporation constructions. The Indirect Malefactive constructions form another class of lexicalised incorporation constructions (8.6.1). There are also a few lexicalised incorporation constructions which function as nominal stems.

- |         |  |
|---------|--|
| (8-170) | <i>moonda=yu='maarr</i><br><i>bad=3FIO=liking</i><br>'sad' |
|---------|--|

One issue which requires consideration in the description of incorporation constructions in Gaagudju is the appropriateness of the term "incorporation". By formal criteria its usage is something of a misnomer for the Gaagudju construction. The most prominent of the various incorporation phenomena is noun incorporation. The classic definition of "noun incorporation" is given by Sapir (1911 : 257) "this process of compounding a noun stem with a verb that it is here proposed to call noun incorporation, no matter what the function of the noun logically is." Adverb and preverb incorporation may be accounted for under the same formula.

Incorporation structures in Gaagudju fail to conform to this definition in a number of respects. Firstly they do not necessarily involve verbs. Secondly the Indirect Object enclitics are the crucial constituents of the incorporation template in formal terms. Thirdly the constructions illustrated in (8-164 - 8-166) are not compounding structures. Rather they are phrasal structures involving cliticised syntactic words (8.2). The constructions in (8-164 - 8-166) are, therefore, clearly not "incorporation" constructions in a formal sense. Nevertheless in functional terms, the "incorporation" constructions of Gaagudju cover much the same range as compounding "incorporation" structures do in other languages. It is in terms of this high degree of functional commonality, that the use of the term "incorporation" is justified. The functional commonalities between incorporation in Gaagudju, and compounding incorporation lie in the nature of the incorporated nominals, and the constraints on incorporation.

In Gaagudju, by far the most commonly incorporated class of nominals are part nouns (8.8). In Australian languages with compounding incorporation, the class of incorporable nouns always includes part nouns, and in some languages the class of incorporable nouns is either completely or largely restricted to body parts (Harvey : to appear). The constraints on the incorporation of part nouns in Gaagudju are structurally isomorphic with those found in languages with compounding incorporation. In Australian languages with compounding incorporation, a part noun may only be incorporated in constructions showing the possessor ascension pattern of cross-reference (i.e. bound pronominals refer to the whole rather than to the part. 8-199). Part nouns may be incorporated when the whole is cross-referenced as an Intransitive Subject or as a Transitive Object, but not when the whole is cross-referenced as a Transitive Subject. This Absolutive patterning of incorporation is found language-universally (Baker 1988 : 81 - 92, Mithun 1984 : 875). Incorporated nouns normally show Absolutive cross-referencing in Gaagudju.

- (8-171) *nj-djoorrnggoma=yu='ngaadjay*  
 3IVA-enter=3FIO=hand  
 'She put her hand in.' (C1)
- (8-172) *Ø-a'rraa-garra=nu='ngaadjay ma'gaarra*  
 3IVA-1E-have.PP=3MIO=hand that.I  
 'I shook that bloke's hand.' (B550)

However it does not appear that an incorporated noun can be cross-referenced by an Ergative prefix.

- (8-173) *Ø-a'rraa-bara ngaadjay ma'gaarra ngoondji*  
 3IA-1E-struck hand that.I other  
 'I struck that other bloke with my hand.' (B244)

(8-173) exemplifies an instrumental part noun, where the whole is a Transitive Subject. It does not appear that (8-173) can be rephrased as (8-174), at least to convey the same meaning.

- (8-174) *\*Ø-iidj-bara=nga='ngaadjay ma'gaarra ngoondji*  
 3IA-3FE-struck=1IO=hand that.I other  
 'I struck that other bloke with my hand.'  
 ['hand' being Class IV, requires a Feminine Ergative prefix. 7.5.2]

The verb in (8-174) has a perfectly acceptable translation as 'She struck me on the hand.' Therefore incorporation in Gaagudju is subject to the universal constraint against ergative patterning. However this should not be taken to mean that incorporation in Gaagudju conforms to an Absolutive patterning. While incorporated part nouns normally show Absolutive cross-reference as in (8-171 & 8-172), this is not a controlling factor in incorporation. The only factor controlling the possibility of incorporation, is the presence of an Indirect Object enclitic. Part nouns

may be incorporated, when another nominal takes Absolutive cross-reference, provided that an Indirect Object enclitic is present.

(8-175) *bal'boornay nj-djoorrnggoma=nga='boordo*  
 dust 3IVA-enter.PP=1IO=eye  
 'Dust went into my eye.' (B493)

(8-176) *gaayu ma-nga-n-gadj-ga'rraa-ri gaadju*  
 Neg 3IIIA-3ME-IRR-drop-Aux-P dog  
*ma-n-'mee-gi=nu='ngaadjay Ø-an-go'rdoo-garra*  
 3IIIA-3ME-grab-PP=3MIO=hand 3IA-3ME-take off-Aux.PP  
 'He did not drop (the tucker). The dog grabbed it from his hand.  
 It took (the tucker) off him.' (B947)

(8-175) has a Class IV Absolutive prefix agreeing with the Subject *bal'boornay* 'dust' (*boordo* 'eye' belongs to Class III). The incorporation construction in (8-176) has a Class III Absolutive prefix, which cross-references the ellipsed Direct Object *djaamu* 'tucker' (*ngaadjay* 'hand' belongs to Class IV). The converse also holds: part nouns which do show Absolutive cross-reference cannot be incorporated if there is no Indirect Object enclitic present.

(8-177) *Ø-arro-o'doo-biri ngaadjay*  
 3IVA-1E-cut-Aux.PP hand  
 'I cut my hand.'

(8-177) is the standard construction for presenting reflexive part-whole relations (9.6). Despite the fact that the part noun shows Absolutive cross-referencing, incorporation is impossible. It is however possible in a semantically very similar construction.

(8-178) *i-'laawala gu-no-o'doo-biri=nja='ngaadjay*  
 I-little 3IVA-2E-cut-Aux.PP=2IO=hand  
 'Little boy, did you cut your hand?' (A298)

(8-178) differs from (8-177) only by the presence of an Indirect Object enclitic. (8-175 - 8-178) establish that the only possible uniform analysis of incorporation in Gaagudju, is one which treats the incorporated nominal as a dependent of the Indirect Object enclitic. Having established this, it becomes necessary to consider what kind of relationship exists between the Indirect Object enclitic, and the incorporated nominal. As a starting point in this examination, it is useful to examine the function of incorporated part nouns, as these are the commonest type of incorporated nominal.

The function of incorporated part nouns in Gaagudju is essentially similar to that suggested by McGregor (1985 : 210 - 211) for part nouns in Kuniyanti "the body part specifies the EXTENT or LOCUS of the participant's involvement in the action. That is, it specifies the part of the individual which is most directly and intimately involved in the action."



This formulation requires some alteration for Gaagudju, as Gaagudju permits incorporation on nominals as well as on verbs. In Gaagudju, the incorporated part noun specifies the extent or locus of the incorporating predicate's applicability to the participant cross-referenced by the Indirect Object enclitic. The function of incorporated nominals, which are not part nouns, appear to be similar to those of part nouns.

- (8-179) *ma'gaarra i-'laawala i'bardbi ma'gaawala Ø-balaban'djoo-ri*  
 that.I I-little Neg fast 3IA-run-PR  
*moonda=nu=ma'gaawala*  
 bad=3MIO=fast  
 'That little boy cannot run fast. He is not fast.' (C85)

The precise interpretation of the incorporation construction in (8-179) is not certain. This is because the meaning of the noun *ma'gaawala* is not certain. It was translated with an adverbial meaning 'fast'. It may have this meaning in the incorporation construction in (8-179). As such the incorporation construction would indicate that the 'badness' applied to the boy to the extent of his 'fastness'. However there are no other examples of the incorporation of adverbial nouns. Further *moonda=nu=ma'gaawala* was also translated as 'weak', suggesting that *ma'gaawala* may be better translated as 'energy, life force'. If this is the meaning of *ma'gaawala*, then it can probably be characterised as a part noun, at least in the sense of 'life force'. Whatever its correct characterisation, *ma'gaawala* does appear to be delimiting the domain of the 'badness' in (8-179).

In addition to nouns, demonstratives may also be incorporated. The incorporation of demonstratives is not commonly attested, and consequently any analysis is provisional. In the available examples, the incorporated demonstrative is semantically a definite determiner (6.7.1).

- (8-180) *dja'gaardu=nu=ma'naa-njdju*  
 noise=3MIO=that.I-SPEC  
 'Those specific ones (the white corellas) are noisy.' (B335)
- (8-181) *gooyida nama'rdeedjurr nang'gaabirri*  
 Neg.IMP rainbow IV.there  
*baarri=yu=nang'gaamba*  
 behind=3FIO=IV.emph  
 'No. The rainbow is there, behind that place.' (B268)
- (8-182) *Ga'baarlgu ma'gaadja ma'naarra=*  
 place name that.IV 1+2MIN=  
*nj-djaa-dji=yu=ma'gaadja Giirndimu*  
 3IVA-PR-stand=3FIO=that.IV place name  
 'Gaa'baarlgu, that is our... ? It is near to that place Giirndimu.'  
 (B5)

- (8-183) *Gaagudju Ø-arra-dja'naa=nu=ma'gaarra*  
 Gaagudju 3IVA-1E-not know=3MIO=that.I  
 'I do not know that specific one (the word for chickenhawk) in  
 Gaagudju.' (A188)

As a definite determiner, the demonstrative specifies that the referent of the Indirect Object enclitic is contextually or locally identifiable. Incorporation constructions which have a determiner as the incorporating predicate show a converse pattern to that found in (8-180 - 8-183). In these constructions, only indefinite determiners are attested.

- (8-184) *ma'gaarra dji'rriingi Ø-aa-yi-ngi*  
 that.I man 3IA-here-go-PR  
 'That man is coming here.'

*yaana-ngga=nu=dji'rriingi*  
 where-IV=3MIO=man  
 'Which man?'

- (8-185) *waarra=nu='geegirr njing'gooduwa*  
 who=3MIO=all woman  
 'Who are all (those) women?' (6)

This construction type is again rare, with the consequence that the analysis is provisional. These constructions differ from the other incorporation constructions so far examined, in that there does not appear to be any immediately obvious commonalities to the incorporated nominals. Indeed it seems likely that a very wide range of nominals could be incorporated. The significant difference in this case lies in the nature of the incorporating predicate. The indefinite determiners have a far wider reference than most other types of incorporating predicate. Consequently the potentialities for specifying the extent of their applicability to the referent cross-referenced by the Indirect Object enclitics, is correspondingly greater. The same situation is found with the incorporation constructions that involve the Negator *gaayu*, which also has a very wide reference (9.7.3).

In overall terms, it would therefore appear that incorporated nominals specify the extent of the incorporating predicate's applicability to the participant cross-referenced by the Indirect Object enclitic in local or contextual terms. The incorporated nominal does not specify in modifying or qualifying terms (8.1). Thus while (8-186) is a possible incorporation construction, it does not appear that (8-187) is.

- (8-186) *nj-djaa-dji=yu=ma'gaadja*  
 3IVA-PR-stand=3FIO=that.II  
 'It stands near to that (woman).'  
 '[lit.] It stands to her, that female one.'

- (8-187) \**nj-djaa-dji=yu=njim-ba'rdeeba*  
 3IVA-PR-stand=3FIO=II-tall  
 'It stands near to the tall (woman).'  
 '[lit.] It stands to her, the tall female one.'

An analysis of incorporated nominals as having a deictic specificatory function, explains why they cannot show Ergative cross-referencing. In transitive constructions the incorporated nominal must naturally be the Direct Object, rather than the Subject. Incorporation constructions have a wide range of uses in Gaagudju. Apart from the construction types illustrated here, the Indirect Malefactive constructions (8.6.1), and the Negative verbless clause constructions (9.7.3), are also incorporation constructions.

### 8.8 Part-Whole Relationships.

This section examines the expression of so-called "body part" relationships in Gaagudju. The term "body part" is a somewhat infelicitous term. It implies that the body is the focal whole notion for this class of nouns. This is not the case in Gaagudju. The nature of the focal whole for the "body part" class in Gaagudju is best summarised by Bally's (to appear : 3 - 4) concept of the personal domain "The personal domain includes or can include objects and beings associated with a person in an habitual, intimate or organic way (e.g. the body and its parts, clothes, the family, etc). ... The concept of the personal domain is an entirely subjective one. ... The extent of the domain is determined by the cultural outlook of each linguistic group." The body part class would in fact be more accurately described as the "person part" class.

There are a number of grammatical patterns which distinguish the part class in Gaagudju. Part nouns are the most commonly incorporated class of nominals in Gaagudju (8.7), and it is incorporation that provides the most useful test for delimiting the part class. The majority of part nouns belong to Class IV in Gaagudju. However some belong to Class III, and a few belong to Class I. Consequently noun class membership cannot be used to delimit a set of part nouns. The following examples illustrate the incorporation of a range of nouns forming part of the personal domain, which diverge in various ways from the prototype of a physically inalienable body part.

- (8-188) *biirdja mee-n-ba=nga* ...=*ma'neengul*  
 leech 3IIIA-3ME-drunk=1IO ...=blood  
 'A leech sucked my blood.' (B544)
- (8-189)  $\emptyset$ -*arro-o'roo-garra=nu='waayu* *ma'gaarra*  
 3IVA-1E-see-Aux.PR=3MIO=shadow that.I  
 'I can see that fellow's shadow.' (B482)

- (8-190) *ma'gaarrba dju'baarra waayu gu-'djaawurdu=yu='waayu*  
 that.III tree shadow IV-short=3FIO=shadow  
 'That tree has a short shadow.' (B403)
- (8-191) *Ø-arro-o'ree-garra=nu=wa'laalu*  
 3IVA-1E-see-Aux.PP=3MIO=country  
 'I saw his country.' (A266)
- (8-192) *yaana-ngga=yu=wa'laalu njing'gooduwa*  
 where-IV=3FIO=camp woman  
 'Where is (that) woman's camp?' (A143)
- (8-193) *ma'gaarra Ø-n-da-dja'naa-y=nga=ma'raamirr*  
 that.I 3IVA-3ME-PR-not know-PR=1IO=name  
 'That fellow does not know my name.' (B27)
- (8-194) *gu-'ngaarndada=nu ...=ma'raamirr moobiyu*  
 IV-good=3MIO ...=name animal  
*Ø-arra-dja'naa=nu*  
 3IVA-1E-not know.PR=3MIO  
 'It has a good name, (that) animal, (but) I do not know its  
 (name).' (A226)
- (8-195) *nji-wa'laawala nj-djee-garra=nga='goordo='goordo*  
 II-little 3IVA-3FE-grab.PP=1IO=shirt  
*nj-dji-bal'beerra-ri*  
 3IVA-3FE-tear-PI  
 'The little girl grabbed my shirt, and tore it.' (B328)

The part class, as defined by the possibility of incorporation, includes bodily fluids, hair (8-165), and excretions. It includes entities which are individually distinctive of the person, such as names and clothing. It also includes the noun *wa'laalu* 'camp, country, place', when it is understood to be distinctively attached to an individual. However, this noun may also be formally marked in a manner similar to kin nouns in Gaagudju (3.5). The part class in Gaagudju does not include kin nouns (3.5). There are no examples of kin nouns being incorporated, in the available data. As such kin relations are not linguistically coded as falling within the personal domain in Gaagudju. Relationships to land may be variably coded as either a relationship involving the personal domain, or as a relationship similar to a kin relationship (3.5).

Incorporation is the preferred method for presentation of part nouns. The most plausible explanation for this preference is that it is a reflection of the fact that parts are generally dependent non-individuated entities in discourse (Hopper & Thompson 1984 : 724 - 726). The incorporation construction is to a degree iconic of the discourse status of part nouns. The phonological dependence of part nouns in the incorporation construction is partially iconic of their discourse dependence. This phonological dependence may take two forms. In the

majority of incorporation constructions, the part noun is directly encliticised to the Indirect Object enclitic. In a minority of incorporation constructions, the part noun occurs as a free phonological word immediately following the enclitic (e.g. 8-188). These examples appear to involve indirect enclisis (4.2), with the part noun occurring as an afterthought. In both direct and indirect enclisis, the part noun forms an intonational unit with the incorporating predicate and the Indirect Object enclitic.

Part nouns are not restricted to the incorporation construction. They are found in three other construction types, where they invariably occur as free phonological words. One of these constructions is the possessive clause construction involving the verb *garra* 'to have'. This construction is examined in (9.11). The second construction is a "fronted" construction, similar to the incorporation construction (see also 9-131).

(8-196) *goordo ng-gada'rraa-bu-ni=nja goornmu*  
 arm 3IVA-hang out-Aux-PI=2IO morning  
 'Your arm was hanging out (of the car), this morning.' (B491)

(8-197) *baada moonda=nga*  
 leg bad=1IO  
 'My leg is bad.' (190)

Apart from the free occurrence of the part noun, the other difference appears to be in its positioning. In (8-196 & 8-197) the part noun precedes what would be the incorporating predicate, if the clause were an incorporation construction. When the part noun precedes as in (8-196 & 8-197), it does not form an intonational unit with the following constituent. The difference in positioning and intonational patterns appears to correlate with a foregrounding and individuation of the part noun.

The fronted construction appears to satisfy the criterion for classification as a formal phrase, as the part noun must precede the predicate. However, there is evidence which suggests that they should not be analysed as phrases. If they were phrases, then they would be right-headed phrases. Right-headed phrases are otherwise compounds in Gaagudju (8.2). The apparently foregrounded and individuated status of the part noun in a fronted construction does not sit well with a compound analysis. Instead this status suggests that the positioning of the part noun reflects a requirement for the part noun to occur in clause-initial position, rather than a requirement for the part noun to precede the predicate. I hypothesise that these two different requirements would prove to be formally distinguishable in a larger database. Specifically it seems likely that there would be formalisable differences in the area of discontinuities. As discussed with (8-41 & 8-42), I would hypothesise that right-headed phrases do not in fact permit discontinuities, though they may involve triple constituent compounds. On the other hand, it seems likely that fronted constructions would permit discontinuities of the type illustrated in (8-198).

- (8-198) ?goordo gu-marra'waarra ng-gada'r-raa-bu-ni=nja  
 arm IV-big 3IVA-hang out-Aux-PI=2IO  
 'Your big arm was hanging out.'

The third construction type that part nominals occur in, is a construction showing the possessor ascension pattern of cross-reference.

- (8-199) ngoormorl arr-'gee-bi ngo'rroonggadi  
 fly 1A-3E-bit back  
 'A fly bit me on the back.' (B429)

Possessor ascension constructions are most uncommon in Gaagudju. In this respect Gaagudju contrasts with all other northern Australian languages, where to my knowledge, the possessor ascension construction is the standard cross-reference pattern in constructions involving part nouns. Given their very limited attestation it is not possible to comment on their function in Gaagudju. It appears likely that the part noun is backgrounded in some sense in the possessor ascension construction. In this respect it may be noted that in the available examples, the part noun followed the verb.

It is possible that the possessor ascension construction should not be analysed as forming part of the canonical repertoire of Gaagudju. My principal consultant P.B most commonly used it, when it appeared that she could not recall the correct class for a particular part noun, and could not therefore construct a standard incorporation construction. As such it is possible that the examples of possessor ascension in Gaagudju are calques based on this construction type in Gunwinjgu, the daily language of my principal consultants.

## CHAPTER 9

## THE CLAUSE AND GRAMMATICAL RELATIONS.

## 9.1 Syntactic Classification.

Central to any analysis of syntax and grammatical relations in Gaagudju is a consideration of the distinction between configurational and non-configurational languages. Hale (1983 : 5) lists the following properties as being characteristic of non-configurational languages.

- (9-1) Free word order.  
 The use of syntactically discontinuous expressions.  
 Extensive use of null anaphora.

The first property in (9-1), that of 'free word order', is the defining characteristic of non-configurational languages, in the sense that predicate - argument relationships cannot be defined in terms of word order. Gaagudju conforms to this criterion. Nevertheless, it is not the case that "word order" is absolutely free in Gaagudju. A full consideration of the notion of "word order" requires a clear-cut definition of the concept of the "word". As we have seen (5.6), the concept of the "word" in Gaagudju is by no means unproblematic. It is necessary to posit two types of words in Gaagudju: phonological words, and syntactic words. To recap briefly, a phonological word is a sequence bounded by pauses, whereas a syntactic word is an output of the lexicon (5.6). Each phonological word consists minimally of one syntactic word, but it may consist of more than one syntactic word.

Gaagudju has formally configurational phrase structures. Some of these consist of syntactic words which are encliticised together into a single phonological word (8.4 & 8.7). However others consist of strictly ordered phonological words (8.3 & 8.5.5). These formally definable phrase structures show only minimal discontinuity (8.2). It also appears to be possible to define a functionally configurational structure for the Noun Phrase in Gaagudju (8.1). Discontinuities are found with this functionally defined NP. Apart from these phrase structures, Gaagudju does conform to the first two non-configurational criteria set out by Hale. The ordering of phonological words is otherwise formally unconstrained.

The third criterion, the extensive use of null anaphora, presents perhaps the greatest complexity of all the criteria. Gaagudju conforms to the general patterning of non-configurational languages, in that there is no requirement for the expression of arguments by nominals. Like many non-configurational languages, Gaagudju has a complex and obligatory system of bound pronominals. The analysis of these bound pronominals is in itself an issue of some complexity, especially in relation to their status as arguments, or as agreement markers. These, and other, issues are examined in (9.4). I adopt an analysis that bound pronominals may variably function either as arguments, or as agreement markers.

In overall terms, Gaagudju may be described as a fairly strongly non-configurational language. It satisfies the criterion for this class of languages: predicate - argument relationships are non-configurational. It also displays in substantial measure the other patterns which are generally characteristic of non-configurational languages.

## 9.2 Grammatical Relations.

The determination of grammatical relations is a topic of some complexity in Gaagudju. It is useful to begin by considering the evidence that can be brought to bear upon this question. Cross-linguistically, the question is usually determined by reference to the two factors in (9-2)

- (9-2)      Patterns of interclausal control relations.  
              Patterns of intraclausal argument marking.

Only the second of these is relevant in Gaagudju. Gaagudju does not have any formal system of interclausal control relations. Gaagudju does however have a complex formal system of intraclausal argument marking. There are three constituents in this system which can be used to determine grammatical relations.

- (9-3)      Patterns of cross-reference.  
              Transitive number marking. (8.5.4)  
              Detransitivisation. (9.6)

The grammatical relations determined by the interaction of these three factors are listed in (9-4).

- |       |                 |    |
|-------|-----------------|----|
| (9-4) | Subject         | S  |
|       | Direct Object   | DO |
|       | Indirect Object | IO |

The criterion which plays the most significant role in establishing these grammatical relations is the first one in (9-3), the patterns of cross-reference. Patterns of cross-reference are relevant to the determination of each of the grammatical relations in (9-4). Patterns of cross-reference can potentially be analysed in two ways. The analysis adopted here is in terms of grammatical relations. The other potential analysis would be in terms of thematic role theory, however this is to be constructed (see Wilkins 1988 for a variety of approaches to thematic role theory). Under this analysis, the patterns of cross-reference would represent argument structures in some semantically predictable manner. This analysis may be described as the direct encoding analysis.

Following the practice of most linguistic theories, I analyse predicate - argument relationships in terms of thematic role theory, and of subcategorisation theory. That is, an argument has a particular thematic role in relation to a predicate, and it is either a subcategorised or a non-subcategorised argument of that predicate. In terms of this analysis, the



patterns of cross-reference in Gaagudju do in general represent argument structures in a semantically predictable manner.

- (9-5) Absolute prefixes - the subcategorised argument of monovalent predicates, or the subcategorised patient/theme/locative argument of polyvalent predicates.  
 Ergative prefixes - the subcategorised agent/experiencer argument of polyvalent predicates.  
 Indirect Object enclitics - non-subcategorised arguments falling broadly within the "Dative" class of thematic roles (8.6).

There are two reasons for not adopting a direct encoding analysis. Firstly the cross-reference patterns operate at a level of generality which is greater than that of thematic roles. This level of generality is not however definable in terms of a direct encoding of certain superclassings of thematic roles, such as the notions of Actor and Undergoer (Foley & Van Valin 1984). If it was, then Gaagudju would show split intransitive marking, with agentive intransitive Subjects taking Ergative marking (Van Valin 1990). However Gaagudju does not show any type of consistent split intransitive marking (9.3). Agentive intransitive Subjects take Absolute cross-reference in Gaagudju.

- (9-6) Ø-ba'laabandji  
 3IA-run.PP  
 'He ran.'

It is therefore necessary to describe the level of generality, at which cross-referencing patterns operate, in terms of grammatical relations. There is a second reason for describing for these patterns in terms of grammatical relations. There are a considerable number of verbal predicates in Gaagudju, whose cross-reference patterns do not appear to reflect their argument structures in any reasonably predictable manner. The cross-referencing patterns of these verbal predicates are discussed in (9.3). In cross-linguistic terms the occurrence of lexicalised grammatical relations is not unusual. On the other hand, the extensive lexicalisation of thematically controlled cross-reference would seem to be a contradiction in terms.

Having established that cross-reference patterns should be described in terms of grammatical relations, it is necessary to consider which particular grammatical relations should be posited. If the patterns of cross-reference were the only evidence relevant to the determination of grammatical relations, then it would be simplest to posit three grammatical relations directly reflecting these patterns: Absolute, Ergative and Indirect Object. However there is evidence from the patterning of the 'plS+O' Number enclitic =*njoorno* (8.5.4), which shows that the Absolute prefixes cross-reference two distinct grammatical relations: a Subject relation with monovalent predicates, and a Direct Object relation with polyvalent predicates. The =*njoorno* enclitic indicates

that a verb has a Subject and an Object, both of which are plural. The notion of Object includes both Direct and Indirect Objects.

- (9-7) *Ø-aama-y=mani=mba='njoorno makka*  
 3IA-say-PR=1+2IO=AUG=plS+O FM  
 'They call us makka [FM] (in Gunwinjgu).' (B762)
- (9-8) *ma'rree-ya=nu=mba='njoorno='baarri*  
 1+2A-go.FU=3MIO=AUG=plS+O=behind  
 'We will follow them.' (C155)
- (9-9) *bu'liigi Ø-njaa-n-bu=mba garr'maarna djaarli*  
 cow 3IA-3ME-FU-kill=AUG later meat  
*i-n-'gaa-n-daba=mani=mba='njoorno*  
 3IA-3ME-here-FU-send=1+2IO=AUG=plS+O  
 'They are going to kill a cow. They will send us beef later.' (B552)
- (9-10) *ba'rraanggirr Ø-an-'gaa-njdji=mba='njoorno*  
 old days 3IA-3ME-take-PI=AUG=plS+O  
*na-woma'laagardi ba'rraanggirr*  
 I-young person old days  
*Ø-n-darrangga-'bee-ngga-ri=nu=mba='njoorno*  
 3IVA-3ME-close-Aux-Aug-PI=3MIO=AUG=plS+O  
*Ø-an-galabarr'woodji-ngi=mba='njoorno*  
 3IA-3ME-seclude-PI=AUG=plS+O  
 'In the old days, (the old men) used to take the young men, they used to close (the camp up) on them. They used to seclude them.' (C174)

The patterning of the =*njoorno* enclitic is most simply accounted for by positing a superclass of Object grammatical relations. It is not clear how the patterning of the =*njoorno* enclitic could be accounted for within an analysis which posited an Absolutive grammatical relation. (9-7 - 9-10) therefore establish that the patterns of cross-reference do not directly encode grammatical relations in all cases. The Absolutive prefixes encode two distinct grammatical relations.

Conversely the Subject grammatical relation is encoded by two distinct prefix sets: the Absolutive and the Ergative prefixes. In Australianist practice, it is common to distinguish intransitive and transitive Subject grammatical relations because of their different morphological and grammatical patternings (Dixon 1980 : 285 - 286 & 438). The coding of intransitive Subjects by the Absolutive prefixes, and of transitive Subjects by the Ergative prefixes, suggests that this course should be adopted in Gaagudju. However as we have seen, patterns of cross-reference do not of necessity directly encode grammatical relations. There is no other evidence which would support a distinction between intransitive Subject and transitive Subject grammatical relations. Consequently only a single Subject grammatical relation, including both intransitive and transitive Subjects, is posited.

Within the superclass of Objects, Direct and Indirect Objects are distinguished from one another by three factors: patterns of cross-reference, the patterns of Dative case marking, and the operation of detransitivisation. The two classes of Objects are most saliently distinguished from one another by their cross-referencing patterns. Direct Objects are cross-referenced by the Absolutive prefixes. Indirect Objects are cross-referenced by the Indirect Object enclitics. The distribution of Dative case marking correlates directly with these patterns of cross-reference (9.9). Direct Objects do not permit Dative case marking, whereas Indirect Objects permit Dative case marking. The distinction between the two classes of Objects is further supported by the operation of detransitivisation. Detransitivisation affects Direct Objects only. Detransitivisation indicates that a transitive verb has a reduced transitivity value, because the verb lacks a referentially distinct Direct Object (9.6). In terms of a Direct Object grammatical relation, the operation of the detransitivisation can be described as in (9-11).

(9-11) Direct Object -> Ø

The co-occurrence of cross-referencing patterns, Dative case marking, and detransitivisation is sufficient to support the establishment of two distinct Object grammatical relations. The distinction between the two Object relations largely follows the usual cross-linguistic patterns. As indicated in (9-5), Direct Objects are subcategorised and have patient/theme/locative roles. Indirect Objects are usually not subcategorised, and belong to the "dative" set of roles. However some variation from these patterns is found with ditransitive verbs.

(9-12) *djaamu nji-'rree-wu*  
tucker 3IIA-1E-give.PP  
'I gave her tucker.'

(9-13) \**djaamu ma-'rree-wu=yu*  
tucker 3IIIA-IE-give.PP=3FIO  
'I gave the tucker to her.'

(9-14) \**djaamu nji-'rree-yaba*  
tucker 3IIA-1E-send.PP  
'I sent her the tucker.'

(9-15) *djaamu ma-'rree-yaba=yu*  
tucker 3IIIA-1E-send.PP=3FIO  
'I sent the tucker to her.'

The ditransitive verbs *wu* 'to give' and *djaba* 'to send' both subcategorise for two non-Subject roles. However they show different cross-referencing patterns. With *wu* 'to give', the recipient is cross-referenced as the Direct Object, and the patient/theme cannot receive cross-reference. With *djaba* 'to send', the patient/theme is cross-referenced

as the Direct Object, and the goal/recipient is cross-referenced as the Indirect Object. The differences in cross-referencing patterns between these two verbs may relate to differences in the physical accomplishment of the transfer that they describe. It may be noted that neither of these verbs permits variations in Object marking of the type known as "dative shift". There are variations in the Object marking of ditransitives attested in Gaagudju. However these variations are controlled by considerations of animacy.

(9-16) *arr-go-o'roodja=mba ma'gaarra ba'yaalala*  
 1A-3E-show.PP=AUG that.I child  
 'They showed me that child.' (B932)

(9-17) *arr-wa'laawala arr-'geema-ri ngadj-'gooyu arr-go-o'roodja*  
 1-little 1A-be-PI 1MIN-mother 1A-3E-show.PP  
*dji'rriingi i-ya'deenggadi njing'gooduwa*  
 man I-mature woman  
 'When I was little, my mother showed me to the adult men and women.' (C164)

In (9-16) the 1st person Absolutive cross-references the recipient, whereas in (9-17) it cross-references the theme/patient. (9-16 & 9-17) therefore suggest that a subcategorised 1st person participant will take Absolutive cross-reference as a Direct Object, regardless of its thematic role. In the absence of a reasonable body of naturalistic examples, it is not possible to fully assess the significance of animacy based considerations for Object marking. The available data suggests that if both potential Object participants are third person humans, then considerations of animacy are not relevant.

(9-18) *ba'rraangirr Ø-a'n-oo-ni=mba njing'gooduwa*  
 old days 3IA-3ME-give-PI=AUG woman  
*geeninjdjada*  
 two.F  
 'In the old days they used to give (one old man) two women.'  
 (B918)

(9-19) *Ø-a'rraa-wu ma'gaadja nganj-'maaba ma'gaarra*  
 3IA-1E-give.PP that.II 1MIN-wC that.I  
 'I gave my daughter to that bloke.' (C106)

(9-20) *dji'rriingi nji-n-'mee-gi njing'gooduwa*  
 man 3IIA-3ME-get-PP woman  
*Ø-an-go'rdoo-garra ngoyo-na-woma'gaali=da*  
 3IA-3ME-take off-Aux.PP 3F-I-spouse=MIN  
 'The man got the woman. He took her off her husband.' (B395)

(9-18 - 9-20) involve the ditransitive verbs *wu* 'to give' and *go'rdoo-garra* 'to take off', with 3II person patient/themes and 3I person

recipient/sources. In each case the verb bears 3I Absolutive prefixing, which cross-references the 3I recipient/source as the Direct Object. The only example involving a 2nd person patient/theme also shows no variation from the standard cross-referencing pattern.

- (9-21) *njin-ma'laawala njing-'geema-ri gu'djiirri gu-'baalgi=nja*  
 2-little 2A-be-PI sick IV-lots=2IO  
 'When you were little, you were sick a lot.'

*Ø-a'r-raa-wu=mba maarrgi=nu nji-n-dongola'djee-gi*  
 3IA-1E-give.PP=AUG clever=3MIO 2A-3ME-cure-PP  
 'We gave you to the doctor. He cured you.' (C154)

The verb *wu* 'to give' in (9-21) bears 3I Absolutive prefixing, which cross-references the doctor as the Direct Object. As a final point in the discussion of grammatical relations and Objecthood, it may be noted that there is no reason to analyse the Indirect Object enclitics as valence increasers. As we have seen, the subcategorised goal/recipient argument of *djaba* 'to send' may be cross-referenced as an Indirect Object. The cross-reference of subcategorised arguments is fundamentally problematic for any valence increasing analysis. Further as we will see (9.9), the patterns of Dative case marking argue against a valence increasing analysis.

### 9.3 Lexicalised cross-reference patterns.

In Gaagudju there are a considerable number of verbs with cross-referencing patterns which appear to involve some degree of lexicalisation. The majority of these cross-referencing patterns involve Direct Object prefixes, whose reference is somewhat uncertain. Some of these cross-referencing patterns appear to involve cognate objects. Cognate objects are arguments which extend, make explicit or quantify the activity denoted by the verb (Austin 1982).

- (9-22) *ma-nga-n-ba'rlaa-bu*  
 3IIIA-3ME-FU-sing-Aux  
 'He will sing.'

- (9-23) *gu-nga-n-ba'laa-bu*  
 3IVA-3ME-FU-talk-Aux  
 'He will talk.'

The verbs *ba'rla-bu* 'to sing' and *ba'la-bu* 'to talk' are prototypical cognate object verbs, in cross-linguistic terms. As illustrated in (9-22 & 9-23), *ba'rla-bu* obligatorily prefixes for a Class III Direct Object, and *ba'la-bu* obligatorily prefixes for a Class IV Direct Object. It would appear that the entities cross-referenced by these Direct Object prefixes are *maba'laabala* 'corroboree, song' (Class III), and *dja'gaardu* 'language, noise, word' (Class IV) respectively. There is one example where *maba'laabala* 'corroboree, song' appears with *ba'rla-bu*.

- (9-24) *ma-n-ba'rlaa-bu-ni=da='goodo*      *maba'laabala*  
 3IIIA-3ME-sing-Aux-PI=MA=DUR corroboree  
 'They sang corroboree (last night).' (A267)

However this is the only example of its kind. There are no other examples where verbs of this type appear with a nominal that could conceivably be the referent of the Direct Object prefix, within the same clause. Most of the other locutionary verbs also obligatorily prefix for a Class IV Direct Object.

- (9-25) *bolo-bo'yo-ma*      'to lie to, to trick'  
*bolongo'lodji*      'to talk about'  
*ga'la-bi*      'to call out'  
*gardaba'la-wa*      'to tell about'

The Class IV Direct Object could refer to *dja'gaardu* 'language, noise, words' as a cognate object. The verbs in (9-25) class with *ba'la-bu* 'to talk', in terms of verbal transitivity patterns (9.5). However they differ from *ba'la-bu* in terms of their clausal transitivity patterns (9.5).

- (9-26) *gu-nga-n-ba'laa-bu=ndja*  
 3IVA-3ME-FU-talk-Aux=FUA  
 'He and she will talk.'
- (9-27) \**gu-nga-n-ba'laa-bu=yu*  
 3IVA-3ME-FU-talk-Aux=3FIO  
 'He will talk to her.'
- (9-28) *gu-nga-n-ga'lee-bi=ndja*  
 3IVA-3ME-FU-call out-Aux=FUA  
 'He and she will call out.'
- (9-29) *gu-nga-n-ga'lee-bi=yu*  
 3IVA-3ME-FU-call out-Aux=3FIO  
 'He will call out to her.'

The verbs in (9-25) permit an Indirect Object enclitic to cross-reference the human goal of the locutionary verb, as in (9-29). On the other hand, *ba'la-bu* 'to talk' does not permit a goal representation, as in the unacceptable (9-27). It permits only a joint Subject representation, as in (9-26). This constraint probably relates to differences in meaning. The differences between the goal, and the joint Subject, interpretations are greater for *ga'la-bi* 'to call out', and the other verbs in (9-25), than they are for *ba'la-bu*. Indeed the verbs in (9-25) are only rarely attested without an Indirect Object enclitic cross-referencing a goal. Nevertheless, the constraint must still be analysed as a lexical constraint, as it does not follow by necessity from the meaning of *ba'la-bu*. Lexical constraints of this kind play a role of some significance in determining formal

transitivity patternings. They are found with other locutionary or quasi-locutionary verbs.

- (9-30) *dji'rriingi* Ø-*n-do-ordongo'**loodji-ngi* *no'woo-yirri*  
 man 3IVA-3ME-PR-talk-PR 3MMIN-self  
 'The man is talking to himself.' (A482)

The verb *gordongo'lodji* 'to talk' is an uncommon form, which is only attested with a quasi-reflexive interpretation (6.6), as in (9-30). It takes prefixing for a Class IV Direct Object, which again could be *dja'gaardu* 'word'. This prefixing pattern is also found with the verb *ga'lamarr-wa* 'to be jealous'.

- (9-31) *gu-nga-n-ga'leemarr-wa=nu*  
 3IVA-3ME-FU-jealous-Aux=3MIO  
 'He will be jealous of him.'

The referent of the Class IV Direct Object prefix is unclear, though it could again be *dja'gaardu* 'word'. This would have the implication that under Gaagudju cultural perceptions, jealousy is caused/expressed by words. However there is no evidence supporting such a cultural inference. Consequently the Class IV prefixing found with *ga'lamarr-wa* must simply be analysed as lexicalised. The lexicalised nature of cognate object prefixing is particularly apparent with the verb *gordoma-'dji-gi* 'to tell off'

- (9-32) *arr-gordoma-'djee-gi=nu=mba*  
 1A-tell off-Aux-Aux.PP=3MIO=AUG  
 'I told them off.' (B431)

This verb is formally intransitive; a fact which correlates with its taking the Conjugation 2 detransitiviser as an auxiliary (7.2). However in terms of its meaning, it classes with the verbs in (9-25). It might therefore be expected to pattern with them, and take a Class IV Direct Object. There is also one quasi-locutionary verb which obligatorily prefixes for a Class III Direct Object.

- (9-33) *gaayu ma-'rraa-ma-ngi=nu=wo'reenjgu gaadju iinjdu*  
 Neg 3IIIA-1E-Aux-PIRR=3MIO=whistle dog maybe  
*ngoondji dji'rriingi* Ø-*nee-nga-wa*  
 other man 3IA-2E-hear-Aux.PP  
 'No I did not whistle for the dogs. Maybe it was another man that you heard.' (A436)

The phrasal verb *ma=wo'reenjgu* 'to whistle' obligatorily takes prefixing for a Class III Direct Object. There is no obvious referent for the Class III prefixing of *ma=wo'reenjgu* in the available data, and it may be an example of lexicalisation. However this verb is similar in meaning to the verb *ba'rla-bu* 'to sing', which obligatorily prefixes for the Class III Direct

Object *maba'laabala* 'song' (9-24). This suggests that the Class III Direct Object prefix found with 'to whistle' has or had a similar kind of referent. It is possible that a larger database might produce a suitable Class III referent for the prefixing of *ma=wo'reenjgu*.

The occurrence of Direct Object prefixes, whose reference is not entirely certain, extends beyond the traditional notion of the cognate object. It includes a few cases where the the Direct Object prefix appears to refer to a part noun. The verb *ba-garra* 'to choke' obligatorily prefixes for a Class III Direct Object.

(9-34) *gooyida ma-'naa-y weerrgada ba'leeru*  
 Neg.IMP 3IIIA-2E-eat.PR quickly lest  
*m-idj-'bee-garra=nja djaamu*  
 3IIIA-3FE-choke-Aux.CON=2IO tucker  
 'Don't eat so quickly, lest the tucker choke you.' (B463)

(9-35) *ma'gaarra djaarli Ø-marra'waarra buu*  
 that.I meat I-big soon  
*ma-nga-n-ba-'gaarra=nja*  
 3IIIA-3ME-FU-choke-Aux=2IO  
 'That meat is too big. It will choke you.' (B916)

This Class III Direct Object prefix would appear to cross-reference *ma'gaarnamu* 'throat', which belongs to Class III. The same pattern is found with the verb *mol-garra*, which is apparently synonymous in meaning with *ba-garra*. There are also the verbs *ba'rda-gama* 'to close one's eyes' and *barda-'winjminj-ma* 'to blink'.

(9-36) *ma-n-ba'rdee-gama ma'gaarra dji'rriingi*  
 3IIIA-3ME-close eye-Aux.PP that.I man  
 'That man closed his eyes.' (377)

Both of these verbs inflect for a Class III Direct Object, as in (9-36). This Direct Object would appear to be the Class III part noun *boordo* 'eye'. In addition to these examples, involving body part nouns, there are a number of other examples where Direct Object prefixes appear to refer to geographical part nouns.

(9-37) *gu-nga-n-ga'rdaaba=nu*  
 3IVA-3ME-FU-look for=3MIO  
 'He will look for him.'

The verb *gardaba* 'to look for' prefixes for a Class IV Direct Object. The Direct Object in this case is most likely *wa'laalu* 'camp, country, ground, place', which belongs to Class IV. This would also appear to be the Direct Object, in the sense of 'ground', for the verbs in (9-38).



- (9-38) *ga'djirr-ma* 'to dig'  
*ga'djirr-ba* 'to stick into'  
*ga'djirrba-ba* 'to poke around'

There are two other verbs with Class IV Direct Object prefixing, which may refer to *wa'laalu*.

- (9-39) *ma'neerra-ru gu-marra-a'baanj-ma no'woo-mba baarri*  
 1+2MIN-first 3IVA-1+2E-go first-Aux.FU 3M-AUG behind  
*i-'yaa-n-ya ...=nga=mba='baarri*  
 3IA-here-FU-go ...=1IO=AUG=behind  
 'We will go first. That lot will follow us.' (C59)

- (9-40) *ga'boolbirr Ø-aya-aba'laarr-bu-njdji*  
 sun 3IVA-3FE-shine-Aux-PR  
 'The sun is shining.' (A486)

There is no obvious referent for the Class IV Direct Object prefixing, found with *ga'banj-ma* 'to go first' and *gaba'larr-bu* 'to shine (of the sun and the moon)'. The most likely potential referent is *wa'laalu*, in the sense of 'country', though with *ga'banj-ma* it could be *wa'laalu* in the sense of 'times' (8.5.6). However this remains hypothetical, and the Class IV Direct Object prefixing found with these two verbs must be treated as lexicalised. There are some other verbs which appear to have entirely lexicalised Class IV Direct Object prefixing.

- (9-41) *ngo'rroonggadi ga'rreeningi*  
 back pain  
 'My back is sore.'

*gu-ng-ga'rdaa-mala garr'maarna*  
 3IVA-1E.FU-rub-Aux later  
 'I will rub it later.' (C174)

- (9-42) *anmarra'baalbu gaayu gu-nga-n-darroba'rroo-ma-ngi baagi*  
 old man Neg 3IVA-3ME-IRR-smoke-Aux-P tobacco  
 'The old man never used to smoke tobacco.' (A470)

- (9-43) *gululu'waara ma'gaadja go-'yaa-n-ma='waala i-'waadji*  
 chicken that.II 3IVA-3FE-FU-Aux=lay Aug-egg  
 'That chicken is going to lay an egg.' (B731)

The verbs *ga'rda-mala* 'to rub oneself', *djarroba'rro-ma* 'to smoke', and *ma='waala* 'to breed, to give birth to, to lay', all obligatorily prefix for a Class IV Direct Object. With none of these verbs, does any obvious Class IV entity suggest itself. Of the potential Direct Objects in (9-41 - 9-43), *ngo'rroonggadi* 'back' and *baagi* 'tobacco' are Class III, and *i-'waadji* 'egg' is Class I. There are some verbs with lexicalised Class III

Direct Object prefixing. In some cases this appears in origin to have referred to a geographical part noun.

- (9-44) *ma-rra-barna'rree-ga-ngga nang-'giirdi wa'laalu*  
 3IIIA-1E-slip-Aux-PP IV-wet ground  
 'I slipped on the wet ground.' (B618)

The verb *barna'rre-ga* 'to slide (on), to slip (on)' takes Class III Direct Object prefixing, regardless of the class of the Direct Object. This obligatory prefixing pattern may result historically from the lexicalisation of a predominant prefixing pattern. Given the meaning of the verb, it seems likely that this verb would take the geographical part noun *warn'maalay* 'mud' as its Direct Object with some reasonable frequency. This noun belongs to Class III, and as such the Class III Direct Object prefixing would follow. It appears that the same process may have operated with the verb *ba'rna-garra* 'to hide behind'.

- (9-45) *nji-wa'laawala m-idj-ba'rnaa-garra dju'baarra='nggaana*  
 II-little 3IIIA-3FE-hide-Aux.PP tree=LOC  
 'The little girl hid behind the tree.' (287)

The interpretation of this verb is somewhat uncertain. There is also an intransitive verb meaning 'to hide'; *ma'rde-dji*. The distinction between the two verbs appears to be that *ba'rna-garra* has a locative component to its meaning. In the available examples the Class III noun *dju'baarra* 'tree' frequently functions as its Direct Object. However it appears that the Class III is obligatory, and would be found even with a Class IV Direct Object, such as *giimbi* 'rock'. Another verb which appears to show the lexicalisation of a predominant prefixing pattern is *ba-ga'rra-garra* 'to be caught up on'.

- (9-46) *waagidj ma'gaarra ma-n-ba-ga'rree-garra dju'baarra*  
 line that.I 3IIIA-3ME-catch up-Aux-Aux.PP tree  
 'That line is caught up on the tree.' (B646)

Again *dju'baarra* 'tree, stick' is the usual Direct Object. Nevertheless it appears that Class III Direct Object prefixing is obligatory with any class of Direct Object. There are two verbs with Class III Direct Object prefixing, which lacks any apparent referent in either synchronic or diachronic terms.

- (9-47) *ma-na-ada'laa-biri ra'baalarr*  
 3IIIA-2E-cross-Aux.PP river  
 'Did you cross the river?' (B671)

- (9-48) *ma-n-'biirna-wa i-'laawala maada*  
 3IIIA-3ME-lost-Aux.PP I-little yesterday  
 'The little boy got lost yesterday.' (A538)

The apparent Direct Object *ra'baalarr* 'river' in (9-47) is a Class IV noun. The Class III prefixing pattern found with *bi'rna-wa* 'to be lost' in (9-48), may have an entirely different historical origin to those so far considered. This origin may lie in paradigmatic patterns, as listed in (9-49 & 9-50).

(9-49)	<i>barna'rre-ga</i>	'to slide (on), to slip (on)'
	<i>ba'rna-garra</i>	'to hide behind'
	<i>bi'rna-wa</i>	'to lose (intr)'
(9-50)	<i>ba-garra</i>	'to choke'
	<i>ba-ga'rra-garra</i>	'to be caught up on'

All of these compound verbs take obligatory Class III Direct Object prefixing. It seems likely that the three compounds in (9-49) all historically involved a compound verb root \**birna*. The second verb in (9-50) is the reduplicated counterpart of the first (see 7-13). It may also be noted that the three verbs in (9-38) all involve the compound verb root *gadjirr*. These facts suggest some degree of paradigmatic patterning of Direct Object prefixing.

The set of entities which appear to be cross-referenced as semi-lexicalised Direct Objects includes some prototypical cognate objects, a couple of body parts, and some nouns which are interpretable as geographical parts. In general terms, this set of nouns may be described as the cognate object set. Following Austin (1982) the nouns in this set can be viewed as fulfilling the typical cognate object functions of extending, making explicit or quantifying the activity denoted by the verb. The class of cognate objects defined here for Gaagudju, extends somewhat beyond the prototypical notion of a cognate object, and shows a fairly high degree of lexicalisation. Nevertheless, the term "cognate object" appears to capture the generalisation about the set.

While lexicalised cross-referencing patterns are most commonly found with Direct Objects in Gaagudju, they are not restricted to them. They are also found with intransitive Subjects, transitive Subjects, and with Indirect Objects. There are three verbs which show anomalous intransitive Subject prefixing.

(9-54)	<i>ga'rdawi-dji</i>	'to break (intr)'
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This verb shows Class IV Subject prefixing, regardless of the actual class of the Subject. The other two verbs are listed in (9-55)

(9-55)	<i>ga'baarr-nggi</i>	'to become daylight'
	<i>marlan-'ma-gi</i>	'to become night'

In cross-linguistic terms, these two verbs are both prototypically Subjectless verbs. In Gaagudju, they are not formally Subjectless. *ga'baarr-nggi* 'to become daylight' takes Class IV Subject prefixing. *marlan-'ma-gi* 'to become night' takes Class III Subject prefixing. However

in neither case is there any clearcut referent for these prefixing patterns. *ga'baarr-nggi* could have a potential Subject in *njeeda* 'daylight', but the class of this noun is unknown. There is no apparent referent for this Class III prefixing found with *marlan-'ma-gi*, in the available data. The obvious potential referents *maadada* 'night' and *goornmu=da=wa'laalu* 'dark' both belong to Class IV.

Not all prototypically Subjectless verbs lack an obvious referent in Gaagudju.

- (9-56) *maada gaayu i-n-gadjirr-ba-ng'gee-ni garda'gaaya*  
 yesterday Neg 3IA-IRR-rain-Aux-Aux-P rain  
 'Yesterday, it did not rain.' (473)

The verb *gadjirr-'ba-nggi* 'to rain' inflects for a Class I Subject, whose referent is the Class I noun *garda'gaaya* 'rain'. There are no verbs which show apparently non-referential transitive Subject prefixing in Gaagudju. However there are three transitive verbs, which show somewhat unusual cross-referencing patterns, which appear to involve a degree of lexicalisation.

- (9-57) *bu'liigi ma'gaarra Ø-idj-barra'woorn-ma warn'maalay*  
 bullock that.I 3IA-3FE-stick-Aux.PP mud  
 'That bullock is stuck in the mud.' (B174)

The verb *barra'worn-ma* 'to be stuck' takes the effector/locative entity 'mud' as its Subject, with the affected entity 'bullock' being coded as Direct Object. It may be noted that there is a distinct verb *ba'dal-garra* 'to stick (together)', which is used to describe agentive "sticking". A similar pattern is found with the verb *ga'rrabarra* 'to be greedy for food'.

- (9-58) *ma'gaadja nji-wa'laawala nji-nga-a'rrabarra-y djaamu*  
 that.II II-little 3IIA-3FE-greedy-PR tucker  
 'That little girl is greedy for tucker.' (B170)

The effector entity 'tucker' is coded as the Subject, and the experiencer entity 'that little girl' is coded as the Direct Object. A related pattern is found with the verb *ma'rdabarra* 'to carry, to ride'.

- (9-59) *ba'rraanggirr arr-ga-marda-ba'raa-ni djaarra*  
 old days 1A-3E-carry-Aux-PI horse  
*Ø-arra-baga'rnaa-wa-ri mboodaru gaala gaayu*  
 3IA-1E-chase-Aux-PI now okay Neg  
 'In the old days I used to ride horses and chase (cattle), but not nowadays, okay.' (B141)

The unmarked interpretation of this verb is 'to carry'. However it can have a type of inverse interpretation, where it means 'to ride' ('I rode the horse' = 'The horse carried me.'). The examples of lexicalised Indirect Objects involve phrasal verbs (7.4).

- (9-60) *nj-djaa-dji=nga='ngaardi* *aardi*  
 3IVA-PR-Aux=1IO=carry on head swag  
 'I am carrying my swag on my head.' (A526)

(9-60) is paraphrasable, in a literal interpretation, as "The swag is standing to my head.", and this was presumably the original semantic structure of the phrasal verb. However, it is not analysable in these terms synchronically. The coding of the agentive "carrier" role as an Indirect Object must be lexically specified. With the phrasal verb *raga=nu='ngoolhgirr* 'to roast in hot sand', the patient/theme role is coded as an Indirect Object.

- (9-61) *ma'gaadja njing'gooduwa dju'naarra*  
 that.II woman yam sp  
*go-'yaa-n-aga=yu ...='ngoolhgirr*  
 3IVA-3FE-FU-Aux=3FIO ...=hot sand  
 'That woman will roast the yams in hot sand.' (B592)

The same pattern is found with the phrasal verb *ma='waala* 'to give birth to', where the person born is coded with an Indirect Object enclitic (see also 9-43).

- (9-62) *nj-djee-ma=nu='waala* *ma'gaarra i-'laawala*  
 3IVA-3FE-Aux.PP=3MIO=bear that.I I-little  
*njing'gooduwa*  
 woman  
 'Did the woman bear that little boy?' (A519)

#### 9.4 Bound Pronominals.

There has been a considerable range of analyses on the status of bound pronominals. The two extremes in the range of analyses are represented by Chomsky (1981), and Jelinek (1984). Chomsky (1981) argues that they are agreement markers to nominal arguments, which may be ellipsed if agreement is sufficiently "rich". Based chiefly on material from Warlpiri, Jelinek (1984) argues that bound pronominals instantiate the arguments, with any co-referential nominal expressions functioning as adjuncts. Under Jelinek's analysis the other properties characteristic of non-configurational languages (9.1) appear to follow in a reasonably well-motivated manner. If free nominals are optional adjuncts, then it is unsurprising to find that they may be omitted, vary freely in ordering, and occur discontinuously.

I will consider Jelinek's analysis first, as it has considerable intuitive appeal, given that it appears to explain the cluster of properties that characterise non-configurational languages. The first point to be noted in this examination is that, despite appearances, there is no necessary connection between the properties that characterise non-configurational languages and bound pronominals. There are non-configurational

languages which do not have bound pronominals (e.g. Arrernte - Hale 1983 : fn9, Jiwarli - Austin : p.c.). Therefore Jelinek's proposals must be examined solely in light of their formal adequacy.

Simpson (1991), in a detailed examination of Warlpiri, argues against Jelinek's analysis. Her principal opposing argument comes from an examination of the full range of clause types in Warlpiri. Warlpiri has three clause types: finite verbal, non-finite verbal, and nominal-headed clauses. Bound pronominals are obligatory in finite verbal clauses, do not occur in non-finite verbal clauses, and are optional in nominal-headed clauses. Under Jelinek's analysis, nominals may be arguments in nominal-headed clauses, and in non-finite verbal clauses, but not in finite verbal clauses.

This differentiation of argument structures, according to clause types has a certain intuitive appeal of its own. In cross-linguistic terms, there are clearly connections between clause types, and the expression of argument structure. However it is by no means clear that the bound vs free status of arguments is a parameter relevant to the analysis of these connections. Rather it would seem that theories of ellipsis, including control relations, are the relevant parameters. In the absence of any well-motivated analysis establishing the relevance of bound vs free status to these connections, it would appear that Jelinek's analysis encounters a significant problem, in its application to Warlpiri.

Simpson's critique is also applicable to Gaagudju, though there are certain important differences between Warlpiri and Gaagudju. Their inventories of clause types are different. Gaagudju has finite verbal clauses, and nominal-headed clauses, but does not have non-finite verbal clauses. Of perhaps greater significance are the differences in the nature of the substantive bound pronominals. In Warlpiri, the substantive bound pronominals are clausal enclitics, which occur in Wackernagel's position. In Gaagudju, the substantive bound pronominals form part of a highly lexicalised system of affixal inflection. Most major parts of speech inflect for bound pronominal reference. However nouns, and positive imperatives (7.9), do not bear any inflection for pronominal reference. Despite this fact, clauses headed by positive imperatives have arguments (7.9). So also do clauses headed by nouns.

(9-63) *ma'gaadja gaba'loowadi djoorrmoda*  
 that.IV road straight  
 'That road is straight.' (221)

(9-64) *i'bardbi Ø-arra-ba'daa-gabi wa'laangandji*  
 Neg 3IVA-1E-push-Aux.CON breath  
*moonda=nga=wa'laangandji*  
 bad=1IO=breath  
 'I cannot breathe. My breathing is no good.' (B479)

(9-65) *wal'giirdi=nu='boordo*  
 greedy=3MIO=IM  
 'He is greedy.' (A346)

These examples show that nouns may have Subjects, and take Indirect Objects, in the same way that other intransitive predicates do. In (9-63) the noun *djoorrmoda* 'straight' takes *ma'gaadja gaba'loowadi* 'that road' as its Subject. In (9-64) the noun *moonda* 'bad' occurs in an incorporation construction (8.7) with an Indirect Object. In (9-65) the noun *wal'giirdi* 'greedy' takes an Indirect Object, in an Indirect Malefactive construction (8.6.1).

The Indirect Objects in (9-64 & 9-65) are to be analysed as representing Indirect Object grammatical relations, as they are identical in all aspects to other Indirect Objects. If nouns may take an Indirect Object grammatical relation, then presumably they take a Subject grammatical relation. On both semantic and formal grounds, it seems inconceivable that an item lacking a Subject grammatical relation could take an Indirect Object grammatical relation. Given that nouns may take a Subject grammatical relation, then *ma'gaadja gaba'loowadi* 'that road' is the Subject argument of *djoorrmoda* 'straight' in (9-63). Therefore nominals can function as arguments in clauses headed by nouns.

Having established this, we may turn to consider the status of cross-referenced nominals. There are two reasons for analysing cross-referenced nominals as arguments. Firstly there are the considerations of uniformity of analysis, already mentioned. There are correlations between clause types, and the expression of argument structure. However there is no well-motivated proof that the free vs bound status of arguments is a parameter of relevance in the analysis of these correlations. Therefore considerations of uniformity suggest that if nominals are arguments in clauses headed by nouns, then they are also arguments in other clause types.

The second reason raised by Simpson (1991 : 154), relates to the status of cross-referenced nominals, if they are not to be analysed as arguments. Under such an analysis, cross-referenced nominals must be analysed as adjuncts. However as Simpson points out, the status of such adjuncts is most unclear. The functional and formal status of adjuncts in Gaagudju would be radically different from their status in languages lacking cross-reference. There is presently no well-developed universal theory of adjuncts. In the absence of such a theory, any analysis which posits wide variations in adjunct types is disfavoured (see 9.8).

Bound pronominals in Gaagudju therefore appear to have the same agreement functions, as they do in Warlpiri. Consequently I will adopt Simpson's analysis of bound pronominal agreement in Warlpiri. Simpson in turn follows Bresnan & Mchombo (1987) in arguing that bound pronominals may show either grammatical or anaphoric agreement. In grammatical agreement, the bound pronominal agrees with an overt nominal argument. In anaphoric agreement the bound pronominal instantiates the verbal argument, and any co-referential nominals function as adjuncts or topics. This approach is to a degree intermediate between the two extreme approaches of Chomsky (1981) and Jelinek (1984).

In Warlpiri bound pronominals show grammatical agreement when there is an overt nominal argument. They show anaphoric agreement when there is no overt nominal argument. I analyse bound pronominals as showing the same agreement possibilities in Gaagudju. I do not adopt the proposal of Chomsky (1981) that bound pronominals invariably show grammatical agreement, with the absence of overt nominal arguments being due to ellipsis under "rich" agreement. The cross-linguistic evidence, previously mentioned, shows that the potentialities for ellipsis are independent of the existence of bound pronominal reference.

In her analysis of Warlpiri, Simpson further proposes that all the major parts of speech may optionally generate null pronominals to satisfy the grammatical relations that they establish. The values of these null pronominals are determined by the information supplied by the clausal enclitic pronominals, when these are present. When the clausal enclitic pronominals are absent, the value of the null pronominals is determined by (con)text.

This proposal also appears to be applicable to Gaagudju. All roots may optionally generate null pronominals to satisfy any grammatical relations that they establish. There is however a significant difference between Warlpiri and Gaagudju, in the degree to which these null pronominals receive specification and substantive morphological realisation within the lexicon. With verbs, adjectives, and demonstratives, they receive an almost complete specification within the lexicon. The only incomplete values lie in neutralisation patterns (6.3, 6.7.3 & 7.5.2).

- (9-66)     *nj-djaa-dji*  
           2A/3IIA/3IVA-PR-stand  
           'You/she/it (Class IV) is standing.'

Thus the value of the Subject in (9-66) is incompletely specified, being indeterminate between the three potential interpretations indicated. Also with verbs, adjectives, and demonstratives, the null pronominals mostly acquire a substantive morphological realisation. There is the null prefix  $\emptyset$ -, which functions as the major allomorph of the 3I Absolutive, and as a minor allomorph of the 3IV Absolutive. The nature of this prefix may be illustrated by comparing the paradigm of the noun *dji'rriingi* 'man', with that of the adjective *-djaawurdu* 'short'.

- (9-67)      $\emptyset$ -*dji'rriingi*     'he is a man'  
            $\emptyset$ -*djaawurdu*     'he is short'

Both the noun and the adjective occur in a bare root form, when they have 3I person reference. However the two may be differentiated by the fact that the bare root form of the adjective can only have 3I person reference, whereas the bare root form of the noun may refer to any person.



(9-68)	<i>ngaayi Ø-dji'rringi</i>	<i>*ngaayi Ø-djaawurdu</i>
	1MIN man	1MIN I-short
	'I am a man.'	*'I am short.'

In other words, the null realisation of the pronominal is fully specified as having 3I reference for the adjective, whereas the null realisation of the pronominal has an open reference for the noun. Further, the pronominal found with the adjective is morphologically localisable, through paradigmatic evidence, as a null prefix (6-24). There is no evidence that the null pronominal found with the noun is morphologically localisable (it is presented as a prefix in 9-67 & 9-68 purely for comparative purposes). In overall terms therefore, while verb, adjective, and demonstrative roots may generate null pronominals, inflected verb, adjective and demonstrative forms generally provide fully specified, substantive pronominals, with the exceptions discussed.

There is one class of verbal forms which diverge from this pattern. Pronominals in positive imperatives do not generally acquire either a substantive realisation, or a specification of their value. Positive imperatives, whether transitive or intransitive, do not show any substantive realisation for the Subject pronominal. The Subject pronominal is understood as having a 2nd person value. However it is not clear that this 2nd person value should be analysed as a specification of the same kind, as that found with indicatives or hortatives. Imperatives must have a 2nd person Subject, and as such the value is a necessary concomitant of the function of the verb. Therefore I would argue that the 2nd person Subject value is supplied by the imperative inflection itself. With indicatives and hortatives, Subject values are not supplied by the verbal inflections. Rather they are supplied by the prefix complex (7.5.2).

The situation with Direct Objects in transitive imperatives is somewhat complicated. Third person Direct Objects do not take any substantive cross-referencing (7.9). First person Direct Objects are substantively cross-referenced, but in a way distinct from all other substantive cross-reference of Direct Objects.

(9-69)	<i>ba'raa-ga</i>
	here/1A-take
	'Bring it here!/Take me!'

First person Direct Objects are cross-referenced by the 'here' directional prefix *bara-*. The interpretation of this prefix as a directional or as a Direct Object prefix is dependent on context and the semantics of the verb stem (7.9). Given that the realisation pattern of 1st person Direct Objects is unique, it cannot be used as paradigmatic evidence in establishing a morphological locus for the null pronominals representing 3rd person Direct Objects. I would argue that the null pronominals representing 3rd person Direct Objects, and those representing the Subject, in positive imperatives have no morphological locus. In this respect positive imperatives are similar to nouns.

The patterns found with nouns and positive imperatives also apply to pronouns and kin nouns. It seems likely that pronouns would only occur as predicates in a fairly restricted range of circumstances. Nevertheless there is no reason to assume that they could not function as predicates, given the appropriate circumstances. Kin nouns differ from other nominals in that they may take two kinds of substantive bound pronominals.

- (9-70) *nji-njing-goma'gaali*  
 2MIN-II-spouse  
 'Your wife.'

The Class marker pronominal *njing-* 'II' provides a value to the Subject grammatical relation of *-goma'gaali* 'spouse'. However the possessor is not a grammatical relation of *-goma'gaali* 'spouse'. Consequently possessive prefixes, such as *nji-* '2MIN', are not of relevance in the consideration of bound pronominal realisations of grammatical functions.

Under the analyses so far considered, bound pronominals may function either as agreement markers, or as arguments. Based on material from Luiseño, Steele (1989) argues for a somewhat different approach where bound pronominals contribute, along with free nominals and other information sources, to an overall propositional value for grammatical relations. Steele's analysis depends on two facts (1989 : 575) "First, a sentence with a weather expression as the main verb necessarily lacks a lexical subject, yet such a sentence contains an AUX including a normal agreement form. Second, in a sentence of possession or a sentence containing what has been previously analysed as a sentential subject, a lexical subject is strongly preferred, and the preference is for the AUX to agree with the possessed element or the head of the sentential subject."

Neither of these factors is operative in Gaagudju. Weather verbs do not bar lexical subjects in any systematic manner (9-56), and Gaagudju lacks any formal analogues of the possessive or sentential constructions discussed by Steele. Consequently there is no direct reason to adopt Steele's analysis for Gaagudju. Further, there is at least one issue which remains to be addressed in Steele's analysis. The fact that weather verbs cannot take a lexical subject in Luiseño may relate to the category of "internal" semantic arguments, which are not grammatically expressible (Bresnan 1982 : 156 - 161). Thus the verb 'to homer' means 'to hit a home run'. As such 'home run' is an inherent object for this verb. Nevertheless, this inherent object is not grammatically expressible as an Object.

- (9-71) \*He homered a home run.

This concept of unexpressible internal arguments would also appear to be of relevance to weather verbs in English.

- (9-72) \*Rain is raining./\*Snow is snowing./\*Sleet is sleeting.

The Subject of weather verbs cannot be expressed as the substantive "inherent" Subject, but must instead be expressed by a pleonastic Subject pronoun. A similar pattern could be operative in Luiseño. Ruwet (1991 : ch3) provides a detailed discussion of the problems that arise in determining predicate - argument structures for weather verbs. He argues that there are fundamental problems in forming analytical predicate - argument structures for weather verbs because of the experientially indivisible nature of many weather phenomena. Consequently there is a degree of arbitrariness in most linguistic classifications of weather phenomena. Given the centrality of weather verbs to Steele's analysis, this is an issue of some importance. In light of the fact that it remains unresolved, and in light of the fact that Steele's criteria are not applicable to Gaagudju, I will not be adopting Steele's analysis.

### 9.5 Transitivity.

Transitivity is definable at two levels in Gaagudju: the level of the verb, and the level of the clause. Verbs may be formally categorised as transitive or intransitive depending upon the pronominal prefix paradigm that they take. Transitive verbs are found only with the transitive prefix paradigms (Table 7.4), and intransitive verbs are found only with the intransitive prefix paradigms (Table 7.3). There is only one verb which takes both the transitive and intransitive prefix paradigms.

- (9-73) *gooyida nj-djaa-ni dju'baarra='nggaana ba'leeru*  
 Neg.IMP 2A-PR-sit tree=LOC lest  
*galarr'geengi nji-n-go'lee-ya*  
 flying fox 2A-3ME-defecate-CON  
 'Don't sit under the tree, lest the flying foxes defecate on you.'  
 (B910)

The verb *goli* 'to defecate, to lay an egg' usually takes the intransitive prefixes. However it is also attested with the transitive prefixes as in (9-73). The status of the transitive form *nji-n-go'lee-ya* in (9-73) is somewhat uncertain, given the lack of any other forms of this type. It may simply represent a mistake, though it was confirmed. If it is an acceptable form, then it represents a lexically specified deviation from the standard pattern, where a directly affected malefactive Object is coded by the Indirect Object enclitics (8.6.1).

- (9-74) *?Ø-o'lee-ya=nja*  
 3IA-defecate-CON=2IO  
 'It might defecate on you.'

Apart from the somewhat suspect case of (9-73), there are also the verbs in (9-75).

(9-75)	<i>go'do-biri</i>	'to cut (tr)'
	<i>go'do-biri</i>	'to drop (tr)'
	<i>go'do-biri</i>	'to open (intr)'

However these verbs are not related in any predictable way by variations in transitivity. They are rather a set of homophones, which can be partially distinguished by the choice of prefix paradigms.

Clausal transitivity is defined in terms of the presence of an Object. A clause with an Object, whether Direct or Indirect, is a transitive clause. All clauses involving transitive verbs are naturally transitive. Clauses involving intransitive verbs may be either transitive or intransitive. Apart from the single example of (9-73), intransitive verbs only occur in transitive clauses when they take the Indirect Object enclitics.

### 9.6 Detransitivisation.

The term detransitivisation refers to the middle, passive, reflexive and reciprocal interpretations of transitive verbs. As such it refers to reductions in the transitivity value of a transitive verb (Hopper & Thompson 1980), which are not equivalent to the formation of a standard intransitive predicate. In Gaagudju transitive - intransitive verb pairs are not generally formed via detransitivisation. Transitive - intransitive pairs which do show an overt morphological relationship, are generally compound verb forms where the transitivity difference is registered by the choice of different auxiliaries.

(9-76)	<i>ba'la-bara</i>	'to cover (tr)'
	<i>ba'la-biri</i>	'to cover (intr)'

A number of transitive - intransitive pairs show no overt morphological relationship.

(9-77)	<i>ba'da-mada</i>	'to stop (tr)'
	<i>bimi</i>	'to cease (intr)'

There are two ways of overtly detransitivising a transitive verb. One is by use of the detransitivisers (9.6.1). Historically this appears to have been the principal method of detransitivisation in Gaagudju. However the available evidence suggests that it is synchronically unproductive (9.6.1). The detransitivisers convey the full range of detransitivised meanings. In terms of Foley & Van Valin's (1984 : 168 - 181) typology of antipassive constructions, the Gaagudju detransitivisers are backgrounding antipassives.

(9-78)	<i>gu-'ngaarndada</i>	<i>djoorrgu</i>	<i>nj-djaarn-bu-y</i>
	IV-good	wind	3IVA-finish-Aux-detr.PP
	'It is good that the wind has finished.' (A417) [middle]		

- (9-79) *ma'gaarra gaadju Ø-baba'rdaa-y*  
 that.I dog 3IA-tie-detr.PP  
 'Is that dog tied up?' (B446) [passive]
- (9-80) *Ø-buu-y=mana*  
 3IA-hit-detr.PP=MUA  
 'The two males were hitting each other.' (B510) [reciprocal]
- (9-81) *i-'laawala njing-godo-bi'ree-gi*  
 I-little 2A-cut-Aux-detr.PP  
 'Little boy, did you cut yourself?' (A608) [reflexive]

The middle and passive meanings may also be conveyed by a construction which is formally marked as having an Augmented 3rd person Subject, but where the Subject is in fact indefinite or non-referential in meaning.

- (9-82) *madjori'djooro ma-'baalgi*  
 mangrove III-lots  
*ma-n-da-yarrangga-'bee-ngga-y=mba*  
 3IIIA-3ME-PR-put up-Aux-Aug-PR=AUG  
*ga'djiirra='nggaana*  
 saltwater=LOC  
 'Lots of mangroves grow in the saltwater.' (B589) [middle]
- (9-83) *ma'gaarra gaadju Ø-an-ba-'boorda=mba goornmu*  
 that.I dog 3IA-3ME-tie-Aux.PP=AUG morning  
 'Was that dog tied up this morning?' (B849) [passive]
- (9-84) *gooyida nj-djaa-yi-ngi ma'gaadja gaba'loowadi iinjdu*  
 Don't 2A-PR-go-PR that.IV road maybe  
*Ø-n-da'rroonggo-ba=mba*  
 3IVA-3ME-close-Aux.PP=AUG  
 'Don't go on that road. Maybe it is closed.' (B716) [passive]

There are occasional examples of this construction type with a minimal Subject.

- (9-85) *gooyida nj-djaa-yi-ngi shop iinjdu Ø-n-da'rroonggo-ba*  
 Don't 2A-PR-go-PR shop maybe 3IVA-3ME-close-Aux.PP  
 'Don't go to the shop. Maybe it is closed.' (B717) [passive]

These minimal forms may simply be mistakes, or alternatively they may represent another possibility for the representation of middle and passive meanings. The available data does not indicate which of these hypotheses is correct. Neither does it indicate the factors which control the choice between the two constructions for conveying middle and passive meanings. There are no alternative constructions to the detransitivisers for conveying reflexive and reciprocal meanings. However it is important

to note that the range of reflexive meanings conveyed by detransitivised constructions, such as that in (9-81), is considerably smaller in Gaagudju, than in most languages with verbal detransitivisers. There are no examples in the available data of the detransitivised construction being used to convey part-whole reflexive meanings. If Gaagudju functioned in a manner parallel to many languages with verbal detransitivisers, a clause such as "I cut my hand." would usually be conveyed as in (9-86).

- (9-86) *?arr-godo-bi'ree-gi ngaadjay*  
 1A-cut-Aux-detr.PP hand  
 [lit. 'I cut myself hand.']

This construction involves the possessor ascension pattern of cross-reference. Possessor ascension constructions are uncommon in Gaagudju (8-199), and none are attested with reflexive part-whole reference as in the putative example (9-86). Reflexive part-whole reference is normally conveyed by a standard transitive construction, as in (9-87).

- (9-87) *Ø-arro-o'doo-biri ngaadjay*  
 3IVA-1E-cut-Aux.PP hand  
 'I cut my hand.'

The reflexive interpretation of the construction in (9-87) appears to be obligatory. In order to achieve a non-reflexive interpretation "I cut his hand", it appears that a construction with an Indirect Object enclitic must be used.

- (9-88) *Ø-arro-o'doo-biri=nu ...=ngaadjay*  
 3IVA-1E-cut-Aux.PP=3MIO ...=hand  
 'I cut his hand.'

However the Indirect Object enclitic construction may also have a reflexive interpretation.

- (9-89) *i-'laawala Ø-no-o'doo-biri=nja ...=njoomburr*  
 I-little 3IA-2E-cut-Aux.PP=2IO ...=elbow  
 'Little boy, did you cut your elbow?' (B178)
- (9-90) *gada'rree-ga=nja='giini*  
 wipe-Aux.IMP=2IO=nose  
 'Wipe your nose!' (B554)

The reflexive interpretation of this construction type is only attested with 2nd person reference, as in (9-89 & 9-90). The difference between the two indicative constructions in (9-88 & 9-89) is not certain in the available data. The difference certainly is not one of real world situations. Somewhat speculatively, it may be that the reflexive construction in (9-89) is best understood in diachronic terms. As mentioned, the verbal detransitivisation pattern found in Gaagudju

appears to be lexicalised and unproductive (9.6.1). The construction in (9-89) could represent the beginnings of a new productive reflexive/reciprocal strategy through pronominal anaphora.

The situation with the positive imperative construction in (9-90), is possibly somewhat different. The available evidence suggests that positive imperatives do not have any positions of pronominal cross-reference (7.9). As such the Indirect Object enclitic may be obligatory in any part-whole positive imperative. However (9-90) is the only available example of a part-whole imperative. Further examples would be required in order to test this hypothesis.

### 9.6.1 The Detransitivisers.

There are two simple verbs which function as detransitivisers in Gaagudju. These are the Conjugation 1 detransitiviser *-y*, and the Conjugation 2 detransitiviser *-gi ~ -nggi ~ -dji-gi* (7.7). My principal consultant P.B was only able to give a full paradigms with confidence for the more commonly detransitivised verbs (e.g. 'to bite/cut/hit oneself, to spill by itself'). With these more common forms, the two detransitivisers showed the following paradigms.

(9-91)	Conjugation 1	Conjugation 2
PP	<i>-y</i>	<i>-gi</i>
PI	<i>-yi-ni</i>	<i>-'gee-ni</i>
PR	<i>-y</i>	<i>-gi</i>
FU	<i>-y</i>	<i>-gi</i>
CON	<i>-ya</i>	<i>-'gee-ya</i>

Even among the more common forms, there was variation in the PI form of the Conjugation 1 detransitiviser *-y*. The PI form *-yi-ni* was only consistently attested with *bi* 'to bite' and *bu* 'to hit'. With the verbs 'to see' and 'to shoot' the form is reduced to *-ni*.

(9-92)	'to see'	'to see (detr)'
PP	<i>go're-garra</i>	<i>goro-ga'rra-y</i>
PI	<i>goro-ga'rra-ri</i>	<i>goro-ga'rre-ni</i>
PR	<i>go'ro-garra-y</i>	<i>goro-ga'rra-y</i>
FU	<i>go're-garra</i>	<i>goro-ga'rra-y</i>
CON	<i>go're-garra</i>	Not attested

The PI form of 'to see (detr)' is *goro-ga'rre-ni*, and not *goro-ga'rra-yi-ni*. For the other verbs taking the Conjugation 1 detransitiviser, P.B gave two variants for the PI form, as in (9-93).

(9-93)	Transitive PI	Detransitivised PI
'to kick'	<i>mala-ri</i>	<i>mala-yi-ni ~ mala-ri</i>
'to paint'	<i>barra-wa-ri</i>	<i>barra-wa-yi-ni ~ barra-wa-ri</i>
'to spear'	<i>bara-ni</i>	<i>bara-yi-ni ~ bara-ni</i>

The other variant in (9-94) is the standard PI form for the transitive. The paradigm of the Conjugation 2 detransitiviser was invariant in P.B's usage. This probably results from the fact this paradigm has a reasonably high frequency of occurrence. Apart from occurring as a detransitiviser, this simple verb also occurs as an auxiliary with a reasonable frequency (7.2). However P.B did display uncertainty about the usage of this detransitiviser. The *-nggi* variant of the Conjugation 2 detransitiviser is irregularly used to detransitivise Conjugation 1 auxiliary simple verb *-ba* (7.6).

(9-94)	<i>ga'rla-ba</i>	'to dress, to put in (tr)'
	<i>ga'rla-ba-nggi</i>	'to wear'

Despite the existence of the pair of forms in (9-94), which at least historically involve detransitivisation, P.B was unable to provide detransitivised paradigms for the verbs *dja-ga-ba* 'to bury' and *gordo-ba'da-ga-ba* 'to open'. She did give forms involving *-nggi*, but no consistent pattern could be obtained. These lacunae and variations in P.B's usage of the detransitivisers almost certainly reflect language death problems. However they also argue that detransitivisation does not constitute a productive process in Gaagudju. P.B appeared to access detransitivised forms on a highly individualised basis, and not as part of a reasonably systematic morphological pattern. This argues that detransitivised forms have a low level of internal morphological analysability, and consequently of productivity.

The patterning of the detransitivisers may therefore be analysed as lexicalised. This is in conformity with the lexicalised nature of the overall verbal complex in Gaagudju. The choice between the Conjugation 1 and 2 detransitivisers, and among the variants of the Conjugation 2 detransitiviser, is lexically governed (7.6). Irregularities may extend beyond simply the choice of the detransitiviser.

(9-95)	<i>wu</i>	'to give'
	<i>dja'rde-wu-y</i>	'to swap'

The compound verb *dja'rde-wu-y* 'to swap' is, in terms of meaning, the detransitivised counterpart of *wu* 'to give'. The auxiliary *wu-y* in this compound verb is the detransitivised form of *wu*. However the very fact that *dja'rde-wu-y* is a compound verb means that this pair of verbs cannot be listed as a simple transitive - detransitive pair synchronically. (9-96) sets out the paradigm of another pair of verbs, which show evidence of having been a transitive - detransitive pair historically.

(9-96)	'to swear at'	'to argue, to fight (intr)'
PP	<i>ga'rda-garra</i>	<i>ga'rda-garra</i>
PI	<i>garda-ga'rre-ri</i>	<i>garda-ga'rre-ni</i>
PR	Not attested	<i>ga'rda-garra-y</i>
FU	Not attested	<i>ga'rda-garra</i>
CON	Not attested	<i>garda-ga'rre-ya</i>



In terms of their synchronic meanings, these two verbs appear to be related as a transitive - intransitive pair, rather than as a transitive - detransitive pair. However the paradigmatic evidence suggests that they were originally related as a transitive - detransitive pair. The standard PI form of the *garra* auxiliary simple verb is *garra-ri*. The only other examples of a PI form *ga'rre-ni*, are with detransitivised forms (9-92). This suggests that 'to argue, to fight (intr)' was historically the detransitivised partner of 'to swear at'.

### 9.7 Negation.

In Gaagudju, negation is marked by the following negative nominals and particles.

(9-97)	<i>gooyida</i>	'Don't'	[Negative Imperative Particle]
	<i>gaayu</i>	'Neg'	[Negative Noun]
	<i>i'bardbi</i>	'Neg'	[Negative Noun]
	<i>-go'roobiri</i>	'Not X'	[Negative Adjective]

The Negative Imperative particle *gooyida* 'Don't' is unproblematic in its usage (9.7.1), as is the usage of the negative adjective *-go'roobiri* 'Not X' (9.7.3). However the nature of the distinctions between the other two Negators, *gaayu* and *i'bardbi*, are not entirely clear. They show largely distinctive patterns of distribution, covering a range of functions in each case. It is not entirely certain how these functional ranges are to be analysed, though they do appear to reflect a core - periphery pattern of meaning. Further there are areas of apparent overlap between the two Negators. Again, it is not entirely certain how these areas of apparent overlap are to be accounted for.

In terms of their core meanings, the two Negators appear to differ in that *gaayu* is a simple assertion of non-occurrence for an event or non-existence for an entity, whereas *i'bardbi* does not deny the occurrence of an event or the existence of an entity, but instead means something like 'it is not the case that X can be predicated of Y'. The following examples highlight the contrast in their apparent core meanings.

(9-98) *gaayu=mani='djaamu*  
 Neg=1+2IO=tucker  
 'We have no tucker/We do not have any tucker.' (B380)

(9-99) *maaba i'bardbi ma'neerra-ma djaamu u'luunggulu ngaayu*  
 wC Neg 1+2MIN-PRM tucker old woman 3FMIN  
*djaamu*  
 tucker  
 'Child, that is not our tucker. It is the old woman's tucker.'  
 (B423)

(9-100) *ma'gaadja* *nji-wa'laawala* *gaayu* *ma-'yaa-n-da-ri* *djaamu*  
 that.II II-little Neg 3IIIA-3FE-IRR-eat-P tucker  
*goornmu*  
 morning  
 'That little girl did not eat her tucker this morning.' (A28)

(9-101) *maada* *nji-wa'laawala* *m-idj-'biirna-wa*  
 yesterday II-little 3IIIA-3FE-lost-Aux.PP  
 'Yesterday the little girl got lost.'

*i'bardbi* *nji-wa'laawala* *ma-ya-n-bi'rnaa-wa-ri* *i-'laawala*  
 Neg II-little 3IIIA-3FE-IRR-lost-Aux-P I-little  
*ma-n-'biirna-wa* *maada*  
 3IIIA-3ME-lost-Aux.PP yesterday  
 'It was not the little girl. She did not get lost. The little boy got lost yesterday.' (A12)

In (9-98 & 9-100) it is simply asserted that there is no food, and no eating respectively. On the other hand, (9-99 & 9-101) do not assert that there is no food, and no getting lost respectively. Rather they assert that possession of the food cannot be predicated of us, and that getting lost cannot be predicated of the little girl.

#### 9.7.1 Negative Imperatives.

Negative imperatives consist of the Negative Imperative particle *gooyida* 'Don't', and the appropriate Present tense verb form.

(9-102) *gooyida* *nj-djaa-yi-ngi=mba* *ma'gaadja*  
 Neg.IMP 2A-PR-go-PR=AUG that.IV  
 'Don't you lot go to that (place)!' (97)

(9-103) *gooyida* *ma-'naa-y* *djaamu* *ma'gaarrba* *moonda*  
 Neg.IMP 3IIIA-2E-eat.PR tucker that.III bad  
*njim-bardogo'rdoo-ya*  
 2A-vomit-CON  
 'Don't eat that bad tucker! You might vomit.' (B233)

Apart from its usage in the negative imperative construction, *gooyida* also occurs as a minor clause, with an approximate meaning of 'Not like that!'. It is used when someone has performed or understood something wrongly. This usage can quite possibly be viewed as being an elliptical clause partial, based on the negative imperative in (9-104).

(9-104) *gooyida* *njing-'gaama-y*  
 Neg.IMP 2A-do/say/think-PR  
 'Don't do/say/think (like) that!'

## 9.7.2 Indicative Verbal Negation.

The most salient pattern in indicative verbal negation is a significant tense-based difference in the distribution of the two Negators. Past tense negation is chiefly conveyed by a phrasal construction involving *gaayu*. As illustrated in (9-100), this construction consists of *gaayu*, and the appropriate Past Irrealis verb form. Non-past negation is chiefly conveyed by a phrasal construction, which consists of *i'bardbi* and the appropriate tense form of the verb.

- (9-105) *Ø-a'rraa-nga-wa-y* *Jawoyn*  
 3IVA-1E-hear-Aux-PR language name  
 'I can understand Jawoyn.'
- i'bardbi Ø-arra-ba'laa-bu-njdji*  
 Neg 3IVA-1E-talk-Aux-PR  
 '(But) I cannot talk it.' (B97) [Present negative]
- (9-106) *nji-wa'laawala ngame'neega i'bardbi ma-'naa-y djaamu*  
 II-little why Neg 3IIIA-2E-eat.PR tucker  
 'Little girl, why aren't you eating (your) tucker?' (B643)
- (9-107) *i'bardbi ba-ng-go'ree-garra goornmalada*  
 Neg 2A-1E.FU-see-Aux tomorrow  
 'I will not see you tomorrow.' (B60) [Future negative]
- (9-108) *ma-'baalgi dju'naarra i'bardbi ma-'rraa-ga-ya*  
 III-lots yam sp Neg 3IIIA-1E-take-CON  
 'There are too many yams. I will not be able to take them all.'  
 (B559) [Conditional negative]

Present perfect negative meanings are conveyed by the Past negative construction (present perfect meanings are generally conveyed by past tense forms in Gaagudju. 7.7.1 & 7.7.3).

- (9-109) *maardba gaayu i-n-da-ba-ng'gee-ni*  
 moon Neg 3IA-IRR-come out-Aux-Aux-P  
 'The moon has not come up.' (455)

The tense-based distribution of the two Negators would appear to be explicable in terms of the two factors in (9-110).

- (9-110) The completed vs non-completed status of the event.  
 The realis status of the total potential event.

Past and present perfect events are completed (i.e. they have no potential extension into the future). Other types of present events, and future events are non-completed (i.e. they have a potential extension into the future). The total potential of a completed negative event is fully

determined as irrealis. Therefore it is possible to state that the event did not occur. Consequently the use of *gaayu*, which asserts non-occurrence, follows in a reasonably well motivated manner. On the other hand, the total potential of a non-completed negative event is, at best, only partially determinable as irrealis. Consequently the use of *i'bardbi*, which does not assert non-occurrence, but instead makes the more limited statement that a particular situation does/will not hold of a particular entity, also follows in a reasonably well-motivated manner

This analysis appears to capture the broad outlines of the usage of the two Negators. However there are a number of minor patterns which require examination. The first of these concerns negation with non-past reference. The Conditional negative appears to be the unmarked non-past negative form, to a degree. It can be used in place of the Present negative to code meanings associated with present impossibility.

(9-111) *ma'gaarra anmarra'baalbu i'bardbi Ø-yee-gi*  
 that.I old man Neg 3IA-go-CON  
 'That old man can hardly walk.' (B197)

(9-112) *ma'rdaagardaga i-'laawala*  
 lizard sp I-little  
 'The ma'rdaagardaga lizard is small.'

*i'bardbi Ø-ma'rree-dja-gi=mba*  
 Neg 3IA-1+2E-eat-CON=AUG  
 'We cannot/do not eat it.' (B601)

It also appears that all future negatives of impossibility ('cannot, will not be able to') are coded with the Conditional negative. However there are also many examples of future intentional negatives being coded by the Conditional negative.

(9-113) *i'bardbi arr-'djee-gi dja'rroonggoda gu'djaali a'rraaya*  
 Neg 1A-go-CON near fire 1A.burn.CON  
 'I am not going to go near the fire. I might get burnt.' (B195)

It does appear that the intentional readings of the Conditional negative are found, when there is an undesirable consequence to the performance of the action, as in (9-113). This suggests that Conditional negatives are used in constructions such as (9-113), to convey an evitative meaning (9.12.2). Further information is required to test this hypothesis. Future negatives all appear to be intentional in meaning (i.e. 'will not'). In the positive mood, the Future and Conditional tense are opposed in terms of a modal distinction of probability (7.7.4). The Future implies intention and/or obligation, and its truth value is testable in the future. The Conditional merely asserts possibility. A similar modal distinction appears to be operating in the negative mood.

The distinction in meaning between *gaayu* and *i'bardbi* also requires examination, as it is a comparatively fine one. There are examples where the two Negators are not obviously differentiated.

- (9-114) *gu-na-ga'leemarr-wa=nu*                      *ma'gaarra*    *dji'rriingi*  
 3IVA-2E-jealous-Aux.PP=3MIO    that.I            man  
 'Were you jealous of that man?'

*gaayu*    *gu-ng-galamarr-'waa-ri=nu*  
 Neg    3IVA-1E.IRR-jealous-Aux-P=3MIO  
 'No, I was not jealous of him.' (A12)

- (9-115) *gu-na-ga'leemarr-wa=nu*                      *ma'gaarra*    *dji'rriingi*  
 3IVA-2E-jealous-Aux.PP=3MIO    that.I            man  
 'Were you jealous of that man?'

*gaayu i'bardbi*    *gu-ng-galamarr-'waa-ri=nu*                      *ma'gaarra*  
 Neg    Neg            3IVA-1E.IRR-jealous-Aux-P=3MIO    that.I  
*dji'rriingi*  
 man  
 'No, not (me). I was not jealous of that man.' (A26)

The interpretation of the second clause, with the two Negators, in (9-115) is not entirely certain. The Negator *gaayu* may occur in a minor clause, with the meaning 'No' (9.8). The Negator *i'bardbi* does not occur in minor clauses. When the two Negators occur in a sequence, they always occur in the order shown in (9-115). Consequently I analyse the sequence *gaayu i'bardbi*, as consisting of *gaayu* in its minor clause function 'No', followed by *i'bardbi* in its usual function. This sequence of the two Negators is attested with some reasonable frequency.

- (9-116) *anmarra'baalbu*    *Ø-naa-n-ga*                      *goornmalada*    *mo'goongo*  
 old man                      3IA-2E-FU-take    tomorrow            O.sister  
 'Are you going to take the old man tomorrow, older sister?'

*gaayu i'bardbi*    *Ø-a'rree-ga-ya*                      *anmarra'baalbu*  
 Neg    Neg            3IA-1E-take-CON    old man  
 'No, I am not going to take the old man.' (432)

There is one piece of formal evidence which establishes that *gaayu* and *i'bardbi* are distinct, when they have past time reference. Verbs taking *gaayu* must appear in the Past Irrealis. Verbs taking *i'bardbi* can occur in either the Past Perfective or the Past Irrealis.

- (9-117) *maada*            *i'bardbi*    *go'yaalu*    *arr-'waarridji*  
 yesterday    Neg            hunger    1A-suffered  
 'Yesterday, I was not hungry.' (A4)

(9-118) *ngame'neega nji-wa'gaa-y bard'banawarr*  
 why 2A-go back-PP Jabiru  
 'Why did you go back to Jabiru?'

*i'bardbi arra-wa'gaa-ri bard'banawarr*  
 Neg 1A.IRR-go back-P Jabiru  
 'Not (me), I did not go back to Jabiru.' (B833)

The differences between the two constructions are not certain. The most plausible interpretation would appear to be that suggested in the translations. With a Past Perfective form, *i'bardbi* has scope over the verb. With a Past Irrealis form, *i'bardbi* has scope only over a participant, and the verb is inherently negative. Finally the examples in (9-119 & 9-120) should be noted.

(9-119) *gaayu i-'rree-raga=marr*  
 Neg 3IA-1E-Aux.FU=like  
 'I do not like him.' (B20)

(9-120) *gaayu i-'rree-nga-wa anmarra'baalbu*  
 Neg 3IA-1E-hear-Aux.FU old man  
 'I cannot hear the old man.' (B498)

These combinations consist of *gaayu* and a Future tense verbal form. They contrast formally with the usual Future negative construction, which consists of *i'bardbi* and a Future tense verbal form (9-107). The *gaayu* + Future verb constructions are very rarely attested, and they appear to have a present tense reference. Given their rarity, it is not possible to assess their status properly. They may simply be errors. Alternatively they may be clause partials, where the standard non-past Negator *i'bardbi* has been ellipsed from a combined *gaayu i'bardbi* Negator structure, as in (9-116). Alternatively, they may represent some kind of special negative construction.

### 9.7.3 Nominal Negation.

Nominal negation may be either phrasal or clausal in scope. This section is principally concerned with nominal negation which is clausal in scope. Nominal clauses convey ascriptive, equational, existential and possessive propositions. This class of propositions may also be expressed by verbal clauses, which may be negated.

(9-121) *gaayu wal'giirdi i-n-do'ree-ni djaamu='ngaayu*  
 Neg greedy 3IA-IRR-lie-P tucker=3FDAT  
 'No, he was not greedy for tucker.' (B442)

(9-122) *gaayu ma-ng-ga'rree-ri=njdja djaamu*  
 Neg 3IIIA-1E.IRR-have-P=FUA tucker  
 'We did not have any tucker.' (B936)

Nominal clauses expressing negative ascriptive and equational meanings normally take *i'bardbi*, whereas those expressing negative existential and possessive meanings normally take *gaayu*. This distribution follows in a reasonably direct manner from the functions posited for the two Negators (9.7): *i'bardbi* indicating non-predication, and *gaayu* indicating simple negation.

(9-123) *ma'gaarra dji'rriingi i'bardbi gaagudju a'moordiyu naawu*  
 that.I man Neg gaagudju amurdak 3MMIN  
*a'moordiyu Ø-n-da-ba'laa-bu-njdji*  
 amurdak 3IVA-3ME-PR-talk-Aux-PR  
 'That man is not Gaagudju. He is Amurdak. He talks Amurdak.'  
 (B414) [ascriptive]

(9-124) *ma'gaarra dji'rriingi minjimak*  
 that.I man personal name  
 'That man is minjimak.'

*gaayu i'bardbi minjimak ma'gaarra*  
 Neg Neg personal name that.I  
 'No, that is not minjimak.' (C31) [equational]

(9-125) *i'bardbi ngaanj-ma wa'laalu nangga'rree-njdju*  
 Neg 1MIN-PRM country IV.here-SPEC  
 'This is not my country here.' (B271) [equational]

(9-126) *arr-'gaa-yarra-ba'geerna-wa djaarli*  
 1A-3E-ask-Aux-Aux.PP meat  
 'He asked me for meat.'

*gaayu djaarli*  
 Neg meat  
 'There was no meat.' (B76) [existential]

(9-123 - 9-126) illustrate the standard codings for ascriptive, equational and existential negation. There are occasional examples of negative ascriptive meanings being coded with *gaayu*.

(9-127) *gaba'rdeeba gaayu njim-'boordi mboodaru njing-'gooli*  
 emu Neg II-cooked still II-raw  
 'The emu is not cooked. It is still raw.' (490)

The difference between this construction, and that in (9-123) is not certain. As a hypothesis, (9-127) codes the ascription of a non-existent entity, whereas (9-123) codes non-ascription, assuming that these two possibilities can be differentiated. This hypothesis receives some support from the fact that ascription of a non-existent entity may code negative possessive meanings.

- (9-128) *a'rreengi=mba gaayu gaardu mo'warda garda'gaaya*  
 1A.sit.P=AUG Neg water good job rain  
*Ø-adjirr-'bee-nggi Ø-a'rree-ba=mba*  
 3IA-rain-Aux-Aux.PP 3IVA-1E-drunk=AUG  
 'We had no water. It was a good job that it rained, and we could drink.' (105)

However, negative possessive meanings are usually coded by an incorporation construction (8.7).

- (9-129) *gaayu i'bardbi arr-'dje-gi Ø-m-bu'rroo-ya*  
 Neg Neg 1A-go-CON 3IA-1E.FU-spear.fish-CON  
*ngaarndjil gaayu=nga=bi'laarra*  
 fish Neg=1IO=spear  
 'No, I am not going to go and spear fish. I do not have a spear.'  
 (B746)

- (9-130) *arr-ga'rdaa-garra=mba dji'rriingi ma-'naabirri*  
 1A-argue-Aux.PP=AUG man PRM-I.there  
*i-'rree-wu-ni biirndi naawu*  
 3IA-1E-give-PIRR money 3MMIN  
 'We argued with that man. He wanted me to give him money.'

*gada gaayu=nga='biirndi*  
 but Neg=1IO=money  
 'But I had no money.' (377)

The negative incorporation construction has a "fronted" counterpart (9-131).

- (9-131) *i'bardbi m-ba'laa-biri balanggit gaayu=nga*  
 Neg 1A.FU-cover-Aux blanket Neg=1IO  
 'I cannot cover up. I have no blanket.' (B891)

In (9-131) the negated noun precedes the Negator. The exact status of *balanggit* 'blanket' is uncertain. Arguably, it falls within the "personal domain" (8.8), and (9-131) is therefore an example of the fronting of a part noun. Given that the other examples of fronting involve part nouns, this would be the preferred analysis. Alternatively (9-131) may be an example of a more extensive use of fronting. While the incorporation construction most commonly codes negative possessive meanings, there are examples where it codes negative existential meanings

- (9-132) *gaayu=nu=ga'rdaagaya i'bardbi i-n-gadjirr-'bee-nggi*  
 Neg=3MIO=rain Neg 3IA-FU-rain-Aux-Aux  
 'There will be no rain. It will not rain.' (A109)



The 3MIO enclitic =*nu* in (9-132) appears to have either an indefinite non-specific reference, or to be non-referential. The available data does not elucidate the nature of the distinction between this construction, and that in (9-126). The incorporation construction is normally based on *gaayu*. There is only one example involving *i'bardbi*.

- (9-133) *gaayu i-n-gadawarra'maa-yini i'bardbi=yu='waarra*  
 Neg 3IA-IRR-forget-P Neg=3FIO=who  
*i-n-'gaa-n-ga-njdji gaayu=nu='moodiga*  
 3IA-3ME-here-IRR-take-P Neg=3MIO=car  
 'He did not forget. There was nobody to bring him. He does not have a car.' (B385)

The status of this example is however suspect. The incorporation construction has a negative existential meaning, but it involves the 3FIO enclitic =*yu*, rather than the 3MIO enclitic =*nu* (as in 9-132). This fact, combined with the unique status of (9-133), suggests that it is a mistake. Negative indefinite non-specific meanings, of the kind in (9-133), are conveyed by both *i'bardbi* and *gaayu*.

- (9-134) *ma'rree-ya=mba i'bardbi yaana-ngga ma'rree-yo-ri=mba*  
 1+2A-go.FU=AUG Neg where-IV 1+2A-camp-PR=AUG  
*nang'gaarri ma'rree-ya=mba gu-'ngaarndada wa'laalu*  
 IV.here 1+2A-go.FU=AUG IV-good camp  
 'We will have to go. There is nowhere to camp here. We will go (there) to the good camp.' (C13)

- (9-135) *waarra Ø-nii-ri*  
 who 3IA-sit-PR  
 'Who is there?'

*gaayu=nu='waarra niinjdja anmarra'baalbu Ø-nii-ri*  
 Neg=3MIO=who just old man 3IA-sit-PR  
*no'woo-goda*  
 3MMIN-alone  
 'There is nobody, just the old man sitting alone.' (B628)

(9-134) involves a Present tense verbal clause, and consequently it takes *i'bardbi* (9.7.2). (9-135) involves an incorporation structure, which forms a nominal clause. It shows the standard use of *gaayu* in a negative existential nominal clause.

The remaining type of nominal negation is that involving the negative adjective *-go'roobiri* (Declension 2, 6-26).

- (9-136) *i-'laarwala ma-'nee-ba=nga='boordo djaamu*  
 I-little 3IIIA-2E-ate=1IO=IM tucker  
 'Little boy, did you eat my tucker?'

*i'bardbi ngaayi ma-'rree-nj-dja-ri ngaayi arr-go'roobiri*  
 Neg 1MIN 3IIIA-1E-IRR-eat-P 1MIN 1-not  
 'It was not me who ate it. It was not me.' (B871)

The adjective *-go'roobiri* is similar in meaning to *i'bardbi*. Like *i'bardbi*, it does not assert that a particular event has taken place, but rather asserts that the event is not predictable of a particular entity. The precise nature of the difference between the two negative constructions in (9-136) is not clear in the available data.

### 9.8 Clause Types

Gaagudju has both minor and major clauses. Minor clauses do not have an argument structure. Some important minor clauses are listed in (9-137).

(9-137)	<i>awoy</i>	'Yes'
	<i>gaayu</i>	'No'
	<i>gan'gaayi</i>	'Goodbye'

Vocatives are also a common minor clause type. A larger database would also probably produce a number of exclamations as well. Major clauses have an argument structure, and may be divided into two classes, according to their head: verbal clauses, and nominal clauses. All verbal clauses have a finite value for mood and tense in Gaagudju. There are no non-finite verbal clauses. Finite verbal clauses may however be formally marked as dependent (9.12.1). Nominal clauses convey ascriptive, equational, existential, possessive propositions. However these classes of propositions may also be conveyed by verbal clauses (9.10 & 9.11).

While nominal and verbal clauses may be differentiated in terms of the category of their heads, there does not appear to be any reason to differentiate the two classes of clauses in terms of their formal generative capacities. As Gaagudju is a non-configurational language, there is no requirement for the expression of arguments by nominals. Verbal complexes frequently occur unaccompanied by overt nominal arguments. Nominals may also occur unaccompanied by overt nominal arguments.

(9-138) *njin-'ngaarndada=mana*  
 2-good=MUA  
 'Are you two males okay?'

*arr-'ngaarndada=mana*  
 1-good=MUA  
 'We are okay.' (A493)

The only entirely independent examples of nominal clauses of this type, involve adjectives with 1st, 1+2, and 2nd person reference, as in (9-138). Adjectives are the only other part of speech, apart from verbs,

which inflect for these persons (6.1). There are also examples where demonstratives occur as unaccompanied predicators.

- (9-139) *yaana-Ø ma'gaarra dji'rriingi yaa-bu*  
 where-I that.I man 3IA-went  
 a) 'Where is he, that man who has gone?'  
 \*b) 'Where has that man gone?'

*naarri Ø-a-wa'gaa-y*  
 I.here 3IA-here-go back-PP  
 a) 'He is here. He has come back.' (314)  
 \*b) 'He has come back here.'

Demonstratives are similar to adjectives and verbs, in that they take inflection for noun class, though they do not take inflection for 1st, 1+2, or 2nd persons (6.1). In (9-139), *yaana-Ø* 'where-I' and *naarri* 'I.here' are both Class I forms, and as such they refer to the Class I entity *ma'gaarra dji'rriingi* 'that man'. Therefore they appear to constitute independent clauses, as illustrated in the a) translations. It does not appear that they can be construed as arguments of the verbs, as in the b) translations. If they were arguments of the verbs, they would presumably refer to places, rather than to 'that man'. If they referred to places, then they would show Class IV concord. It would therefore appear from (9-139), that demonstratives can constitute clauses. Given these facts, it would appear that the clausal interpretations of the nominals in (9-140 - 9-144) should be acceptable in the appropriate contexts.

- (9-140) *gu-'djaawurdu*  
 IV-short  
 'It (Class IV) is short.'

- (9-141) *ma'gaarra*  
 that.I  
 'It (Class I) is that.'

- (9-142) *moonda*  
 bad  
 'It is bad.'

- (9-143) *nga-na-'woombardi*  
 1MIN-I-mC  
 'He is my son.'

- (9-144) *ngaanj-ma*  
 1MIN-PRM  
 'It is me/mine.'

Nouns may certainly head multi-constituent clauses.

(9-145) *ma'gaarra dji'rriingi gu'djiirri gu-marra'waarra*  
 that.I man sick IV-big  
 'That man is very sick.' (B764)

(9-146) *ma'ngaarnalada ma'naarra='maangga wa'laalu*  
 place name 1+2MIN=FM country  
 'Ma'ngaarnalada is our FM's country.' (B7)

The available evidence therefore suggests that any argument-taking predicate may function as a clause. Consequently it appears that both major clause types may be subsumed under a single formula.

(9-147) (X\*) argument-taking predicate (X\*)

The constraints on the variable X are not entirely certain, but are presumably in the mould of those suggested in (9-148).

(9-148) X may refer to an argument  
 X may modify the predicate  
 X may modify the whole clause (i.e. the predicate, its arguments and modifiers).

Arguments may function as one of the grammatical relations that a predicate may have: Subject, Direct Object, or Indirect Object (9.2). Arguments which do not realise one of these three grammatical relations, are classified as Adjuncts. As we will see in the following section (9.9), case marking potentials define two particular sub-classes of Adjuncts: Dative Adjuncts and Locative Adjuncts. There is no formal marking for other sub-classes of Adjuncts.

### 9.9 Case Marking.

Gaagudju has only a very limited system for the case marking of arguments. Nominals bearing absolutive or ergative cross-reference do not take case marking. Neither do nominals in an instrumental role.

(9-149) *ma'gaarra dji'rriingi Ø-a'n-ee-gi ngoondji*  
 that.I man 3IA-3ME-stab-PP other  
*maarri='maarri*  
 knife  
 'That man stabbed the other bloke with a knife.' (B545)

There are enclitics which optionally mark a range of dative and locative cases.

(9-150) =*naawu* '3MDAT' =*ngaayu* '3FDAT'  
 =*nggaana* 'LOC'

The masculine and feminine Dative enclitics are formally identical to the basic 3rd person Minimal free pronouns (Table 6.2). Diachronically the Dative enclitics undoubtedly derive from a particular specialisation within the overall functional range of the 3rd Minimal pronouns. This origin explains the apparent 3rd person component in the meaning of the Dative enclitics.

- (9-151) \*ngaayi='naawu/= 'ngaayu  
1MIN=DAT/DAT  
'Mine'

There are no examples of 1st, 1+2, or 2nd person pronouns taking Dative marking. However, it does not appear that the Dative enclitics can be synchronically analysed as examples of particular usages from the overall functional range of the 3rd Minimal pronouns.

- (9-152) Ø-waadja-y djaamu='ngaayu ba'yaalala  
3IA-cry-PR tucker=3FDAT child  
'The kid is crying for tucker.' (139) [purposive]
- (9-153) iinjdu ngame'neega arr-'gee-bu-mu iinjdu  
S.A. why 1A-3E-hit-PP S.A.  
bi'laarra='ngaayu ma-'naabirri Ø-arra-ga'rdee-gama  
spear=3FDAT PRM-I.there 3IA-1E-break-Aux.PP  
bi'laarra manang'gaarr arr-'gee-bara  
spear that.IV 1A-3E-strike.PP  
'I wonder why he hit me? Maybe over that spear, the spear that I broke, that's why he struck me.' (B759) [causal]
- (9-154) nganj-'ngiirla='ngaayu djaamu ma-'rree-nj-djaba=yu  
1MIN-aunt=3FDAT tucker 3IIIA-1E-FU-send=3FIO  
'I will send tucker to my aunt.' (A213)  
[benefactive/goal/recipient]
- (9-155) na-baya'laala=mba ngi'njaa-mba njin-go'robiri=mba  
I-child=AUG 2-AUG 2-not=AUG  
anmarra'baalbu='naawu ma-'rraa-ma=nu djaamu  
old man=3MDAT 3IIIA-1E-got=3MIO tucker  
'It is not for you kids. I got this tucker for the old man.' (B404)  
[benefactive]
- (9-156) ma'rdoordu idj-'baagu='naawu baagu='naawu  
joey Aug-kangaroo=3MDAT kangaroo=3MDAT  
i-'laawala  
I-little  
'The joey is a kangaroo's young.' (140) [genitive]

The enclitic construction illustrated in (9-152 - 9-156) is only attested when the nominal host has a Dative thematic role. This argues

that the enclitics should be interpreted as having a Dative function, and not some kind of "emphatic" function. In other words, (9-156) should not be translated as 'The joey, a kangaroo, it, young one', with the *naawu* form being understood as providing some type of "emphasis" to 'kangaroo'.

The class of Dative Adjuncts can be defined in terms of two criteria: the presence of Indirect Object cross-referencing, and the potentiality for Dative case marking. If a nominal takes Indirect Object cross-referencing, then it is classified as an Indirect Object, whether or not it bears Dative case marking. If a nominal is not cross-referenced as an Indirect Object, and either it is Dative case marked or it could be Dative case marked, then it is classified as a Dative Adjunct. It is not common for non-subcategorised nominals to bear both Dative case marking and Indirect Object cross-reference, but it is possible as (9-155) illustrates. The subcategorised goal/recipient argument of *djaba* 'to send' is commonly attested with both Dative case marking and Indirect Object cross-reference, as in (9-154). However Indirect Object cross-reference is not obligatory.

- (9-157) *nganj-'ngiirla* Ø-*arra-ya'baa-y* *aardi*  
 1MIN-aunt 3IVA-1E-send-PR clothes  
*nganj-'ngiirla='ngaayu*  
 1MIN-aunt=3FDAT  
 'I am sending the clothes to my aunt.' (B28)

In all examples, the goal/recipient argument of *djaba* 'to send', either bore Dative case marking, or was cross-referenced as an Indirect Object. On the other hand, as previously mentioned, nominals bearing absolutive cross-reference do not take case marking. This is so, even when the absolutive cross-referenced nominal has a goal/recipient thematic role.

- (9-158) \**ngaanj-'ngiirla='ngaayu* *djaamu* *nji-'rraa-n-u*  
 1MIN-aunt=3FDAT tucker 3IIA-1E-FU-give  
 'I will give my aunt some tucker.'

The subcategorised goal/recipient argument of *wu* 'to give' takes Absolutive cross-reference (9.2). There are no examples of Dative case marking on nominals realising this argument. It therefore appears that there are correlations between grammatical relations and dative case marking, as set out in (9-159).

- (9-159) Direct Objects - cannot take Dative case marking, even if the argument has a goal/recipient role.  
 Indirect Objects (generally) - may take either or both of Dative case marking and Indirect Object cross-reference.  
 Subcategorised Indirect Objects - must take either Dative case marking or Indirect Object cross-reference.

Apart from providing some of the evidence for distinct Direct Object and Indirect Object grammatical relations in Gaagudju, these

patterns also provide further evidence that the Indirect Object enclitics should not be analysed as valence increasers (9.2). Absolutive cross-reference is positively incompatible with Dative case marking, as illustrated in (9-158). This suggests a constraint against the substantive case marking of "core" arguments. If the Indirect Object enclitics were valence increasers, it is a reasonable prediction that they too should be incompatible with Dative case marking. In other words, a nominal could show either Dative case marking or Indirect Object cross-reference, but not both. The fact that both are possible argues against a valence increasing analysis.

In addition to the prototypical Dative functions exemplified in (9-152 - 9-156), the Dative enclitics, also convey locational 'towards, in the vicinity of' meanings.

- (9-160) *gaayu ba'rreegurl nang'gaabirri marra'biibi='ngaayu*  
 Neg far IV.there place name=3FDAT  
*but this side ng-'gaa-yi-ngi ma'naarr*  
 3IVA-here-go-PR that.I  
 'No, it is a long way, there towards Marra'biibi, but this side it comes, that (spring).' (B262)

This locational meaning does not appear to be an allative meaning related to the goal meaning of the Dative, as in (9-154). Rather it appears to relate to the genitive meaning of (9-156). The form *marra'biibi='ngaayu* seems to have a free translation something like "marra'biibi's environs", with a possessed term such as "environs" being implied. The usage of the Dative enclitics illustrated in (9-160) is only infrequently attested. In the presently available data it is only found with place names. Examples involving apparently similar meanings with other nominals take the Locative enclitic.

- (9-161) *mala'boobu gu-marra'waarra ng-gaa-yi-ngi*  
 cyclone IV-big 3IVA-here-go-PR  
*nang'garri='nggaana*  
 IV.here=LOC  
 'A big cyclone is coming towards here.' (B739)

- (9-162) *naabirri ngo'rroonggadi='nggaana*  
 I.there back=LOC  
*Ø-n-da-yarroba'rroo-ma-ngi*  
 3IVA-3ME-PR-smoke-Aux-PR  
 'That bloke is smoking around the back.' (A470)

The Locative enclitic is also found with examples of incontestable goal allatives.

- (9-163) *arr-'dja-yi-ngi ba'rdaambarda='nggaana*  
 1A-PR-go-PR billabong=LOC  
 'I am going to the billabong.' (B17) [allative]

- (9-164) *gooyida nj-djaa-yi-ngi dja'rroongoda djaarli='nggaana*  
 Neg.IMP 2A-PR-go-PR near meat=LOC  
*ba'leeru i-rra-na'wee-gi a'rdaadji*  
 lest 3IA-1E-put-FU inside  
 'Don't go near to the meat, lest I put it inside.' (B842) [allative]

The Locative enclitic encompasses a wide range of local peripheral roles.

- (9-165) *ma-rra-ba'rnaa-garra dju'baarra='nggaana*  
 3IIIA-1E-hide-Aux.PP tree=LOC  
 'I hid behind the tree.' (286) [locative]
- (9-166) *gooyu bo-o'ree-garra m-ba'leeburrbu*  
 mother 1A-look-Aux.IMP 1A.FU-jump  
*dju'baarra='nggaana*  
 stick=LOC  
 'Mother, look at me! I am going to jump over the stick.' (A152)  
 [locative]
- (9-167) *goornmu nang-'goodji a'rreengi ga'boolbirr='nggaana*  
 morning IV-cold 1A.sit.P sun=LOC  
*arr-djirrba-'gee-ni*  
 1A-warm up-Aux-PI  
 'It was cold this morning. I sat in the sun and warmed up.'  
 (A474) [locative]

Determining the exact status of some Locative marked forms is somewhat problematic.

- (9-168) *ma=ga'naangga djaamu nangalo'waarra='nggaana*  
 Aux.IMP=get out tucker dillybag=LOC  
*nang-ga'rdabumu*  
 III-heavy  
 'Get the tucker out of in the dillybag! It is heavy.' (B604)
- (9-169) *nji-wa'laawala njing-ga-ya'rree-gi*  
 II-little 3IIA-here-go down-Aux.PP  
*dju'baarra='nggaana*  
 tree=LOC  
 'The little girl has come down from (out of) in the tree.' (A161)

On initial examination the Locative case marker in (9-168 & 9-169) would appear to have an ablative function "from out of". However this is the only potentially ablative function that the Locative enclitic is attested with, in the presently available data. There are no examples of the Locative enclitic having the prototypical ablative function "from (i.e. motion away from source)".



- (9-170) *arr-'geedjama bo'rdaan(\*='nggaana)*  
 1A-came from Darwin(\*=LOC)  
 'I came from Darwin.'

The absence of examples of the type in (9-170) may be a lacuna in the data. However, given that prototypical ablatives of this type occur with some reasonable frequency, this absence would appear to be of significance. The absence of Locative marking in (9-170) cannot be attributed to the fact that the verb *gadjama* 'to come from' has an inherent ablative component to its meaning. The verb *ma=ga'naangga* 'to get/take out' in (9-168) also has an inherent ablative component to its meaning, and this is no block to Locative marking.

In terms of the presently available information it appears that the Locative marking in (9-168 & 9-169) should not be understood as having an ablative function. Rather, as indicated by the translations given, it should be understood as having a Locative "in" function. The ablative meanings in (9-168 & 9-169) are supplied by the verbs, either from the inherent meaning of the verb, or by the presence of a directional prefix (7.5.1). Under this analysis, the functional range of Locative enclitic is over allative and locative roles. There is no case marking for ablative roles. As we have seen, causal roles are marked by the Dative enclitics (9-153). Locative case marking is the criterion for the class of Locative Adjuncts. If a nominal is Locative case marked, or if it could be Locative case marked, then it is classified as a Locative Adjunct.

#### 9.10 Ascriptive, Equational and Existential Propositions.

In Gaagudju, as in most Australian languages, this class of propositions may be expressed by a nominal clause.

- (9-171) *nji'naamba nji-wa'laawala njing-ga'rdaabumu*  
 II.emp II-little II-heavy  
 'This little girl is heavy.' (B779) [ascriptive]
- (9-172) *ma'gaadja=njdja njing'gooduwa geeninjdjada*  
 that.II=FUA woman two.F  
*nganj-'ngiirla=njdja*  
 1MIN-aunt=FUA  
 'Those two women are my aunts.' (B801) [equational]
- (9-173) *nang'gaabirri giimbi wa'laalu waayu-i-'waayu Ø-idj-'baalgi*  
 IV.there stone country ghost I-Aug-lots  
 'There are lots of ghosts there in the stone country.' (B901)  
 [existential]

As indicated by (9-171 - 9-173) the unmarked temporal interpretation of a nominal clause is that it has present tense reference. However nominal clauses may have non-present reference in Gaagudju.

- (9-174) *djoorrgu gu-marra'waarra maada*  
 wind IV-big yesterday  
 'There was a big wind yesterday.' (B639)
- (9-175) *ba'rraanggirr gaayu gaba'loowadi unbalanjanj*  
 old days Neg road place name  
 'In the old days there was no road to Unbalanjanj.' (C72)
- (9-176) *gaayu arra-molo-ma-'gee-ni nang'gaarri yaarr-bu*  
 Neg 1A.IRR-grow up-Aux-detr-P IV.here 1A-went  
*arr-wa'laawala arr-mo'loo-ma-gi woolner*  
 1-little 1A-grow up-Aux-detr.PP place name  
*arr-mo'lo-ma-gi*  
 1A-grow up-Aux-detr.PP  
 'I did not grow up here. I went to Woolner (station), when I was little, and I grew up (there).' (A163)
- (9-177) *gooyida nj-dja-ardanga'ree-ngi ba'leeru njin-'giirdi*  
 Don't 2A-PR-dive-PR lest 2-wet  
 'Don't go in lest you get wet.' (B891)

In all of (9-174 - 9-177) there is an overt indication, either from text or from context, that the nominal clause has a non-present reference. There are only a few other examples of nominal clauses with non-present reference. They conform to the pattern of (9-174 - 9-177), in containing an overt reference to the non-present status of the clause. Therefore it appears, that in the absence of a clear indication of non-present reference, a nominal clause must be interpreted as having present tense reference.

Ascriptive, equational and existential propositions may alternatively be conveyed by verbal clauses. The difference between the use of a verbal and a nominal clause to convey this class of propositions is unclear. The difference does not reside in truth-functional meaning. The verbs found conveying this class of propositions are listed in (9-178).

- |         |              |               |
|---------|--------------|---------------|
| (9-178) | <i>warra</i> | 'to suffer'   |
|         | <i>gama</i>  | 'to be(come)' |
|         | <i>dji</i>   | 'to stand'    |
|         | <i>ni</i>    | 'to sit'      |
|         | <i>yu</i>    | 'to lie'      |
|         | <i>ya</i>    | 'to go'       |

Of these verbs *warra* 'to suffer' is the most specific in its semantics. The primary meaning of *warra* is 'to die'. The connection between this primary meaning, and the secondary 'to suffer' meaning is nicely illustrated in (9-179).

- (9-179) *ma-'naa-y ma-'baalgi djaamu ma'boorlo*  
 3IIIA-2E-eat.PR III-lots tucker belly  
*nji-n-'maarra-gi*  
 2A-FU-suffer-Aux  
 'If you eat too much, you will suffer/die in the belly.' (A459)

The following nominals are attested with *warra* 'to suffer', in an ascriptive sense.

			<u>meaning with warra</u>
(9-180)	<i>ga'boolbirr</i>	'sun'	'to be hot'
	<i>ga'boolbirr</i>	'sweat'	'to be sweaty'
	<i>gaardu</i>	'water'	'to be thirsty'
	<i>go'yaalu</i>	'hunger'	'to be hungry'
	<i>gu'miirri</i>	'fear'	'to be afraid'
	<i>nang-'goodji</i>	'cold'	'to be cold'
	<i>wal'giirdi</i>	'greedy'	'to be greedy'

In these combinations with *warra*, the nominal always precedes the verb, and these combinations are in fact right-headed verbal compounds (8-26). The verb *gama* also combines with nominals to form verbal compound constructions, which may have ascriptive meanings. This verb has a wide range of meanings: 'to be, to become, to do, to say'. Correspondingly verb compounds involving *gama*, have a wide range of meanings. They may function as inchoatives, or to form new verbal predicates (8.3). Some examples of *gama* are interpretable as either inchoative or ascriptive.

- (9-181) *nji-wa'laawala arr-'geema-ri*  
 II-little 1A-be(come)-PI  
 'I was/had become a little girl.' (A103)

However other examples appear to be purely ascriptive in meaning.

- (9-182) *gaayu gu-m-bu'djii-ngi niinjdja Ø-arra-mo'geerdidj-bi*  
 Neg 3IVA-1E.IRR-blow-P just 3IVA-1E-leave-Aux.PP  
*manang'gaarr ng-gaama-y*  
 that.IV 3IVA-be-PR  
 'No I did not blow (on the tea). I just left it. It is there.' (A358)

- (9-183) *naamba gooro Ø-aama-y warrayangal*  
 I.emph like 3IA-be-PR spirit name  
 'That (spirit), he is like the warrayangal spirit.' (B268)

Purely ascriptive meanings, such as those in (9-182 & 9-183), are most commonly conveyed by the three stance verbs 'to lie', 'to sit', and 'to stand'. The use of these verbs as quasi-existential verbs is common in

Australian languages. The quasi-existential uses of these verbs conform to the following patterns (McGregor 1990 : 310).

(9-184) 'to lie' - the entity adopts a reclining or horizontal position, or has a significantly greater extent horizontally than vertically.

'to sit' - the entity adopts a sitting posture, or has comparable horizontal and vertical extents.

'to stand' - the entity adopts a standing posture, or has a significantly greater extent vertically than horizontally.

The verb 'to lie' also encompasses 'to camp' and 'to sleep'. Its usage as a quasi-existential verb is largely restricted to situations approximating its range of concrete meanings.

(9-185) *ngame'neega njing-gardanganj'ngaara-ngi='goodo*  
 why 2A-swim-PI=DUR  
*ba'rdaambarda irribin'djoori ma'naarr Ø-yoo-ri*  
 billabong crocodile that.I 3IA-lie-PR  
 'Why were you swimming in the billabong. There is a crocodile (lying) there.' (A294)

(9-186) *ba'rdaambarda nang'gaabirri Ø-yoo-ri ga'rdaangarl*  
 billabong IV.there 3IA-lie-PR Field Island  
 'The billabong is/lies there (near) Field Island.' (A582)

(9-187) *anmarra'baalbu gu'djiirri Ø-yoo-ri*  
 old man sick 3IA-lie-PR  
 'The old man is/lies sick.' (348)

There is one example where 'to lie' appears to have simply an existential meaning.

(9-188) *wal'giirdi Ø-waarridji djaamu ma-n-'daa-ri='goodo*  
 greedy 3IA-suffer.PP tucker 3IIIA-3ME-eat-PI=DUR  
*i-'laawala goornmu*  
 I-little morning  
 'The little boy was greedy for food. He ate lots of tucker this morning.'

*gaayu wal'giirdi i-n-do'ree-ni djaamu='ngaayu*  
 Neg greedy 3IA-IRR-lie-P tucker=3FDAT  
 'No, he was not greedy for tucker.' (B442)

It may be noted that (9-188) involves the noun *wal'giirdi* 'greedy', which otherwise takes *warra* 'to suffer' (9-180). The verb 'to stand' is attested with the typical range of referents: houses, stones, trees,

etc. The following examples illustrate its function with less usual referents.

- (9-189) *ma'boorlo='nggaana goonggo nj-djaa-dji manang'gaarr*  
 belly=LOC teat 3IVA-PR-stand that.IV  
 '(A kangaroo's) teats are (inside) its pouch.' (211)
- (9-190) *gaayu i-n-'ngaana-ri gu'djaali niinjdja mooyu*  
 Neg 3IA-IRR-burn-P fire just sore  
*ma-'yaa-dji=nu barrang'goornyu Ø-marra'waarra*  
 3IIIA-PR-stand=3MIO old I-big  
 'No he did not burn himself. It is just a big old sore of his.'  
 (A359)
- (9-191) *gooyida yung'gaalya bebe'beebi ma'gaarri-njdju*  
 Neg.IMP devil spirit name that.I-SPEC  
*Ø-djii-ri roolorr*  
 3IA-stand-PR spring  
 'He is not a devil, that one Bebe'beebi. He lives in the springs.'  
 (A496)
- (9-192) *ba'rraanggirr gu-marra'waarra nj-djii-ngi gaardu*  
 before IV-big 3IVA-stand-P water  
 'The water was/stood high before.' (B520)
- (9-193) *ga'raarra Ø-djii-ri*  
 place name 3IA-stand-PR  
 '(The spring) is ga'raarra.' (63)
- In (9-193) at least, the verb appears to have a largely existential meaning. *Ga'raarra* is a spring on low ridge country, and as such is definitely not greater in vertical extent than in horizontal extent. The remaining stance verb, 'to sit', has a low frequency as a quasi-existential. However in a considerable proportion of the small range of examples, 'to sit' does appear to have a purely existential meaning, without any apparent stance content.
- (9-194) *gaayu nj-djorrnggo'maa-yini ral'boodji naba'daawu*  
 Neg 1A.IRR-go in-P cave brown snake  
*iinjdju a'rdaadji Ø-nii-ri*  
 maybe inside 3IA-sit-PR  
 'I did not go into the cave. There might be a brown snake inside.' (A98)
- (9-195) *Ø-arro-o'ree-garra ba'rdaanga Ø-waarridji yaana-ngga*  
 3IA-1E-see-Aux.PP brother 3IA-died where-IV

*a'rreengi=mba ana'baarru wa'laalu wuurrkim arr-'geema-ri*  
 1A.sit.P=AUG buffalo country work 1A-do-PI  
 'I saw the dead brother where we living on the buffalo country. I  
 was working.' (B1)

- (9-196) *ma'gaarra dji'rriingi no'woo-yirri Ø-an-ba'laa-bu-ni*  
 that.I man 3MMIN-self 3IVA-3ME-talk-Aux-PI  
*maada*  
 yesterday  
 'That man was talking to himself yesterday.'

*iinjdu moonda ngaardi ma-'nii-ngi=nu*  
 maybe bad head 3IIIA-sit-P=3MIO  
 'Maybe his head was no good.' (A528)

- (9-197) *gaayu gu'djiirri Ø-nii-ngi=nu gaayu niinjdja ngaardi*  
 Neg sick 3IVA-sit-P=3MIO Neg just head  
*Ø-eej-ga-njdji nga'laambirr Ø-iinj-ma*  
 3IA-3FE-take-PI cold 3IA-3FE-got  
 'No, he is not sick. He just has a cold in the head.' (B50)

The more extensive proportion of purely ascriptive/equational examples may relate to the comparatively unmarked status of 'to sit', in terms of the semantic oppositions set out in (9-184). The motion verb 'to go' has only a very restricted usage as an existential.

- (9-198) *awoy Ø-a'rreea-bu-ni='godo gu'djiirri nj-djaa-yi-ngi=nga*  
 yes 3IVA-1E-Aux-PI=DUR sick 3IVA-PR-go-PR=1IO  
 'Yes, I was (coughing). I am sick.' (333)

The only common use of 'to go' is in combination with *gu'djiirri* 'sick', as illustrated in (9-198). This combination appears to be a fixed phrasal construction, as the two words always appear in this order (8.2). There is only one other example of 'to go' being used in an existential sense.

- (9-199) *nj-djaa-yi-ngi modongo'loorro njing'gooduwa*  
 3IIA-PR-go-PR pregnant woman  
 'The woman is pregnant.' (135)

This usage is probably not unrelated to the usage exemplified in (9-199). Not only is the use of 'to go' highly restricted in terms of semantic range, it is also restricted by tense. In the past tenses, 'to go' is replaced by forms from the paradigm of 'to go there'.

- (9-200) *gu'djiirri m-bee-ngi=nga maada*  
 sick 3IVA-go.there-PI=1IO yesterday  
 'I was sick yesterday.' (393)

Despite the fact that (9-200) involves the verb 'to go there', this construction does not mean 'I was sick there'. The distal directional meaning of this verb has apparently been replaced by a distal temporal interpretation. Cross-linguistically it is quite common for morphemes, which have a primary function in locational deixis, to develop secondary functions in temporal deixis (Anderson & Keenan 1985 : 297 - 299). This appears to be a relevant factor in (9-201 & 9-202).

- (9-201) *ba'rraanggirr Ø-bee-ngi idj-'baagu*  
 old days 3IA-go.there-PI Aug-kangaroo  
 'In the old days, he used to go for kangaroos.' (B533)
- (9-202) *moodiga ma'gaarrba ma-'ngaarndada ma-'bee-ngi*  
 car that.III III-good 3IIIA-go.there-PI  
*mboodaru gala gaayu moonda iinjdu ng-ga'rdaawi-dji*  
 now okay Neg bad maybe 3IVA-break-Aux.PP  
 'That car used to go well, (but) okay it is no good now. Maybe it is broken.' (B815)

These past habitual examples also lack a 'there' locational component in their meaning.

#### 9.11 Possessive Propositions.

Possessive propositions are coded in a variety of ways in Gaagudju. There are special possessive constructions for kin nouns (3.5), and for part-whole relations (8.8). These are the classic instances of inalienable possession, and these special constructions may reasonably be analysed as inalienable codings of possession. This section is concerned with alienable codings of possession. Both nominal and verbal clauses may be used to alienably code possession.

- (9-203) *ngaanj-ma djaamu*  
 1MIN-PRM tucker  
 'The tucker is mine.' (14)
- (9-204) *gaadju geerrmada Ø-a'rraa-garra-y*  
 dog two.M 3IA-1E-have-PR  
 'I have two dogs.' (349)

As illustrated in (9-204), the verb found in alienable possessive propositions in Gaagudju is *garra* 'to have' (this verb also means 'to grab, to grasp'). While part-whole relations are normally coded as inalienable, they can be coded alienably.

- (9-205) *ngiirla goordo ngaayi moonda goordo ngaayi*  
 aunt arm 1MIN bad arm 1MIN  
 'Auntie, my arm is no good.' (190)

(9-206) *ma'gaarra dji'rriingi baada='yaagada*  
 that.I man leg=short  
 'That man is short-legged.'

*no'woogoda baada Ø-n-daa-garra-y*  
 one.M leg 3IA-3ME-PR-have-PR  
 'He has one leg.' (250)

The use of these alienable constructions most probably correlates with a higher discourse status and level of individuation of the part (8.8). Kin relationships may also be coded with a verbal clause.

(9-207) *Ø-a'rraa-garra-y=mana nga-yi-'waala=mana*  
 3IA-1E-have-PR=MUA 1MIN-I-Y.sibling=MUA  
 'I have two younger brothers.' (A165)

(9-207) is not, strictly speaking, an example of inalienable possession, as the kin noun retains its inalienable possessive marking. Nevertheless the use of a verbal clause does appear to introduce a degree of alienability, by virtue of its finite status. This is more obvious with past tense verbal clauses.

(9-208) *nji-rra-ga'rraa-ri=ndja geeninjdjada nga-nji-'waala*  
 3IIA-1E-have-PI=FUA two.F 1MIN-II-Y.sibling  
*nji-'waarridji ngo'yoogoda*  
 3IIA-died F.one  
 'I had two younger sisters, but one died.' (311)

The verbal construction is the usual form, whenever any non-present reference is to be conveyed. This also holds for part - whole relationships.

(9-209) *ba'rraanggirr baada Ø-an-'gaarra-ri gu-'ngaarndada*  
 old days leg 3IA-3ME-have-PI IV-good  
*geerrmada mboodaru Ø-een-ba irribin'djoori*  
 two.M now 3IA-3ME-ate crocodile  
*no'woogoda baada baada='yaagada*  
 one.M leg leg=short  
 'In the old days, he used to properly have two legs, now a crocodile has eaten one, and he is short-legged.' (C30)

Nominal possessive clauses can presumably also have a non-present interpretation, when there is some contextual indication of this fact (9.10).

## 9.12 Interclausal Relations.

In Gaagudju, there are two morphological systems which are of central importance in interclausal relations: the systems of bound



pronominals, and the demonstrative system. These two systems are the principal means by which discourse cohesion is maintained. Halliday & Hasan (1976 : 4) state that "Cohesion occurs where the interpretation of some element in the discourse is dependent on that of another. The one presupposes the other, in the sense that it cannot be effectively decoded except by recourse to it." Gaagudju has a complex system of bound pronominal reference, which is obligatory in nearly all clauses. This system distinguishes the person categories listed in (9-189) in nearly all cases.

- (9-210) 1st person  
 1+2 person  
 3rd masculine person  
 2nd person/3rd feminine person (these two are frequently neutralised. 7.5)

The Absolutive prefix system also usually distinguishes the 3III and 3IV persons. As such, the system of bound pronominal reference is able to bear much of the burden of maintaining co-reference and cohesion. This system is not however capable of maintaining co-reference and cohesion in situations where all participants belong to the 3rd masculine person, for example. In situations such as this, it appears that the demonstrative system plays a central role in maintaining cohesion.

- (9-211) *ma'gaarra dji'rriingi maada*  
 that.I man yesterday  
*Ø-inj-marro-o'ree-garra=mba ma'naarr Ø-aa-yi-ngi*  
 3IA-Aug-1+2E-see-Aux.PP=AUG that.I 3IA-here-go-PR  
 'That man we saw yesterday is coming up.'  
 [lit. 'We saw that man yesterday. That one is coming up.'] (B213)

- (9-212) *manang'gaa-njdju wa'laalu ma'gaarra anmarra'baalbu*  
 that.IV-SPEC place that.I old man  
*Ø-malarramanj-'mee-gi giimbi dji'rdeebinggi*  
 3IA-turn-Aux-detr.PP stone dreaming  
 'That place is where the old man turned into a stone, a dreaming.' (B500)

In (9-211), the relative clause interpretation is achieved chiefly through the use of *ma'naarr* 'that.I' in a reprise function. In (9-212), the cleft interpretation is achieved chiefly by the appearance of the emphatic specific demonstrative *manang'gaa-njdju* 'that.IV-SPEC', which focusses attention on *wa'laalu* 'place'. Gaagudju has a very complex demonstrative system (6.7.1 & 6.7.3). The complexities of this demonstrative system appear to be primarily textual in nature (6.7.1). However the lack of a reasonable text basis prevents proper elucidation of the textual functions of the demonstratives.

Apart from the demonstrative system, and the systems of bound pronominals, Gaagudju does have a limited system of subordination

(9.12.1). There are also a number of particles and nominals, which function as conjunctions, marking sequential, evitative and causal relationships (9.12.2 & 9.12.3). Conditional sentences do not usually receive any overt marking (though see 9-221). Past conditional sentences appear in the Past Irrealis (7.7.2).

- (9-213) *Ø-ng-goro-ga'rraa-ri arr-'geenma-ri=nu*  
 3IA-1E.IRR-see-Aux-P 1A-say.IRR-P=3MIO  
 'If I had seen him, I would have told him.' (A509)

Non-past conditional sentences may appear in either the Conditional or the Future.

- (9-214) *i-'rree-ma biirndi ma'gaadja a'rree-wagi*  
 3IA-1E-get.FU money that.IV 1A.FU-go back  
 'If/When I get money, I will go back there.' (B125)

- (9-215) *ma'gaadja i-'yeenmi gaala djiirri gu-'ngaa-n-ma*  
 that.IV 3IA-say.FU okay trouble 3IVA-3ME-FU-get  
 'If/When he says that, he will get trouble.' (B125)

- (9-216) *arr-'djee-gi=yu nganj-'ngiirla arr-'gee-wo-ya biirndi*  
 1A-go-CON=3FIO 1MIN-aunt 1A-3E-give-CON money  
 'If I go to my aunt, she will/might give me some money.' (B526)

The difference between the use of the Conditional, and the use of the Future, appears to lie in the probability of the predication that they make about the future. The Future implies intention and/or obligation, whereas the Conditional merely asserts possibility (7.7.4). Thus Conditional sentences with a Future protasis appear to be interpretable as either "when" or "if". Conditional sentences with a Conditional protasis appear to be interpretable only as "if".

### 9.12.1 Subordination.

The analysis of subordination in Gaagudju presents certain complexities. These complexities arise from two different sources. They arise firstly from limitations in the available data. Gaagudju has an enclitic =*ma*, which appears to function as a subordinator. However, it is not commonly attested, and therefore it is not possible to fully determine its range. Complexities arise secondly from the nature of subordination itself in Australian languages (Hale 1976, Merlan 1981b). In Australian languages, subordinate clauses show minimal formal variation from independent clauses (usually the only formal differentiation lies in the presence of a subordinating morpheme on the verb). Subordinate clauses show a loose, and altogether paratactic, relationship to their head.

These patterns appear to operate in Gaagudju. The enclitic =*ma* normally attaches to verbs. These verbs are most commonly attested with adnominal interpretations.

- (9-217) *barri-barri gala nang'gaabirri nj-djaa-ni=ma*  
 place name okay IV.there 3IVA-PR-sit=SUB  
 'Barri-barri, okay, there is where it is.' (B204)
- (9-218) *gaayu i-n-ba'rraa-wa-ri no'woo-yirri anmarra'baalbu*  
 Neg 3IA-IRR-paint-Aux-P 3MMIN-self old man  
*nowo-ga'rnaagarli=da Ø-an-ba'rraa-wa=ma*  
 3M-MMB=MIN 3IA-3ME-paint-Aux.PP=SUB  
 'He did not paint himself. The old man, his MMB was the one  
 who painted him.' (B897)
- (9-219) *Ø-a-wa'gaa-y=mba idj-ba'rdaambarda*  
 3IA-here-go back-PP=AUG Aug-billabong  
*nu=mba=wa'laalu namba'rraagardi ma-'yaa-dji=ma*  
 3MIO=AUG=country yam sp 3IIIA-PR-stand=SUB  
 'They are coming back here from their country, where the  
 namba'rraagardi yams are.' (B700)

These adnominal interpretations include both cleft meanings (9-217 & 9-218), and relative clause meanings (9-219). Hale (1976 : 79) points out that subordinate clauses in Australian languages frequently permit both adnominal and temporal interpretations. This pattern occurs in Gaagudju.

- (9-220) *go'ree-garra=wa nj-djo-ordongo'loo-wa-y giimbi*  
 watch-Aux.IMP=out 3IVA-PR-sway-Aux-PR rock  
*ma'gaadja gu-na-ma'laa-y=ma ba'leeru*  
 that.IV 3IVA-2E-stand on-PR=SUB lest  
*njing-gardanj-bi'mee-ya*  
 2A-fall-Aux-CON  
 'Watch out! That rock you are standing on, is swaying/That rock  
 is swaying while you are standing on it. You might fall.' (B522)

The temporal interpretation of subordinate clauses is only infrequently attested in the available data. There are a couple of examples where the protasis of a conditional takes the subordinator.

- (9-221) *ma'gaarra dji'rriingi ee-n-ya=ma ma'booliyo*  
 that.I man 3IA-FU-go=SUB plain  
*ma-nga-n-badaba'rraa-ya ma'gaayobu*  
 3IIIA-3ME-FU-build-FU shade  
 'If that man goes out onto the plain, then he will have to build a  
 shade.' (B875)

In Rembarrnga (McKay 1975 : 331 - 333) and Ngandi (Heath 1978 : 124 - 125), the protasis of conditionals is formally marked as a subordinate clause. However this is not the usual pattern for conditionals in Gaagudju

(9.12). There are some examples where the function of the enclitic =*ma* is uncertain.

(9-222) *nji-na-ma'daa-wa*      *njing'goonu*  
 3IIA-2E-rub-Aux.PP    firestick  
 'Did you rub the firesticks?'

*nji-rra-ma'daa-wa=ma*      *maardarn*  
 3IIA-1E-rub-Aux.PP=SUB    a little  
 ?'It was a little bit that I rubbed them.'

It may be that (9-222) involves a cleft meaning, as suggested by the translation. This was however by no means obvious from context. The enclitic =*ma* is also attested with one nominal *mboodaru* 'now'.

(9-223) *ma'gaarra i-'laawala i'bardbi Ø-baadji-ngi mboodaru=ma*  
 that.I      I-little      Neg      3IA-crawl-PR      now=SUB  
*garr'maarna i-n-'baadji*  
 later      3IA-FU-crawl  
 'That little boy is not crawling yet. He will start crawling later.'  
 (319)

The interpretation, and indeed the analysis, of (9-223) are uncertain. The combination *mboodaru=ma* may in fact be lexicalised. There are other examples of this particular combination, and =*ma* is not otherwise productively attested with nominals. As such the combination may in fact be a lexicalised affixal form *mboodaru-ma*, parallel to the emphatic forms of the personal pronouns, which appear to involve a lexicalised form of =*ma* (6.6). Alternatively if the combination is productively analysable, then it may constitute an example of the enclitic attaching to a constituent, other than the verb, while maintaining scope over the entire clause.

Given the limitations and uncertainties of the data, it is not possible to properly determine the commonalities which may underlie the various interpretations of subordinated forms. However, there do appear to be some profitable lines of enquiry. Merlan (1983 : 136) suggests that the function of subordination is "to signal that the clause ... is not to be interpreted in its own right, but is to be interpreted with reference to some other constituent". This would appear generally to be the function of subordinate forms in Gaagudju as well.

### 9.12.2 Sequential and Evitative Relationships.

Sequential relationships are marked by the forms listed in (9-224).

(9-224)      =*ru*      'first'  
               *garr'maarna*      'after, later'  
               *ba'leeru*      'later, lest'

The enclitic =*ru* indicates initial priority in an event sequence.

- (9-225) *ma'gaarra dji'rriingi Ø-ee-bu=ru*  
 that.I man 3IA-here-went=first  
 'That man came here first.' (B429)
- (9-226) *ma'gaarra=mana=ru gu-nga-n-ga'baanj-ma=mana*  
 that.I=MUA=first 3IVA-3ME-FU-go ahead-Aux=MUA  
*ma'nee-mba baarri*  
 1+2=AUG behind  
 'Those two first, they will go ahead. We (will come) behind.'  
 (C172)
- (9-227) *njeem-bu shop ngo'yoo-ro*  
 2A-went shop 3FMIN-first  
 'Did you go to the shop, it first?' (B394)
- (9-228) *no'woo-ro nga-'djaadja Ø-an-go'ree-garra*  
 3MMIN-first 1MIN-uncle 3IA-3ME-see-Aux.PP  
 'My uncle was the first one to see it.' (B783)

As illustrated in (9-227 & 9-228), this morpheme occurs as a suffix with the personal pronouns (6.6). The distinction between the nominal and verbal placement of =*ru*, presumably corresponds to the distinction between indicating that an event is predicated first of a particular entity, and indicating that an event was the initial event in a sequence of events. The temporal particle *garr'maarna* 'after' indicates that an event is temporally ordered after a particular reference point. That reference point may be another event, as in (9-229).

- (9-229) *yaarr-bu maarrgi=nu garr'maarna arr-ga-wa'gaa-y*  
 1A-went clever=3MIO after 1A-here-go back-PP  
*yaarr-bu shop*  
 1A-went shop  
 'I went to the doctors'. After(wards) I came back and I went to the shop.' (B395)

Alternatively, if no specific reference point is given, then the present will serve as the reference point.

- (9-230) *i-'laawala njing-ga-n-dorr'nggooma a'rdaadji*  
 I-little 2A-here-FU-go in inside  
 'Little boy, are you going to come inside here?'  
  
*awoy garr'maarna arr-ba-n-dorr'nggooma*  
 yes later 1A-there-FU-go in  
 'Yes, I will go in there later/after(wards).' (B98)

The other temporal particle *ba'leeru* 'later, lest' indicates that an event is contingent. This contingency may be one of simple futurity.

- (9-231) *i-'laawala njee-n-ya a'rdaadji nji-n-'doornggoma*  
 I-little 2A-FU-go inside 2A-FU-go in  
 'Little boy, are you going to go inside?'

*awoy ba'leeru nj-djorr'nggooma a'rree-yu*  
 yes later 1A.FU-go in 1A.FU-sleep  
*nj-djorr'nggooma a'rree-yu ngo'rroongirr*  
 1A.FU-go in 1A.FU-sleep asleep  
 'Yes, later on, I will go in and sleep.' (B60)

As such the ranges of *ba'leeru* and *garr'maarna* overlap to a degree. However, there are also significant differences in their ranges. There are no examples where *ba'leeru* has a non-future reference, as *garr'maarna* does in (9-229). Further, *ba'leeru* is not commonly attested with a simple future meaning. It is most commonly attested with an evitative meaning, as in (9-232).

- (9-232) *gooyida njing-'gaama-y i-'laawala ba'leeru*  
 Neg.IMP 2A-say-PR I-little lest  
*nji-n-'ngeewi yung'gaalya nji-n-'buu-ya*  
 2A-3ME-hear.CON devil 2A-3ME-kill-CON  
 'Don't say (that), little boy! Lest a devil hear you and kill you!'  
 (B671)

Given that evitatives form a particularly salient class of contingent events, this pattern of attestation is unsurprising. The combination of *ba'leeru*, and a clause or clauses with Conditional tense verb forms (7.7.4), illustrated in (9-232), is the standard pattern for expressing evitative meanings. Further the particle *ba'leeru* is standardly ordered between the protasis (the "if" clause), and the Conditional clause or clauses. There is therefore reason to formally analyse (9-232) as being an example of an evitative sentence. Evitative sentences have the structure set out in (9-233).

- (9-233) protasis clause + *ba'leeru* + Conditional hypotaxis clause

There do not appear to be any formal limitations on the nature of the protasis clause.

- (9-234) *Ø-arra-ma'rdee-ga-ba djaarli ba'leeru gaadju*  
 3IA-1E-hide-Aux-Aux.PP meat lest dog  
*Ø-n-dee-gi*  
 3IA-3ME-eat-CON  
 'I hid the meat, lest the dogs should eat it.' (322)

- (9-235) *gurrbu'laambirr njim-'baalgi ba'leeru arr-'gee-bi-ya*  
 bullant II-lots lest 1A-3E-bite-CON  
 'There are lots of bullants. (I had better watch out) lest they bite me.' (B573)

(9-234) involves a past tense protasis clause, and (9-235) involves a nominal protasis clause. There are a few examples of evitatives, which do not conform to the template in (9-233).

- (9-236) *go'ree-garra=wa i-'laawala nj-djardaga'rdeega ma'gaarrba*  
 watch-Aux.IMP=out I-little 2A-play.PR that.III  
*dju'baarra nj-djii-ragi ba'leeru*  
 stick 2A-3FE-stab.CON lest  
 'Watch out where you are playing, little boy! Lest that stick stab you!' (B542)

- (9-237) *ba'leeru a'rreengi manang'gaa-njdju moobiyu*  
 lest 1A.sit.CON that.IV-SPEC animal  
*arr-'gee-bi-ya na'yiirrirri Ø-baalgi*  
 1A-3E-bite-CON ant I-lots  
 'Lest I sit there, the ants might bite me. There are lots of ants.' (B580)

There are insufficient examples of these variations in ordering to properly determine their function. It may be noted that in both examples, *ba'leeru* appears at the periphery of the sentence. In (9-237) at least, it may have scope over the entire sentence, as indicated by the translation.

### 9.12.3 Causal Relationships.

This class of relationships is marked by the forms listed in (9-238).

- (9-238) *manang'gaarr* 'then, so'  
*manang'gaarr gu-'djiinba* 'that is why'  
*ba'rdaba* '(and) then, (and) as a result'

The demonstrative *manang'gaarr* is the least specific of the causal markers, marking the whole range of resultative-causal meanings.

- (9-239) *ba'leeru ma-'rraa-ma djaamu ma-'nee-n-da*  
 later 3IIIA-1E-get.FU tucker 3IIIA-2E-FU-eat  
*manang'gaarr nji-n-ba'loolburrbu*  
 that.IV 2A-FU-full up  
 'Later I will get some tucker. You can eat it, then you will be full up.' (B380)

- (9-240) *iinjdju ngame'neega arr-'gee-bu-mu iinjdju*  
 I wonder why 1A-3E-hit-PP maybe  
*bi'laarra='ngaayu ma-'naabirri Ø-arra-ga'rdaa-gama*  
 spear=3FDAT PRM-I.there 3IA-1E-break-Aux.PP  
*manang'gaarr arr-'gee-bara*  
 that.IV 1A-3E-strike.PP  
 'I do not know why he hit me. Maybe it was over that spear. I broke it, and so he struck me.' (B759)

As indicated, *manang'gaarr* is a Class IV demonstrative form. It belongs to the paradigm of *ma'naarr* 'that' (6-128). The use of a Class IV form appears to correlate with the fact that Class IV is semantically the unmarked residue class in Gaagudju (6.4). As such Class IV is the appropriate Class for reference to clauses. This demonstrative is also found in the phrasal lexeme, *manang'gaarr gu-'djiinba* 'that is why', which codes explicitly causal meanings. The other constituent of this phrasal lexeme is the Declension 1 adjective *-djiinba* 'reason'.

- (9-241) *arr-'gee-mala manang'gaarr gu-'djiinba*  
 1A-3E-kick.PP that.IV IV-reason  
*Ø-arra-nganaba'rree-ngi*  
 3IA-1E-whip-PR  
 '(That horse) kicked me. That is why I am whipping it.' (B190)

- (9-242) *ma'gaarra ma-n-'daa-ri='godo djaamu ma-'baalgi*  
 that.I 3IIIA-3ME-eat-PI=DUR tucker III-lots  
*manang'gaarr gu-'djiinba gu'djiirri*  
 that.IV IV-reason sick  
 'That (kid) ate too much tucker. That is why he is sick.' (B289)

This lexeme usually appears in a Class IV form, presumably because it usually refers to a proposition, rather to a particular entity. However it is possible for this lexeme to refer to an entity, rather than a proposition. Thus the Class III form *mana'maarr ma-'djiinba* occurs in the story in Appendix 5, where it has a Class III referent. I have also heard a Class I form *ma'naarr Ø-djiinba* 'because of him', in conversation. The full paradigm for this phrasal lexeme is presumably that set out in (9-243).

- (9-243) 'that is why'  
 I *ma'naarr* Ø-*djiinba*  
 II ?*manan'yaarr* *nj-djiinba*  
 III *mana'maarr* *ma-'djiinba*  
 IV *manang'gaarr* *gu-'djiinba*

The Class II form is not attested in the available data. The form given in (9-243) is the form that is predicted on the basis of the paradigm of *ma'naarr* (6-128), and the Class II form of Declension 1 adjectives that begin with /dj/ (6-30).



Specifically resultative meanings are coded by the particle *ba'rdaba* '(and) then'. This particle marks a contingent causality: where the occurrence of one event will result in the occurrence of another event.

(9-244) *go'rdee-ni-ya gu'djaali ba'rdaba moonja ee-n-ya*  
 light-Aux-IMP fire and then mosquito 3IA-FU-go  
 'Light a fire, and then the mosquitoes will go (away).' (B681)

(9-245) *maaba ba'ree-ya ma-ng-go'ree-garra=nja='ngaardi iinjdu*  
 wC here-go.IMP 3IIIA-1E.FU-look-Aux=2IO=head maybe  
*ma'neengul ba'rdaba ma'rree-ya=nu maarrgi=nu*  
 blood and then 1+2A-go.FU=3MIO clever=3MIO  
*ma-nga-n-ba-'boorda=nja='ngaardi*  
 3IIIA-3ME-FU-bandage-Aux=2IO=head  
 'Son, come here! I want to look at your head. There might be blood. (If there is), then we will go to the doctor, and he will bandage up your head.' (B621)

This particle is very similar formally to the temporal particle *ba'leeru* 'later, lest' (9.12.2). In the same way that an evitative sentence involving *ba'leeru*, can be formally defined (9-233), it appears that resultative sentence type involving *ba'rdaba*, can be formally defined as in (9-246).

(9-246) Cause clause(s) + *ba'rdaba* + Result clause(s)

All the available examples of *ba'rdaba* conform to this pattern. The formal similarities between *ba'rdaba* and *ba'leeru* reflect functional commonalities. The principal functional commonality lies in the fact that they both indicate contingent status.

(9-247) *garr'maarna ba'rree-wu ma-'baalgi djaamu ba'rdaba*  
 later 2A-1E-give.FU III-lots tucker and then  
*nji-n-ba'loolburrbu*  
 2A-FU-full up  
 'Later I will give you lots of tucker, and then you will be full up.'  
 (B642)

A comparison of (9-247) with (9-239) reveals that the ranges of *ba'rdaba* and *manang'gaarr* overlap in the domain of future results. However there are no analogues of (9-240), where *manang'gaarr* marks a past result, attested with *ba'rdaba*.

## 9.13 Particles.

A. *ada'rraanggada* : 'wrongly'

This particle indicates that an action was performed with respect to the wrong Object. With ditransitive verbs it was recorded referring to both non-Subject subcategorised arguments.

- (9-248) *ma'gaarra biirndi Ø-a'rraa-wu ada'rraanggada ngoondji*  
 that.I money 3IA-1E-give.PP wrongly other  
*dji'rrringi i-'rree-wu-ni naarri*  
 man 3IA-1E-give-PIRR I.here  
 'I gave that money wrongly to the other man. I should have given it to this bloke here.' (B329)

- (9-249) *ma'gaadja Ø-nee-wu=mba ada'rraanggada ngoondji*  
 that.II 3IA-2E-give.PP=AUG wrongly other  
*djaamu Ø-naa-n-u-ni=mba ngoondji djaamu*  
 tucker 3IA-2E-IRR-give-P=AUG other tucker  
 'You wrongly gave those women (the tucker). You should have given them some other tucker.' (B387)

B. *buu* : 'nearly, soon'

This particle indicates that an event did almost occur, or is almost about to occur.

- (9-250) *ma'gaarra dji'rrringi buu i-n-gardanj-bi'mee-ni*  
 that.I man nearly 3IA-IRR-fall-Aux-P  
 'That man nearly fell over.' (A245)

- (9-251) *buu gu-n-'maarra-gi gu'djaali*  
 soon 3IVA-FU-die-Aux fire  
 'The fire will go out soon.' (298)

- (9-252) *buu ba-'rree-m-bu nji-n-'meedji*  
 soon 2A-1E-FU-hit 2A-FU-cry  
 'I will hit you soon, and you will cry.' (437)

C. *gaala* : 'okay'

This particle has a reasonably high frequency of occurrence in any casual semi-conversational style of Gaagudju. It appears to be fairly much equivalent in meaning to the Australian English expressions 'all right, okay'. Like these forms it appears that the chief function of *gaala* is as a reasonably casual request for the hearer's assent, or attention, to whichever proposition the speaker has put forward.

(9-253) *gaala arr-ba'loolburrbu*  
 okay 1A-full up.PP  
 'Okay, I am full up.' (150)

(9-254) *ngoorro gaala ba'leeru barr-'buu-ya*  
 go.IMP okay lest 2A.1E-hit-CON  
 'Go! okay!, lest I hit you.' (B676)

(9-255) *yaana-Ø djaarli*  
 where-I meat  
 'Where is the meat?'

*naabirri Ø-barrabard-'bee-nggi*  
 I.there 3IA-hang-Aux-detr.PR  
 'It is there. It is hanging up.'

*gaayu=nu='gaala*  
 Neg=3MIO=okay  
 'It is not (there) now/There is nothing okay.' (B43)

The function of *gaala* in the incorporation construction in (9-255) is not clear. It perhaps requests the hearer's assent to the proposition that the meat is gone.

D. *gada* : 'Expectation'.

This particle indicates that an event was subject to expectations. The event may have occurred either in contradiction to expectations, or in accordance with expectations.

(9-256) *arr-'djii-ngi maada bard'banawarr gada*  
 1A-go-PIRR yesterday Jabiru EXP  
*ng-ga'rdaawi-dji moodiga*  
 3IVA-break-Aux.PP car  
 'I wanted to go to Jabiru yesterday, but the car was broken.' (A28)

(9-257) *gu-na-ada'baa-ri=nu='godo maarri='maarri mo'goongo*  
 3IVA-2E-look for-PI=3MIO=DUR knife O.sister  
 'Did you look for the knife, older sister?'

*awoy Ø-arra-ada'baa-ri=nu='godo maada gada*  
 yes 3IVA-1E-look for-PI-3MIO=DUR yesterday EXP  
*Ø-a'r-raa-bara=da*  
 3IA-1E-Aux.PP=find  
 'Yes, I looked for it yesterday, and so I found it.' (B51)

(9-258) *Ø-nee-bara baagu*  
 3IA-2E-spear.PP kangaroo  
 'Did you spear any kangaroos?'

*awoy geerrmada Ø-a'r-raa-bara*  
 yes two.M 3IA-1E-spear.PP  
 'Yes, I speared two.'

*gada gu-'nee-raga=nu='ngoolhgirr*  
 EXP 3IVA-2E-Aux.PP=3MIO=roast  
 'But/and so, did you roast them in hot sand?' (A288)

- (9-259) *gaayu ng-gadawarra'maa-yini gada Ø-yoo-ri Ø-a'rree-nawa*  
 Neg 1A.IRR-forget-P EXP 3IA-lie-PR 3IA-1E-put.PP  
 'No I did not forget it. I expect that it is lying where I put it.'  
 (A407)

The exact interpretation of *gada* appears to depend on contextual factors.

E. *gooro* : 'like (that), likewise'

This particle indicates similarity. It may indicate similarity both between entities, and between events.

- (9-260) *ma'gaarra i-'laawala gooro nowo-'baaba=da*  
 that.I I-little like 3M-father=MIN  
 'That little boy is like his father.' (B598)

- (9-261) *ba-ng-go'roodja wa'laalu gooro I. arr-'bee-ngi=mba*  
 2A-1E.FU-show country like name 1A-go there-PI=AUG  
 S.  
 name  
 'I will show you the country like (I showed) I. when we went there with S.'

This particle is also frequently attested with an apparent meaning of 'in turn'. This may be analysed as an interpretation of 'likewise'.

- (9-262) *ngaayi Ø-arro-odo-bidj-'biiri-ngi='godo maada djaarli*  
 1MIN 3IA-1E-cut-up-Aux-PI=DUR yesterday meat  
*ngiinja-ma gooro godo-bidj-'biiri-ya djaarli*  
 2MIN-PRM likewise cut-up-Aux-IMP meat  
 'I cut up the meat yesterday. You cut up the meat likewise (today)/ It is your turn to cut up the meat (today).' (B285)

F. *iinjdu* : 'Speaker's Assessment'

This particle is well attested throughout this grammar. It has an evidentiary function, and indicates that the clause has been subject to the speaker's assessment. It may indicate a considerable range of assessment,

extending from uncertainty and lack of knowledge, through to a reasonable degree of certainty. It may be translated by a wide range of expressions 'maybe, must be, I wonder, I think'.

G. *iiwo* : ?

The meaning of this particle is uncertain. It is not commonly attested. In the available examples it always occurs clause-initially, in a response, usually to a question.

- (9-263) *ya-njing-'gaama-y ma'gaadja njing'gooduwa*  
 what-3IIA-do-PR that.II woman  
 'What is that woman doing?'

*iiwo ga'djaalnga Ø-i-yarda'baa=nu*  
 ? turtle 3IVA-3FE-look for=3MIO  
 'She is looking for turtles.' (A166)

- (9-264) *njing-'goornya='miirdi ngame'neega*  
 2A-Aux.PP=look back why  
 'Why did you look back?'

*iiwo arr-gadawarra'rraama djaarli Ø-a'rree-nawa*  
 ? 1A-forgot meat 3IA-1E-put.PP  
 'I forgot where I put the meat.' (A340)

- (9-265) *ya-njing-'gaama-y*  
 what-2A-do-PR  
 'What are you doing?'

*iiwo niinjdja arr-'djaa-ni*  
 ? just 1A-PR-sit  
 'I am just sitting.' (B37)

- (9-266) *go'ree-garra=wa yaana-ngga nj-dja-balaban'djoo-ri*  
 watch-Aux.IMP=out where-IV 2A-PR-run-PR  
*njing-ga-ba'laabandji-ngi ngaanj-ma='nggaana*  
 2A-here-run-PI 1MIN-PRM=LOC  
*nga-na-ba'dee-ga-ba*  
 1A-2E-knock-Aux-Aux.PP  
 'Watch out where you are running. You ran into me and knocked me over.'

*iiwo arr-baga'rnaa-wa-ri=mana='godo ngoondji i-'laawala*  
 ? 1A-chase-Aux-detr.PI=MUA=DUR other I-little  
*gada gaayu ba-ng-goro-ga'rraa-ri*  
 EXP Neg 2A-1E.IRR-see-Aux-P  
 'I was playing chasings with another little boy, and so I did not see you.' (A428)

The fact that this particle is attested in responses argues that it has a significant interactional component to its meaning. (9-265 & 9-266) suggest that the speaker may use *iiwo* to signal to the hearer that the hearer's previous contribution was unreasonable, either in being unfairly accusatory, or in constituting an imposition. A fuller database would be required to test this hypothesis.

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