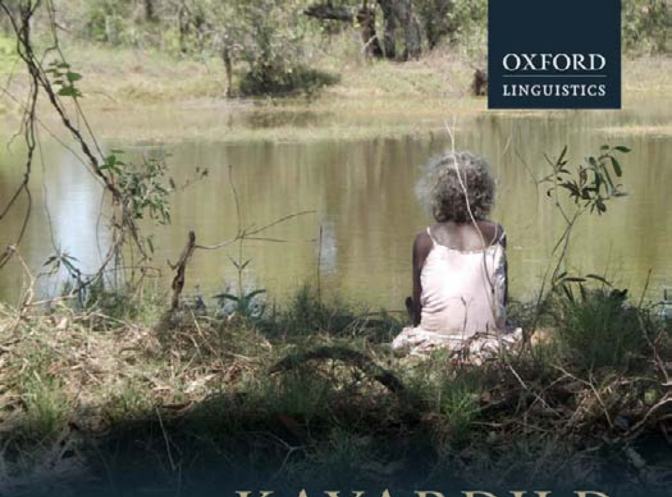

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KAYARDILD MORPHOLOGY AND SYNTAX

Erich R. Round

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Kayardild Morphology and Syntax

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For my grandparents and Aunty Dawn

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General Preface

The volumes in this series bring original material from endangered languages to bear on a range of issues in our understanding of the nature of human language. The importance of the study of endangered languages for linguistic theory is widely acknowledged, as is the need to document linguistic structures that are in danger of disappearing from view in the near future. Similarly, the importance of recording and preserving the diverse range of human languages for broader cultural and ethical reasons is undeniable. Unfortunately, difficult problems are posed by the desire to satisfy the twin goals of comprehensive description on the one hand and of highlighting the theoretical significance of specific areas of a language's structure on the other in a single work of manageable size. As a result, linguists approaching the documentation of the world's many endangered languages face something of a dilemma. Many researchers have collected important information on some areas of the languages they work on without being in a position to produce a full grammar, or perhaps in the presence of other literature that accomplishes that basic descriptive goal adequately but without detailed attention to specific points of unusual structure. Furthermore, comprehensive grammars tend to be very large and expensive to produce, while having a limited audience.

Oxford Studies of Endangered Languages aims to support the publication of theoretically informed work on endangered languages, while striking a balance among these concerns. Books in the series do not attempt to provide full grammars, but rather combine the documentation of portions of (one or perhaps more) endangered languages with sophisticated analysis that establishes the theoretical interest of the facts described. In the process, they contribute to the explication of the role endangered languages can play in enhancing our understanding of the diversity of the human language faculty.

The series intends to cover all areas of linguistic structure from phonetics and phonology through morphology and syntax to semantics and pragmatics. It is open to work produced in a variety of theoretical frameworks, the only requirements being that the analysis be explicit and make testable claims within some framework of assumptions about the nature and organization of language, while being based in substantial part on material whose publication serves the goal of enhancing the documentation of the language(s) under investigation.

The present volume addresses the incredibly complex inflectional morphology of Kayardild, a rapidly disappearing aboriginal language of Australia, which has fascinated linguists since its first presentation in the landmark work of Nicholas Evans (1995a). Erich Round presents a very different view of the nature of that complexity, on the basis of a review of the existing documentation by Evans and others, together with considerable additional field research—conducted while it is still possible to work with fluent speakers of a language that will soon be inaccessible to linguistic science. In the process, he illuminates not only the structure of a fascinating language but also the place of morphological structure in a comprehensive picture of natural language.

Stephen R. Anderson

Preface

The primary concern of this book is the formalization of the inflectional system of Kayardild and those parts of the grammar with which it interfaces. As I discovered in the course of research, the most striking part of the 'grammar with which it interfaces' is an intricate and highly articulated syntactic structure which for the most part is not evident in surface word order, yet is indispensible if one wishes to account for the facts of inflection. Hence the title of the book, *Kayardild Morphology and Syntax*. Questions of morphology lead directly to matters of syntax, in addition to some rather complex matters of pure morphology and phonology.

The aim is sound formal analysis of valid empirical generalizations. Thus, rather than developing a specific theory, I attempt to clarify exactly what it is about Kayardild that any theory must respond to. This involves establishing just what the empirical generalizations are that require formalizing, and to that end the book adds to the basic documentation of Kayardild by presenting a substantial amount of data which has not appeared before. The analysis itself has taken shape over the past seven years. An earlier stage of its development was my 2009 Yale Ph.D dissertation 'Kayardild phonology, morphology and morphosyntax'. Here I have set the phonology largely to one side and developed further the analysis of the morphology, especially the inflectional morphology, and its relationship to syntactic structure. While much remains the same as in my dissertation much has also progressed. Several analyses have been refined and further consolidated. Counter-arguments to proposals in the literature have been strengthened where I found they could be. In some instances this has required a treatment of aspects of Kayardild syntax which did not feature in the dissertation, such as clauses with multiple verbal heads, and in some cases it has been possible to identify new or different data in my corpus in order to clarify certain empirical issues. One welcome surprise was the emergence of two additional, low-frequency adverbial embedded VP types in Kayardild. The specific syntactic properties of these suggested some new approaches to the question of where in the grammar certain observable upper bounds on syntactic complexity originate. I argue that they are not due to morphological limitations but are inherently syntactic.

The book will assume familiarity with fundamental linguistic concepts and rigorous approaches to analysis, but not any specific formal theory. It will appeal to professional linguists and advanced students who have an interest in morphological and syntactic typology, and formal theories thereof, as well as to those who would simply like to hear more about the Kayardild language and its fascinating morphology and syntax. The final chapter on morphological realization will be relevant to phonologists concerned with the morphology–phonology interface and with correspondence theory within constraint-based grammar more generally.

Acknowledgements

My first thanks are to the loving and knowledgeable Kaiadilt elders who taught me their language, shared their songs and stories, showed me their ways and their country, who patiently answered my endless questions, and adopted me openly into their family: †Pat Gabori, Sally Gabori, Amy Loogatha, Netta Loogatha, Dolly Loogatha, †May Moodoonuthi, †Dawn Naranatjil, Paula Paul, and Ethel Thomas. Thanks also to the broader Kaiadilt community which supported me and took care of me, both on Bentinck Island and on Mornington Island.

It is a great pleasure to thank the three inspirational linguists who served on my dissertation committee. Steve Anderson was my principal dissertation advisor and has contributed enormously to improving the analysis herein. Nick Evans has played many roles, having introduced me to the Kaiadilt people, served on my dissertation committee and provided robust and detailed feedback at many points along the way. Claire Bowern was first a dissertation committee member then a supervisor during my postdoctoral research at Yale. Each has contributed in innumerable, often subtle and cumulative ways to this work. I would especially like to emphasize my gratitude to Nick Evans, since in the course of the book I am compelled at times to express disagreement with analyses that he has advocated energetically. In linguistics though, having tested our ideas under the most strenuous of scrutiny we must then be faithful to them, and all three of Steve, Nick, and Claire have helped me enormously to do this. In the end of course, all responsibility for oversights or errors is entirely my own.

It is likewise a pleasure to thank many others who have supported this project throughout its development. For support in the field, I am indebted to Cameo Dalley, Brett Evans, Alder Keleman, Paul Memmott, Carl and Eunice Oberdorf, Dan Rosendahl, Sean Ulm, Rob and Carol Watters, and the broader Kaiadilt community. For their thoughts and debates on ideas related to the book, my sincere thanks to Mark Aronoff, Grev Corbett, Martin Maiden, Andy Spencer, Greg Stump; to two reviewers for detailed and very useful comments on what has become Chapters 4–9; also to the participants of the Workshop on Morphological Complexity at Harvard in January 2010, the conference Perspectives on the Morphome in Coimbra in October 2010, and the Conference on Morphological Complexity in London in January 2012.

I am fortunate to have received excellent support at the institutional level. The Hans Rausing Endangered Languages Project funded my three field trips and one year of my doctoral stipend (projects FTG0025 and IGS0039). The National Science Foundation funded my two years of postdoctoral research at Yale (project BCS-0643517). The Australian Research Council project *Isolation, Insularity and Change in Island Populations* enabled me to conduct comparative research on the

Tangkic languages. The Department of Linguistics at Yale was my institutional home from August 2004 to July 2011, and provided my doctoral fellowship for four of those years. Since then I have moved to the School of Languages and Comparative Cultural Studies at University of Queensland, which provided travel support in 2012. The Linguistics programme at the University of Melbourne also hosted me on several occasions during my period of fieldwork. The Mornington Island Council and the Kaiadilt Corporation facilitated my visits to Bentinck and Mornington Islands. My gratitude to all of these institutions for granting me the time, permissions, and resources to pursue this project.

In the preparation of the book I have had the pleasure of working with Julia Steer at Oxford and series editor Steve Anderson, to whom I express my thanks. My appreciation also to the brilliant AusPhon summer research crew at the University of Queensland in 2011–12 for assistance with proofreading.

On a personal note I wish to express deep gratitude first and foremost to Joanna Breneman, and to Scott McClure, Carl Moller, Mike Proctor, and to my family, Cathy, Ian, Jon, Lee, and Greg Round.

Picture Acknowledgement

The cover photograph is of Thundiyingathi Bijarrba May Moodoonuthi, taken in 2007 at Nyinyilki in south-eastern Bentinck Island, during a break in an active afternoon of visiting traditional sites. This tranquil bank of the lake was a favourite of May's, and a great place for gathering lily roots. May was born around 1929 at Thundiyi in northern Bentinck Island, and married Darwin Moodoonuthi after moving to Mornington Island as a young woman. Though she had no biological children of her own, she helped raise many other Kaiadilt children. May became deaf later in life but remained an active and proud story teller to the end. She passed away in 2009.

List of Abbreviations

A	adjective
ABL	ablative
ABLC	compass ablative
ABLO	objective ablative
ABLS	subjective ablative
ACT	actual
Adv	adverb
AdvP	adverb phrase
ALL	allative
ALLC	compass allative
ALLH	human allative
ANTA	athematic antecedent
ANTT	thematic antecedent
AP	adjective phrase
APPR	apprehensive
ASSOC	associative
CMP	complementization
COLL	collative
COMP	complementization
CONS	consequential
CONT	continuous
D	determiner
DAT	dative
DEN	denizen
DES	desiderative
DIRA	athematic directed
DIRT	thematic directed
DON	donative
DP	determiner phrase
DU, du	dual
EMO	emotive

EVITO	objective evitative
EVITS	subjective evitative
FUNC	functional
FUT	future
GEN	genitive
HORT	hortative
IMM	immediate
IMP	imperative
INC	increment
INCPA	athematic incipient
INCPT	thematic incipient
INS	instantiated
INST	instrumental
J	thematic
LOC	locative
M	morphomic level of representation
N	noun
NEG	negation
NEGAT	negatory
NL	non-lexical
NONVER	nonveridical
NP	noun phrase
Num, NUM	number
OBL	oblique
ORIG	origin
PL, pl	plural
POT	potential
PRECA	athematic precondition
PRECT	thematic precondition
PRES	present
PRIOR	prior
PRIV	privative
PROG	progressive
PROP	proprietive
PST	past
PURP	purposive

RES	resultative
SEJ	sejunct
SEMBL	semblative
sg	singular
T	termination
TAM	tense/aspect/mood
TAMA	athematic tense/aspect/mood
TAMT	thematic tense/aspect/mood
TH	thematic
TRANS	translative
UTIL	utilitive
V	verb
VP	verb phrase
μABL	morphomic ablative
μABLC	morphomic compass ablative
μABLO	morphomic objective ablative
μADDICT	morphomic addict
μALL	morphomic allative
μALLC	morphomic compass allative
μALLH	morphomic human allative
μANOTH	morphomic another
μAPPR	morphomic apprehensive
μASSOC	morphomic associative
μAWAIT	morphomic awaiting
μBORN	morphomic born
μBOUND	morphomic boundary
μCAUS	morphomic causative
μCONS	morphomic consequential
μCONT	morphomic continuous
μDAT	morphomic dative
μDEAR	morphomic dear
μDEN	morphomic denizen
μDEPO	morphomic deportmentive
μDES	morphomic desiderative
μDON	morphomic donative

μDU	morphomic dual
μEND	morphomic end
μEVITO	morphomic objective evitative
μFACT	morphomic factative
μGEN	morphomic genitive
μGENL	morphomic genitive ligative
μHAIL	morphomic hail
μINCH	morphomic inchoative
μINST	morphomic instrumental
μINY	morphomic '*iny*'
μLADEN	morphomic laden
μLLOC	morphomic long locative
μLOC	morphomic locative
μMID	morphomic middle
μMOV	morphomic movement
μN	morphomic nominalizer
μNEG	morphomic negative
μOBL	morphomic oblique
μORIG	morphomic origin
μPL	morphomic plural
μPLENTY	morphomic plenty
μPOSS	morphomic possessive
μPRIV	morphomic privative
μPROP	morphomic proprietive
μRCP	morphomic reciprocal
μREM	morphomic remote
μRES	morphomic resultative
μSAME	morphomic same
μSEJ	morphomic sejunct
μUTIL	morphomic utilitive
μYON	morphomic yonder
Φ	underlying phonological level of representation
Σ	morphosyntactic level of representation

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1

Introduction

Kayardild possesses one of the most exuberant systems of morphological concord, and *Suffixaufnahme*, yet attested. In part, this has come about historically as the result of a major refunctionalization of the inherited proto-Tangkic morphological inventory. Suffixes which once marked case now attach to nominal and to verbal stems to mark case, two distinct systems of tense, and clausal complementization. Suffixes which once served solely as derivational nominalizers now also mark tense, and suffixes which once functioned as derivational verbalizers now also mark case and subordinate clause tense. As a consequence, the synchronic grammar of Kayardild is dominated by individual forms associated with multiple functions across both the derivational and inflectional components of the morphology. Explaining how such similarities of form relate to a diversity of functions, and how those in turn interlock with the intricacies of Kayardild syntax, is the task taken up in this book. The challenge is substantial, but the reward is an illuminating insight into an unusual and fascinating linguistic system.

The approach taken is one of formal analysis trained upon a comprehensive empirical data set. The focus is not on fragments of the inflectional morphology but on the entire system, including those aspects of Kayardild's syntax and phonology with which it interfaces. In addition to formal analysis the book presents a significant amount of new primary data. The theoretical outlook is **realizational** in the sense of Stump (2001:1). As such I assume that information passes from the syntactic/semantic component of the grammar to the inflectional morphology, where it is realized as the underlying phonological form of a word. As we will see, the classic, structuralist notion of the morpheme as a minimal unit simultaneously of meaning and sound is explicitly rejected as unsuitable for capturing the complexities of Kayardild morphology. In this regard the present work continues and expands upon a rich line of progress in morphological theory over the past several decades encompassing Matthews' (1974) seminal critique of classical morphemic theory, feeding into A-morphous morphology (Anderson 1992), Network Morphology (Corbett and Frazer 1993), Distributed Morphology (Halle and Marantz 1993, 1994), Lexeme-morpheme Base Morphology (Beard 1995) and Paradigm Function Morphology (Stump 2001). Despite the strong affinities of the present volume with these theories, a familiarity with them will not be assumed. All of the requisite machinery for analysing the inflectional system of Kayardild will be introduced explicitly over the course of the book. The central aim here is not to fit Kayardild data into any given theory or to test a theory against the data, but to formulate an analysis which does justice to the complex empirical facts of the language. Many morphologists will not be surprised, however, to see that Kayardild provides confirmation for the most fundamental developments in recent scholarship as well as interesting and new lines of support.

1.1 The Kayardild language, its speakers, and sources

Kayardild is a member of the non Pama-Nyungan, Tangkic family of languages, spoken traditionally by the Kaiadilt people of the Southern Wellesley Islands located at the southern end of the Gulf of Carpentaria, off the north coast of Australia. At the time of writing Kayardild is spoken in its traditional form by just one speaker, aged in her mid-eighties. A cohort of younger speakers of around sixty years of age speak a variety of Kayardild which is similar to the traditional language but which departs from it in various respects. For an extended introduction to the linguistic situation in recent times, see Evans (1995a:8–50). The object of study here will be the traditional variety of Kayardild. Where necessary the speakers of this variety will be referred to as **senior speakers**. Members of the younger cohort will be referred to as **younger speakers**. Members of both sets of speakers self-identify, and identify one another, consistently.

Genealogically speaking Kayardild is a Southern Tangkic language, which finds its place within the Tangkic family as shown in Figure 1.1. It is the last of the Tangkic languages still to be spoken.

The *locus classicus* of Kayardild is Evans' (1995a) *A Grammar of Kayardild*,[1] a revised version of Evans' 1985 Ph.D. dissertation from the Australian National

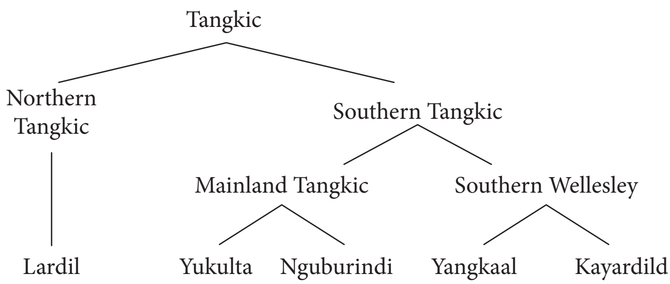


FIGURE 1.1 The Tangkic language family, after Evans (1995a)

[1] Reviews have been published as Dixon (1998) and Majewicz (1999).

University. Primarily through this source Kayardild has become known as a language with one of the most exuberant systems of inflectional concord in the world, a system which will be of considerable interest here. In addition to Evans (1995a), this book takes as its empirical basis three primary sources.

The first is a set of recordings produced on field trips made during my doctoral studies. Three seasons were spent working with speakers who at the time were the last four in command of the traditional variety of Kayardild, together with the younger speakers mentioned above. Visits to Bentinck and Mornington Islands took place over two months in 2005, four months in 2006, and three months in 2007.[2] During the seasons in the field it was not possible to work with senior speakers of Kayardild in a manner which could be characterized as 'elicitation'. Attempts at collecting citation forms of words, for example, proved to be frustrating to elderly consultants and were discontinued. The emphasis was placed instead on the recording of stories and accounts of traditional knowledge which were offered generously and delivered as spontaneous speech. Translations of these texts were prepared with the assistance of the younger cohort of speakers, with whom lexical elicitation was also carried out. An early finding was that the morphology and phonology of the variety of Kayardild spoken by the younger cohort does not always match that of senior speakers, and accordingly younger speakers' forms have not been taken as the basis of description and analysis in this book.

Three other significant sets of recordings of Kayardild exist. The earliest was produced by Stephen Wurm over the course of two months in 1960 in conjunction with Kayardild speaker Alison Dundaman (Wurm 1960). In conjunction with the preparation of my dissertation these recordings were transcribed in full for the first time.[3]

Nick Evans has generously made available his complete set of field recordings made by between 1984 and the present. These were transcribed to a lesser extent, and also feature in the book.[4]

Anthropologist Normal B. Tindale collected two sets of recordings of Kayardild in 1960 and 1963 which are now housed at the South Australia Museum. I have had the opportunity to listen to these but for logistical reasons they do not feature here.

Other secondary sources include Tindale's field journals (Tindale 1960, 1963), field notes taken by Ken Hale on Mornington Island in 1960 (Hale 1960b, 1960c), and

[2] These field seasons were financed in large part by grants FTG0025 and IGS0039 from the Haus Rausing Endangered Languages Project. Transcriptions of audio and video recordings produced during and after these trips currently run to approximately 14,000 words of spontaneous speech and around 9,000 words of elicitation and general discussion (Round 2005, 2007). All materials are deposited in the Endangered Languages Archive (ELAR) and are accessible to the linguistic community.

[3] The recordings run to just over 11,000 words of elicited lexical items and sentences.

[4] Transcriptions currently run to around 4,000 words.

several works by Evans and colleagues published subsequent to Evans' *Grammar* (Evans 1995b; 2003; Evans and Nordlinger 2004).

1.2 Novel contributions of the book

This book makes several new contributions. An investigation of the division of words into component morphs leads to a pivotal reanalysis of 'thematic' elements which appear at the boundary between verbal stems and their inflections. Evidence from both the phonology and morphology support a revision of the analysis in Evans (1995a) which shifts the thematic element out of the suffix and into the base to which the suffix attaches. One consequence of this is the loss of one significant motivation for an analysis of Kayardild according to which it possesses inflectional suffixes that alter the word class of their base (Evans 1995a; Evans and Nordlinger 2004).

In the domain of Kayardild syntax and inflectional morphology, a substantial body of new empirical evidence is presented. With respect to syntax *per se*, the existence of focus DPs (descending diachronically from erstwhile ergative DPs) is a novel discovery, as is the clitic status of several particles, which align at the left and right edges of clauses and DPs, and which fail to inflect. The DP is accorded a somewhat modified analysis relative to the NP of Evans (1995a), and a consideration of DP juxtaposition leads to the rejection of an analysis according to which DPs are sometimes 'split' and discontinuous.

An extended study of inflection reveals an intricate structure to Kayardild clauses which is manifested not in surface word order, but in the constituents whose words inflect for certain features. This line of research continues and expands upon the findings in Evans (1995a) and motivates a significant reanalysis. Evans' (1995a) contrast between ASSOCIATING CASE and MODAL CASE is dissolved, based partly on the finding of a homologous contrast that exists within the MODAL CASE category itself, and partly upon non-trivial simplifications which result when the two categories are merged. In the reanalysed system Kayardild words inflect, in addition to the typologically common features of CASE and NUMBER, for two TENSE/ASPECT/MOOD (TAM) features, a NEGATION feature and two features associated with complementized clauses, COMPLEMENTIZATION and SEJUNCT. Other departures from the analysis of Evans (1995a) include the recasting of INFLECTIONAL NOMINALIZATION as the realization of a TAM feature value, and the treatment of ADNOMINAL CASE and RELATIONAL CASE as the same feature. Arguments are advanced for the existence of DPs embedded within matrix DPs whose NP lacks an N head. These structures, once recognized and integrated into the account of DP juxtaposition, enable the formulation of a coherent and relatively simple analysis of the syntactically and inflectionally most complex phenomena in the language, some of which are identified here for the first time. With respect to recursive syntactic structures, a claim that Kayardild syntax is constrained by its morphology will be disputed in favour of evidence for purely syntactic limits on syntactic complexity. At the heart of the entire analysis will lie a general structure of the grammar in which a **morphomic** level of representation (Aronoff 1994) plays a crucial, mediating role between morphosyntactic input representations and phonological outputs. Since the structure of the grammar is a matter of some complexity, a preview of what is to come will be useful.

1.3 Structure of the grammar

Through the course of the book an analysis of Kayardild will be developed in which several distinct levels of representation play a crucial role. Levels are posited in order to capture generalizations which otherwise would go systematically unexpressed. The existence of each is supported by argumentation at appropriate junctures and motivated in terms of empirical facts of the language. The levels of representation which will feature in the analysis are summarized in Table 1.1 and introduced in more detail below.

1.3.1 From syntax and semantics to morphosyntactic features

When a Kayardild word appears in a given syntactic context and with a given semantic force and discourse function it takes an appropriately inflected form. Thus its morphological structure, and consequently its phonological structure, will depend in a predictable way on its syntax, semantics, and discourse function. By the same token not every syntactic, semantic, or discourse distinction that can

TABLE 1.1 Levels of representation in the analysis of Kayardild

	Level of representation	Nature of the representation
a.	Syntactic/semantic	For each sentence, all word order and related constituent structure, all semantic and discourse relationships between syntactically realized units.
b.	Morphosyntactic	For each syntactic word, a partially ordered set of feature value pairs, selected from a set of seven features, each with a finite range of permissible, discrete values.
c.	Morphomic	For each syntactic word, a fully ordered set of categories, selected from a large, but finite set.
d.	Underlying phonological	For each syntactic word, a string of allomorph sets, where each allomorph set contains one or more morphs (i.e. phonological strings).
e.	Lexical (surface) phonological	For each syntactic word, a prosodified, phonological string, with morphological structure.
f.	Post-lexical (surface) phonological	For each utterance, a prosodified, phonological string.

be made in the grammar of Kayardild will be reflected in the morphology of an individual word. The role of **morphosyntactic features** is to represent precisely the information required by the morphology—no more and no less—in order for a word to be properly inflected. The appeal to a notion of morphosyntactic features as the distillation of morphologically relevant information taken from the domains of syntax, semantics, and discourse, follows something of a consensus position in recent formal morphological theory and of course has much deeper roots in cognitive science generally. Although individual schools of thought differ as to how such features are derived, how they can be manipulated, and what they are named, features of this nature can be found in Matthews (1974), Anderson (1992), Corbett and Frazer (1993), Aronoff (1994), Stump (2001), *inter alia*. There are two significant consequences of this model that can be mentioned.

First, if the syntax or semantics of Kayardild treats categories A and B as distinct but that distinction has no morphological corollary, then A and B will not be featurally distinct in the morphosyntactic representation. The morphosyntactic representation therefore deliberately conflates distinctions which are pertinent elsewhere in the grammar but which play no part in the determination of morphological form. This is not a failure of the analysis to be sensitive to categories elsewhere in the system, but rather a desirable trait that makes it possible to express explicitly when and where the morphology is isomorphic with or anisomorphic with other grammatical systems. Formalization of this kind will establish a foundation for subsequent, rigorous investigations into topics such as 'mismatches' between grammatical subsystems, or the robustness of a formal theory in the face of the data.

Secondly, from the assumption that the morphosyntactic representation is passed to the morphology by a prior, syntactic/semantic component of grammar, it follows that if categories F and G are distinct in the morphosyntactic representation then they must be distinguishable in the prior syntactic/semantic component. This mode of reasoning will be employed to its greatest effect in Chapters 5–8 where it proves possible to reconstruct a highly articulated, non-surface syntactic structure in Kayardild based inferentially on the distribution throughout the clause of aspects of words' morphosyntactic representations.

Morphosyntactic features will be formalized here as **feature value pairs**. The 'instrumental' value of the CASE feature, for example, is written as CASE:instrumental, in the format FEATURE:value. Each word is associated with zero or more such feature values. In Chapter 9 it is argued that sets of those feature values may in some cases be ordered with respect to one another, so that for example ⟨{CASE:associative} > {NUMBER:plural}⟩ is not equivalent to ⟨{NUMBER:plural, CASE: associative}⟩. Chapters 4–8 set out in considerable detail the nature of the syntactic representations from which morphosyntactic features are derived; these are complex and will not be summarized here.

1.3.2 From morphosyntactic features to morphomic categories

In a significant contribution to the understanding of how systems of inflectional morphology can be organized in natural languages, Aronoff (1994) presents a monograph-length argument that in the general case morphosyntactic features are realized not directly as phonological forms as illustrated in (1.1a) but rather are interpreted via sets of intermediate categories termed **morphomes**, as in (1.1b) where *M* is the representation of some morphomic category.

(1.1) a. CASE:consequential → /ŋarpa/

b. CASE:consequential → *M* → /ŋarpa/

The existence of a morphomic level of representation, which mediates between morphosyntactic representations and underlying phonological forms, is strikingly apparent in the organization of morphology and phonology in Kayardild. To gain an insight into this aspect of the language's organization, let us briefly examine a single morphomic category of Kayardild.

In Kayardild, the morphosyntactic feature value CASE:oblique is eventually realized, in terms of its underlying phonological form, by a suffix /in̪t̪a/. So too is the feature value TAMT:hortative,[5] and the feature value TAMA:continuous, and the feature value +SEJ. A formal analysis of Kayardild in which these morphosyntactic feature values were all realized directly as underlying phonological forms would fail to capture the rather obvious point of commonality, that they all have the same underlying phonological realization. To express this fact, the analysis here is that each of the four feature values is realized at the morphomic level by the same element termed the morphomic oblique (μOBL),[6] and that it is μOBL—a morphomic category—which is then realized as the underlying phonological suffix /in̪t̪a/. Other generalizations can also be expressed in terms of the morphomic category μOBL though these need not concern us right now.

One might object that the notion of a 'morphomic oblique' category as distinct from morphosyntactic feature values is misplaced, and that its postulation follows only from a poor definition of the latter—that is, why not distil the relevant syntactic/semantic/discourse information directly into this μOBL category (and call it a morphosyntactic feature) rather than distilling it first into four distinct feature values and only thereafter into one morphomic category? The reason for maintaining the distinction between

[5] TAMT is the THEMATIC TENSE/ASPECT/MODALITY morphosyntactic feature and TAMA the ATHEMATIC TENSE/ASPECT/MODALITY feature.

[6] As a convention, if a morphomic category realizes a value *x* of the morphosyntactic case feature then its label will be 'the morphomic *x* (μ*x*)'. For example the morphomic oblique (μOBL) realizes case:oblique, as well as several other morphosyntactic feature values.

morphosyntactic feature values and morphomic categories again relates to the capturing of significant generalizations. Any attempt to coherently describe the patterns which exist in the distribution of μOBL tokens across the words in a sentence will only be successful if those tokens of μOBL are related back to the morphosyntactic feature values that underlie them: CASE:oblique (realized as μOBL) stands in paradigmatic opposition to other CASE values and shares their distributional properties; TAMT: hortative (also realized as μOBL) stands in paradigmatic opposition to other TAMT values and shares theirs; and likewise for TAMA:continuous and +SEJ. Any attempt to conflate morphosyntactic features and morphomic categories in the description of Kayardild dramatically decreases the range of facts that can be accounted for coherently and diminishes the insightfulness of the analysis. The generalizations which would be lost add up not merely to incidental facts but to pervasive patterns which are fundamental to the structure of the linguistic system.

1.3.3 From morphomic categories to underlying phonological forms

At the morphomic level a syntactic word is represented as an ordered set of morphomic categories. In the mapping from morphomic structure to underlying phonological form, most morphomic categories spell out into a single phonological string which will be referred to as a **morph**, as in (1.2a). The linearized string of morphs then constitutes the underlying phonological form of the word.

(1.2) a. μNEG → /ɳaŋ/

b. μ́PROP → {/kuu/, /kuɻu/}

In some cases morphomic elements are realized as a set of allomorphs, from among which the phonology itself will choose the prefered candidate, as in (1.2b). The conditioning factors behind this form of allomorphy are somewhat complex and will not be summarized at this juncture.

1.3.4 From underlying to lexical and post-lexical phonological forms

While this book will focus on Kayardild's inflectional morphology, there is a companion analysis of the language's phonology, developed in Round (2009). The fact that the phonology has been studied in depth means that we can be confident that properties and generalizations attributed to the morphology in the following chapters are not misplaced and are actually properties of the phonological system. It also means that it is clear what information the morphology itself must pass on to the phonology and what format that information ought to be in. Accordingly the analysis here is that the morphology outputs **underlying** phonological forms which are yet to be further subjected to phonological modifications. In order for the phonology of

Kayardild to be sensitive to morphological structure in a manner which the empirical facts demand, it suffices for underlying forms to consist of ordered strings of morphs (or in some instances allomorph sets) divided from each other by certain types of phonological juncture. Further diacritic features are unnecessary.

The phonology itself (Round 2009) has been argued to contain a **lexical** component in which phonological modifications apply solely within the domain of single words, and a **post-lexical** component for larger constituents. The output of the lexical component corresponds more or less to the phonemic level of structuralist linguistics and Basic Linguistic Theory (Dixon 1997; Dryer 2006), the surface representation of early generative phonology (Chomsky and Halle 1968), the lexical level of Lexical Phonology (Kiparsky 1982a, 1982b; Mohanan 1982), and the representational level which in practice corresponds to the phonological 'outputs' of much contemporary research in Optimality Theory. It also corresponds to what is represented by the orthographic form of Kayardild words. For discussion and argumentation see Round (2009).

1.3.5 On the lack of morphemes

A significant theoretical construct which is absent from the grammatical model just outlined is the morpheme. In structuralist theory the morpheme is a Saussurean sign indissolubly uniting a meaning (or function) with a phonological form, and is the fundamental unit of morphological analysis (Bloomfield 1933; Harris 1942; Nida 1946). Although the morpheme continues to hold this central role in Basic Linguistic Theory (Dixon 1997; Dryer 2006), and although it is often still assumed in research within generative phonology (e.g. Kenstowicz 1994; Kager 1999) it has been absent from many of the theoretical approaches to formal morphology to have emerged over the past two decades following compelling arguments for its abandonment due to Matthews (1974) and elaborated by Anderson (1992), Aronoff (1994), Beard (1995), and others.[7] A significant difference, therefore, between the analysis of Kayardild presented here and the analysis by Evans (1995a) is that Evans' analysis is morphemic whereas the present analysis does not work in the same theoretic confines. Evans' innovative and influential morphemic approach to some of the Kayardild data will be reviewed in Chapter 2.

1.4 Extensions and implications

For reasons of space and cohesiveness the book concentrates specifically on the analysis of inflection in Kayardild. In this volume I do not in general attempt to draw out the implications for broader morphological theory of the analytic

[7] These issues are related specifically to Australian languages in Koch (1990).

machinery developed here, nor do I attempt to apply it to fragments of inflectional systems of other languages. This is by no means to imply that such work is not needed, only that it lies beyond the scope of the present work. See Round (2011a) for extensions of the analysis to derivational morphology in Kayardild, Round (in prep a., in prep. b.) for a more techinical and theoretically comparative discussion of Kayardild's morphomic structures, and Round (in prep c.) for its implications for the theory of morphomes and morphological complexity more generally. In terms of extensions to other languages, some obvious candidates are the other Tangkic languages, especially Lardil (Hale 1973; Klokeid 1976; Round 2011b, 2011c) and Yukulta (Keen 1972, 1983; Round 2011c), whose morphologies possess many superficial similarities and no doubt several deeper similarities to Kayardild; also the several Australian languages discussed by Blake (1993) which like Kayardild employ etymologically related suffixes for multiple and diverse inflectional functions. The analysis here may also have implications for interpretations of Dench and Evans' (1988) seminal paper on case stacking and the various functions of multiple case markers in Australian languages. Round (in prep c.) offers some comparisons between the morphomes of Kayardild and those of the more intensively studied romance languages (Maiden 2005).

1.5 Notational conventions

Some notational conventions may be mentioned now. All phonological representations are expressed in IPA characters. Morphomic categories appear in the format μ*x* (e.g. μOBL), while morphosyntactic feature values are written in the format FEATURE: value (e.g. CASE:locative), and features as a whole are referred to in small capitals, for example CASE. Interlinear glosses may contain up to six lines, though typically will contain fewer. A maximal example is shown in (1.3).

(1.3)	a.	*dankiya*	*kunawunaya*	*barjijarranth!*
	b.	ʈankia	kunaunaja	paɻcicaran̪t̪a
	c.	ʈan+ki-a	kuna+kuna+ki-a	paɻci-c+ŋara-in̪t̪a-ø
	d.	this-μLOC-T	‹child$_{NL}$-child$_{NL}$›-μLOC-T	‹fall-J›-μ̋CONS-μOBL-T
	e.	this-CMP	‹child›-CMP	‹fall›-PST-SEJ
	f.	'This child has been born!' [R2005-jul21]		

The first line (a) contains an orthographic form. The remaining lines display (b) a surface (lexical level) phonological representation, then (c) an underlying phonological representation with morphs separated by juncture symbols, (d) a morphomic representation, and (e) a semantic and morphosyntactic gloss. For sentential examples, a free translation (f) is given in English and the source of the example is indicated. Given the parlous state of the traditional Kayardild language, many free translations have been provided not by the speakers of the original Kayardild sentence,[8] but by 'translators' including the younger cohort of Kayardild speakers and in some cases by me; free translations from secondary sources are reproduced as they were given. Examples from my own field recordings are identified, for example, as [R2005-jul05b], referring to the second recording made on 5 July 2005, and labelled 2005-jul05b in the corpus deposited with the Endangered Languages Archive. Examples from Evans' field tapes are identified, for example, as [E1984-03-01], referring to the first digitized section of the third tape recorded in 1984. Examples taken from Evans' Grammar are identified, for example, as [E472.ex.11-27], referring to page 472, examples (11-27). Examples from Stephen Wurm's 1960 corpus are identified as [W1960]. Time alignment and speaker identification data are not displayed, but in the metadata deposited with these corpora each example sentence is transcribed orthographically and can be retrieved with a text-based search.

1.6 Outline

The book is divided into ten further chapters plus two appendices. Chapter 2 provides a general introduction to Kayardild word structure, outlining the kinds of morphs of which words are composed, their formal shapes, and principles of combination, and presents reasons for the choice of grammatical model in which morphomic representations mediate between morphosyntactic representations and underlying phonological forms. Chapter 3 treats several specific details of Kayardild morphology which are not central to the main theme of the book, but which appear within the data which will support its main arguments. Chapter 4 sets the scene for the next several chapters, supplying an overview of the ways in which Kayardild syntax interfaces with the inflectional morphology. This is then explored in detail in Chapter 5 on clause structure, Chapter 6 on DPs, Chapter 7 on DP juxtaposition, and Chapter 8 on the formal model of feature percolation. Chapter 9 considers matters that arise from the chapters on syntax and it is there that the present analysis is compared most closely with the analysis of Evans (1995a). Chapter 10 introduces the class of non-inflecting particles. Chapter 11 presents a complete formal implementation of the mappings in Kayardild from the morphosyntactic representation through to underlying forms within a constraint-based framework. Appendix A tables comparisions between the units of the current analysis and of Evans (1995a). Appendix B presents a large body of empirical evidence in support of the syntactic argumentation in Chapter 5.

[8] None of the four senior speakers whom I worked with possessed a command of English fluent enough to provide translations in the standard language.

2

Morphological structures

This chapter introduces the morphological constituents of syntactic words in Kayardild and the arguments supporting them. A Kayardild word consists of a **lexical stem** which is potentially followed by **inflectional suffixes**, and ends obligatorily with a **termination** element.[1] Lexical stems consist of **roots**, **suffixes**, and **thematic** elements. Each lexical stem falls into one of two morphological classes, refered to as **nominal** and **verbal**, following Evans (1995a) and standard Australianist practice. Roots too are classified as nominal or verbal. A nominal lexical stem is minimally comprised of a single nominal root, while a verbal lexical stem is minimally comprised of a verbal root plus a lexically associated thematic. In the following discussion I will use the term **morph** to refer to any underlying phonological string which has a morphological identity. The chapter is organized as follows. The phonology of Kayardild is summarized in §2.1. Arguments are provided in §2.2 for the structure of Kayardild's simplest nominal and verbal stems, consisting of roots and thematics. Suffixes are discussed in §2.3, and the termination element specifically in §2.4. Section 2.5 examines the suppletive allomorphy of three suffixes and §2.6 discusses morphomes.

2.1 Kayardild phonology

The phonemic inventory of Kayardild is given in Tables 2.1–2.2. The representation of phonemes in the Kayardild practical orthography is shown in italics.[2]

Words in Kayardild all begin with a consonant and end with a vowel except for the final word in an utterence, from which any final short vowel of the word's lexical

[1] Prefixes do not occur. However, see §3.2.6 for verbal compounds whose initial element can resemble a prefix. A small class of phonological clitics also exists (Round 2009). Their role is marginal and will not be discussed here.

[2] The homorganic clusters /ɳʈ, n̪t̪, ɲc/ are respresented orthographically as *rnd*, *nth*, and *nj* respectively (rather than *rnrd*, *nhth*, and *nyj*). The orthography also distinguishes homorganic /ŋk/ *ngk*, from heterorganic /nk/ *nk*, while the cluster /ɻʈ/ is written *rld* to distinguish it from the single plosive /ʈ/, written *rd*.

Table 2.1 Consonant phonemes of Kayardild

	Bilabial	Laminal dental	Apical alveolar	Apical retroflex	Laminal palatal	Dorsal velar
Plosive	p *p*	t̪ *th*	t *d*	ʈ *rd*	c *j*	k *k*
Nasal	m *m*	n̪ *nh*	n *n*	ɳ *rn*	ɲ *ny*	ŋ *ng*
Liquid			r *rr* l *l*	ɻ *r*		
Semivowel	w *w*				j *y*	

IPA symbols appear to the left, orthographic symbols in italics to the right

Table 2.2 Vowel phonemes of Kayardild

i *i* iː *ii*		u *u* uː *uu*
	a *a* aː *aa*	

IPA symbols appear to the left, orthographic symbols in italics to the right

representation will be deleted. Restrictions on the shapes of individual morphs are discussed individually in subsequent sections.

The phonological phenomenon of greatest interest when our central concern is morphology is phonological **juncture**. It will be assumed, following arguments in Round (2009), that phonological modifications to underlying forms in Kayardild can be grouped into two major classes. The application of modifications from one class or the other is determined by the kind of phonological juncture which appears at the boundary between two morphs. This entails that there are two avenues through which morphological information can feed into phonological forms: in its determination of which morphs appear, and in its determination of which junctures appear between those morphs.

The key differences in the effects of the two junctures are summarized in Table 2.3. The leftmost column and topmost row of Table 2.3 display segments in underlying phonological strings which lie respectively to the left and right of a juncture. Filled cells display the surface outcomes of phonological modifications in those cases where the outcomes differ depending on the juncture. The significant point is that surface outcomes often differ when the same string of segments spans a regular versus an exceptional juncture. Thus, because juncture matters to the phonology, it also matters to the morphology. The output from the morphology must contain not only the correct segmental morphs but the correct junctures too.

Much more could be said about the segmental and prosodic phonology of Kayardild but this need not concern us in any detail here. Stated briefly, there are many modifications to underlying consonant clusters in addition to those shown in

TABLE 2.3 Underlying strings that surface differently according to the intervening juncture (regular '–' or exceptional '+')

	-ʈ / +ʈ	-t̪ / +t̪	-c / +c	-k / +k	-p / +p	-ŋ / +ŋ	-j / +j	-w / +w
V	Vʈ / Vɻ	Vt̪ / Vj	Vc / Vj	Vk / V	Vp / Vw			
r				rk / r	rp / rw			
ɻ				ɻk / ɻ	ɻp / ɻw			
l				lk / l	lp / lw			lw / l
rk					rp / rw			
lk					lp / lw			
ŋ				k / ŋk	p / mp			
rŋ				rk / rŋk				
lŋ				lk / lŋk				
ɲ				nk / ɲc				
c				k / c		ɲ / c	j / c	j / c
t̪				k / t̪		ɲ / t̪		j / t̪

Table 2.3, as well as modifications to vowels in hiatus and the deletion of underlying word-final consonants. All of these modifications involve assimilation, coalescence, or deletion, but never epenthesis. The stress system of Kayardild is sensitive to morphological structure, but since stress itself conditions neither segmental modifications nor the distribution of junctures, it can be safely abstracted away from. For an extensive coverage of the phonology of Kayardild see Round (2009).

2.2 Roots and thematics

This section examines roots and thematics as they appear in Kayardild lexical stems.

2.2.1 *The simplest nominal stems: nominal roots*

The simplest nominal stems consist of a single root. Representative examples are shown in (2.1) where the first line is orthographic and the second phonological.

(2.1)	a. *ja-* ca- 'foot'	b. *dulk-* ʈulk- 'ground'	c. *maku-* maku- 'woman'	d. *yarbuth-* jaɻput̪- 'animal'
	e. *kulkiji-* kulkici- 'shark sp.'	f. *kurdalalng-* kuʈalalŋ- 'ray sp.'	g. *balangkali-* palaŋkali- 'snake sp.'	h. *jumburungkarra-* cumpuɻuŋkara- 'grown up'

Table 2.4 Attested final consonants and clusters in nominal roots

ɻ	l	r	ɳ	n	ɲ	ŋ	t̪	c	k	lŋ	rŋ	ɻk	lk	rk

All nominal roots begin with a single consonant, are minimally CV in length, and may end in a short vowel or any of the single consonants or consonant clusters listed in Table 2.4.

2.2.2 *The simplest verbal stems: verbal root + thematic*

In this section I argue that the simplest verbal stems are bipartite, consisting of a root plus a lexically specified thematic element. Since the interpretation of Kayardild inflection in later chapters will make significant use of this analysis, care is taken to motivate it in some detail.

The surface phonological forms of two maximally simple verbal stems inflected with a selction of suffixes are shown in Table 2.5.

In the analysis adopted here, the stems in Table 2.5 are *buruth-* /puɻut̪/ 'gather' and *badij-* /patic/ 'carry' while the suffixes (on the surface) are /-a, -uː, -ara, -ia/. More generally, all verbal stems in the Kayardild lexicon end in either a laminal dental plosive /t̪/ or a laminal palatal /c/. I will refer to this as the **laminal-final** analysis of verbal stems. Under a laminal-final analysis the suffixes which attach to verbal stems are always blind to whether the stem ends in /t̪/ versus /c/: there is no need to posit allomorphy which is sensitive to the distinction between /t̪/-final and /c/-final stems.

An alternative analysis of verbal stems is pursued in Evans (1995a), which I will refer to as the **vowel-final** analysis. Under the vowel-final analysis the consonants /t̪/ and /c/ in Table 2.5 are understood as belonging to the suffix, while the stems /puɻu/ 'gather' and /pati/ 'carry' are vowel-final. There are several consequences of analysing verbal stems as vowel-final in this way. First, the suffixes in Table 2.5 will all exhibit allomorphy, as /{-t̪a, -ca} {-t̪uː, -cuː}, {-t̪ara, -cara}, {-t̪ia, -cia}/. Secondly, verbal stems will need to be assigned to one of two declensions, one selecting for dental initial suffixes and the other for palatal initial. As it happens, in many cases the declensional membership of a verbal stem can be predicted on phonological grounds from its final vowel. Stems ending in /i/ always belong to the palatal declension, as do polysyllabic stems ending in a long vowel, while simple roots (though not all complex

Table 2.5 Some inflections of two verb stems

	Imperative	Potential	Past	Immediate
'gather'	puɻut̪a	puɻut̪uː	puɻut̪ara	puɻut̪ia
'carry'	patica	paticuː	paticara	paticia

Table 2.6 Some inflections of verb roots ending in /a/

	Imperative	Potential	Past	Immediate
'hit'	palat̪a	palat̪uː	palat̪ara	palat̪ia
'cook'	kaɳaca	kaɳacuː	kaɳacara	kaɳacia

stems) ending in /u/ predictably belong to the dental declension. Nonetheless there remains a substantial portion of cases in which declensional membership cannot be predicted and must be lexically listed. Prominent among these are verbal stems ending in /a/, such as those in Table 2.6.

The vowel-final analysis incurs the cost of positing abstract stem declensions and suffixal allomorphy. To appreciate its principal benefit we must consider inflected forms of the type in Table 2.7.

The inflected forms in Table 2.7 are representative of a wider set of cases in which the verbal suffix begins either with a laminal nasal /n̪/ or /ɲ/, or with an apical-alveolar /t/ or /n/. In every one of these cases the laminal plosives /t̪/ and /c/, seen in Table 2.5 and 2.6, fail to appear in the surface forms of the inflected verbs. This fact is straightforwardly accounted for if we assume that verbal stems are vowel final and that the plosives /t̪/ and /c/ in Table 2.5 and 2.6 belong to suffixes. In Table 2.7 the vowel-final verbal stems all appear as expected. The apprehensive suffix has allomorphs /{-n̪ara, -ɲara}/, beginning with a dental and palatal nasal, which are selected for according to declension as usual. The apical-initial suffixes such as desiderative /-ta/ and negative potential /-naŋkuː/ have just one form which attaches to stems of both declensions.

Although the vowel-final analysis has immediate appeal, the laminal-final analysis is preferable for several reasons. So far we have seen that both analyses account for the first sets of data in Tables 2.5 and 2.6, although at the cost of positing declensions and suffixal allomorphy in the case of the vowel-final analysis, and that the data in Table 2.7 receive a straightforward interpretation under the vowel-final analysis. The first defence of the laminal-final analysis is that it too accounts for the data in Table 2.7 without difficulty.

Table 2.7 Inflections in which /t̪/ and /c/ are not apparent on the surface

	Apprehensive	Desiderative	Negative potential
'gather'	puɻun̪ara	puɻuta	puɻunaŋkuː
'carry'	patiɲara	patita	patinaŋkuː
'hit'	palan̪ara	palata	palanaŋkuː
'cook'	kaɳaɲara	kaɳata	kaɳanaŋkuː

Table 2.8 Derivations of /t̪/ and /c/ plus retroflex → surface apical alveolar

	Underlying phonological constituents		Surface form	Modification illustrated
a.	ŋic-ʈaric- 'wood-trample'	→	ŋitaric- 'to look for firewood'	/c-ʈ/ → [t]
b.	jaɻput̪-ɳuru- 'animal-ASSOC'	→	jaɻpunuru-	/t̪-ɳ/ → [n]
c.	waɻŋic-ɳuru- 'one-ASSOC'	→	waɻŋinuru-	/c-ɳ/ → [n]
d.	waɻŋic-ɻut̪- 'one-FACT'	→	waɻŋilut̪- 'to mix in with'	/c-ɻ/ → [l]

In the phonological system of Kayardild any underlying cluster comprised of a laminal plosive followed by an apical will result on the surface without exception in a single, apical alveolar segment. Some examples are shown in Table 2.8.

As a consequence of this, the inflected forms in Table 2.7 whose suffixes begin on the surface with apical alveolar /t/ and /n/ are accountable for in terms of the presence of underlying of clusters /c-ʈ/, /t̪-ʈ/, /c-ɳ/, or /t̪-ɳ/. In those clusters the first segment is the final laminal of a laminal-final verbal stem, while the second is the underlyingly initial segment of the suffix. The other suffixes of concern in Table 2.7 begin on the surface with laminal nasals /n̪/ and /ɲ/, and it can be assumed uncontroversially[3] that these result from underlying clusters /c+ɲ/ and /t̪+ɲ/. Representative derivations of the forms in Table 2.7 according to a laminal-final analysis of verbal stems are shown in Table 2.9.

At this point, both analyses account for both sets of data. The vowel-final analysis incurs a morphological cost of positing abstract declensions and suffixal allomorphy. The laminal-final analysis entails the phonological cost (if one considers it a cost) of positing underlying clusters such as /t̪-ɳ/ which are simplified on the surface according to the regular patterns of the Kayardild sound system. Two additional arguments refer to phonological data which, while unproblematic for the laminal-final analysis, demand additional and *ad-hoc* machinery if they are to be accounted for under the vowel-final analysis.

[3] Although underlying clusters /c+ɲ/ and /t̪+ɲ/ are not independently attested in Kayardild, we can note that all underlying clusters ending in a coronal nasal surface as either a cluster ending in a nasal or as a single nasal segment, and that all underlying clusters beginning with a laminal plosive followed by a '+' juncture surface as a cluster beginning with a laminal or as a single laminal segment. Putting these generalizations together, one predicts /c+ɲ/→ [ɲ] and /t̪+ɲ/→ [n̪].

TABLE 2.9 Verbal derivations with /t̪/ and /c/ plus retroflex → surface apical alveoar

	Gloss	Underlying phonological constituents		Surface form	Modification illustrated
a.	'gather-APPR'	puɻut̪+ɲara	→	puɻun̪ara	/t̪+ɲ/ → [n̪]
b.	'gather-APPR'	patic+ɲara	→	patiɲara	/c+ɲ/ → [ɲ]
c.	'gather-DES'	puɻut̪-ta	→	puɻuta	/t̪-t/ → [t]
d.	'gather-DES'	patic-ta	→	patita	/c-t/ → [t]
e.	'gather-NEG-POT'	puɻut̪-ɳaŋ+kuː	→	puɻunaŋkuː	/t̪-ɳ/ → [n]
f.	'gather-NEG-POT'	patic-ɳaŋ+kuː	→	patinaŋkuː	/c-ɳ/ → [n]

In a short while, I will present evidence that the final laminal segments of verbal stems have a degree of morphological autonomy. That autonomy is relevant in the analysis of verbal stem reduplication. Verbal stem reduplication in Kayardild is derivational. It may be semantically idiosyncratic or may serve semantically regular, productive functions such as conveying pluractionality (Wood 2007), that is, the multiple repetition of an action, either sequentially, or simultaneously by distributed actors (Evans 1995:290). In most cases when a verbal stem is reduplicated, the full stem including the final laminal is repeated in the underlying representation, as shown in Table 2.10, examples (a–k). Note that phonological modifications more often than not will obscure the underlying form to some degree. Under certain phonologically defined conditions (namely, when the stem begins with a plosive) the dental laminal does not reduplicate, even underlyingly, as in Table 2.10 (l–o).

The reduplicated forms in examples (l–o) are easily accounted for under the vowel-final analysis, since what reduplicates is the vowel-final constituent. The data in examples (a–k) require another explanation. If we focus on fully inflected words, it might be proposed that the forms in examples (a–k) involve an underlying copying of the first segment of the suffix, as shown in (2.2).

(2.2) a. ɻacuri-c-ɻacuri-cuː 'walk around (RDP)-POT' (cf Table 2.10a)

b. ɻarwa-t̪-ɻarwa-t̪uː 'cook (RDP)-POT' (cf Table 2.10j)

However, consider what happens when the suffix lacks an overt laminal plosive. According to the suffix-copying hypothesis we would expect that the suffix-initial,

TABLE 2.10 Reduplications of simple verbal stems

	Gloss of unreduplicated stem	Underlying RDP		Surface RDP	Phonological modification
a.	‘walk around’	ɻacuric-ɻacuric-	→	ɻacurilacuric-	/c-ɻ/→ [l]
b.	‘cough’	ŋiltic-ŋiltic-	→	ŋiltiɲiltic-	/c-ŋ/→ [ɲ]
c.	‘show’	maric-maric-	→	mariɲmaric-	/c-m/→ [ɲm]
d.	‘chase’	ʈuruaːc+ʈuruaːc-	→	ʈuruaːturuaːc-	/c+ʈ/→ [t]
e.	‘enter’	caːc+caːc-	→	caːcaːc-	/c+c/→ [c]
f.	‘scratch’	kuluːc+kuluːc-	→	kuluːculuːc-	/c+k/→ [c]
g.	‘carry’	patic+patic-	→	paticpatic-	/c+p/→ [cp]
h.	‘swear at’	jururic-jururic-	→	jururijururic-	/c-j/→ [j]
i.	‘sing’	waːc-waːc-	→	waːjaːc-	/c-w/→ [j]
j.	‘cook’	ɻarwat̪-ɻarwat̪-	→	ɻarwalarwat̪-	/t̪-ɻ/→ [l]
k.	‘wait for’	ŋakat̪-ŋakat̪-	→	ŋakaɲakat̪-	/t̪-ŋ/→ [ɲ]
l.	‘keep warm’	ʈara-ʈarat̪-	→	ʈaraʈarat̪-	(none)
m.	‘descend’	t̪ula-t̪ulat̪-	→	t̪ulat̪ulat̪-	(none)
n.	‘spear at’	kuʈala-kuʈalat̪-	→	kuʈalakuʈalat̪-	(none)
o.	‘crouch’	purma-purmat̪-	→	purmapurmat̪-	(none)

non-laminal segment would be copied, but this is not the case. What appears at the end of the first copy of the stem is a laminal plosive as shown in (2.3), where the stem is inflected with the continuous suffix /-n/.

(2.3) ŋilti-c-ŋilti-n-, *ŋilti-n-ŋilti-n- ‘cough (RDP)-CONT’ (cf Table 2.10b)

Consequently, to account for reduplicated verbal forms the vowel-final analysis of verbal stems must be augmented with an *ad-hoc* process of ‘underlying laminal insertion’ to account for the data in Table 2.10 (a–k). When that process applies, the fact that the inserted segment is a laminal plosive remains accidental, and is unrelated to the morphology of simple stems and their suffixes. Under the laminal-final analysis of verbal stems, the data in Table 2.10 (a–k) follow naturally from the reduplication of the full stem. The fact that it is a laminal plosive appearing at the end of the first copy is principled. The minority of the data in Table 2.10 (l–o) require stipulation under either analysis. The vowel-final analysis must stipulate that laminal insertion fails to occur, while the laminal-final analysis must stipulate that the final laminal of the verbal stem fails to copy.

TABLE 2.11 Some negative inflections of verbal stems

	Gloss	Underlying form		Surface form
a.	'gather-NEG-POT'	puɻuʈ̪-ɳaŋ-kuː	→	puɻunaŋkuː
b.	'gather-NEG-POT'	patic-ɳaŋ-kuː	→	patinaŋkuː
c.	'gather-NEG-IMM'	puɻuʈ̪-ɳaŋ-ki-a	→	puɻunaŋkia
d.	'gather-NEG-IMM'	patic-ɳaŋ-ki-a	→	patinaŋkia
e.	'gather-NEG.IMP'	puɻuʈ̪-ɳaŋ	→	puɻuna
f.	'gather-NEG.IMP'	patic-ɳaŋ	→	patina

There is one more phonological argument in favour of the laminal-final analysis. The inflected verbal words in Table 2.11 all contain the underlying suffix /ɳaŋ/ expressing negative polarity.

On the surface the negative suffix appears as [naŋ] or [na]. In (e,f) the underlying consonant /ŋ/ undergoes regular word-final deletion and in all forms the initial nasal appears as the non-retroflex [n]. This is problematic for the vowel-final analysis of verbal stems due to the confluence of two facts. First, there is good evidence that the underlying form of the negative suffix is /ɳaŋ/, with an initial retroflex nasal. Secondly, under no other circumstances in Kayardild phonology does underlying /V-ɳ/, with a retroflex nasal, yield surface [Vn] with non-retroflex [n]. The underlying form of the verbs in Table 2.11 therefore cannot consist of a vowel-final stem followed directly by the negative suffix, at least under any regular reading of the phonology. The details are as follows.

We saw above in Table 2.8 that underlying strings of a laminal plosive plus /ɳ/ yield surface [n], in which case the forms in Table 2.11 are predicted correctly by the laminal-final analysis. Of concern for the vowel-final analysis is that underlying sequences of /V-ɳ/ yield surface [Vɳ], as shown in Table 2.12.

This is problematic because evidence indicates that the negative suffix does begin underlyingly with /ɳ/. The Kayardild negative suffix very seldom attaches to anything other than verbal stems but it is occasionally encountered on nominals (Evans 1995:374–5). Evans transcribes the suffix as surface *-nang-* [naŋ] after vowel-final nominal stems but the examples for which I have recordings, shown in Table 2.13 and including one which Evans transcribes with [n], all contain a retroflex [ɳ].

This is corroborated by comparative evidence. In the Northern Tangkic language Lardil, verbal stems almost all end underlyingly with the laminal plosive (Round 2011b; Klokeid 1976:85), and their negative inflections contain surface non-retroflex [n] from underlying /c-ɳ/ as illustrated in (2.4).

Table 2.12 Derivations of /V-ɳ/ → surface [Vɳ]

	Gloss	Underlying form		Surface form	Phonological modification
a.	‘man-ASSOC’	ʈaŋka-ɳuru-	→	ʈaŋkaɳuru-	/a-ɳ/ → [aɳ]
b.	‘crazy-crazy’	ɳalpiʈi-ɳalpiʈi-	→	ɳalpiʈiɳalpiʈi-	/i-ɳ/ → [iɳ]
c.	‘woman-ASSOC’	maku-ɳuru-	→	makuɳuru-	/u-ɳ/ → [uɳ]

Table 2.13 Derivations of stem-final V plus negative /ɳaŋ/

	Gloss, [source]	Underlying form		Surface form
a.	day-NEG-μprop, [E374.ex.9-240; W1960]	warrku-ɳaŋ-kuː	→	warrkuɳaŋkuː
b.	good-NEG-μLOC-μALL, [R2005-jun04b]	mira-ɳaŋ-ki-ɻiŋ	→	miraɳaŋkiɻi
c.	woman-NEG-μLOC-μALL, [R2005-jun02]	maku-ɳaŋ-ki-ɻiŋ	→	makuɳaŋkiɻi

(2.4) Lardil a. weɻec-ɳeŋ-kuɻu → weɻeneŋkuɻ ‘throw-NEG-FUT’

b. putic-ɳeŋ-kuɻu → putineŋkuɻ ‘drop-NEG-FUT’

However, there are two verbal stems in Lardil which descend historically from nominals, ‘say’ /kaŋ/ and ‘cry’ /ɻik/. In Lardil phonology the velar segments /ŋ/ and /k/ typically delete when followed underlyingly by a nasal. As such, when /kaŋ/ and /ɻik/ are inflected with /ɳeŋ/, the velars /ŋ/ and /k/ delete and the suffix’s underlying retroflex /ɳ/ (not /n/) surfaces, as shown in (2.5).

(2.5) Lardil a. kaŋ-ɳeŋ-kuɻu → kaɳeŋkuɻ ‘say-NEG-FUT’

b. ɻik-ɳeŋ-kuɻu → ɻiɳeŋkuɻ ‘cry-NEG-FUT’

Thus, there are sound internal and comparative reasons to analyse the negative suffix in Kayardild as underlyingly /ɳaŋ/ and not /naŋ/, which in turn entails that a vowel-final analysis of verbal stems fails to predict the correct surface form of negatively inflected verbs without recourse to exceptional stipulation.

In sum, the vowel-final analysis handles the initial data sets in Tables 2.5 and 2.6 only by positing abstract declensions and suffixal allomorphy. It must stipulate that a laminal plosive is inserted into reduplicated verbal stems (Table 2.10 (a–k)), and must stipulate that certain reduplicated stems lack such insertion (Table 2.10 (l–o)). It must also provide a non-regular means of deriving surface, non-retroflex [n] in negatively inflected verbs. In contrast, the laminal-final analysis of verbal stems must only stipulate that in certain reduplicated forms the final laminal fails to copy. All other data are accounted for regularly, both phonologically and morphologically. Since the one stipulation required by the laminal-final analysis is also required by the vowel-final analysis, the decision here is to adopt the laminal-final analysis as the correct analysis.

2.2.3 Morphological autonomy of thematics

Next we establish that the final laminal plosive /t̪/ or /c/ of a verbal stem is a morphological unit unto itself, which I refer to as a **thematic** (see also Evans 1995:254–6, 399–401).

We saw above that the question of which of two thematics, /t̪/ and /c/, appears at the end of a stem cannot in general be predicted from the shape of the remainder of the stem; thus the lexicon needs to list stems and their thematics together. One might suppose at first that the thematics /t̪/ and /c/ are merely the final phonological segments of their stems, but there are three morphological constructions in which the behaviour of thematics points to their being morphological, and not merely phonological, units.

The first construction is verbal reduplication, where the lexically associated thematic was missing from the first copy of a reduplicated stem even at the underlying phonological level in Table 2.10 (l–o). The second and third constructions are middle and reciprocal stems, examples of which are shown in Table 2.14. Here, the thematic associated with the plain stem appears to be missing from the underlying phonological form of the middle and reciprocal stems.

We can first establish that in the general case, the absence of thematics from these three constructions is not amenable to a phonological account, which fails on several fronts. For one, laminal plosives never delete before a labial plosive elsewhere in Kayardild phonology but the thematic /t̪/ is absent before labials in reduplications (2.6a). Likewise, laminal plosives never delete between vowels elsewhere in Kayardild phonology but both thematics are absent before the /i/ vowel of the middle suffix (2.6b,c).

Table 2.14 **Middle and reciprocal counterparts to plain stems**

			Underlying form		Surface form	
	Plain stem	Gloss	MID	RCP	MID	RCP
a.	kuɻilu-t̪	kill	kuɻilu-i-c	kuɻilu-t̪u-t̪	kuɻiliːc-	kuɻilut̪ut̪-
b.	cani-c	seek	cani-i-c	cani-ɲcu-t̪	caniːc-	caniɲcut̪-
c.	pala-t̪	hit	pala-i-c	pala-n̪t̪u-t̪	palaːc-	palan̪t̪ut̪-
d.	wirka-c	play with	wirka-i-c	wirka-ɲcu-t̪	wirkaːc-	wirkaɲcut̪-

(2.6)	a.	* purma-t̪-purma-t̪-	→	purmapurmat̪-	cf Table 2.10(o)
	b.	* cani-c-i-c	→	cani:c	cf Table 2.14(b)
	c.	* pala-t̪-i-c	→	pala:c	cf Table 2.14(c)

A phonological account can be ruled out, but we have yet to establish the plausibility of a morphological account according to which one constituent of a stem (the thematic) fails to appear when that stem occurs in certain larger morphological constructions. Such an analysis is lent credibility by the fact that comparable behaviour occurs elsewhere in the morphological system. For example, the elements /t̪u/, /cu/ appear at the end of many kin-denoting stems, and a locative suffix /ki/ appears at the end of certain place names. All three morphs are absent, either optionally or obligatorily, when certain other suffixes follow, as illustrated in Table 2.15.

The failure of /t̪u/, /cu/ to appear before certain suffixes parallels the failure of thematics to appear before the suffixes that form the middle and reciprocal stems. As for reduplication, the fact that the thematic sometimes appears and sometimes does not suggests that reduplication copies a morphologically complex string (consisting of root+thematic) on some occasions, and a morphologically simple unit on others. In fact this is generally true of Kayardild reduplication, which routinely copies both simple and complex morphological constituents (cf §2.2.5 below).

In sum, a morphological analysis of the absence of thematics in verbal reduplication, middle stems, and reciprocal stems accords well with the general nature of the morphological system, provided we view thematics not merely as the final phonological segment of verbal stems, but as autonomous morphological units. A phonological analysis of missing thematics lacks support.

Table 2.15 Deletion of final morphological units of a stem in tandem with suffixation

	Stem	Suffix	Underlying form of suffixed stem		
a.	papic-cu	+jarat̪	papic+jarat̪-		
	'grandmother'	ANOTHER			
b.	marka-t̪u	-paʈa	marka-paʈa-	~	marka-t̪u-paʈa-
	'aunt'	DEAR			
c.	makark+ki	-ŋat̪i	makark-ŋat̪i-	~	makark+ki-ŋat̪i-
	Place name	BORN-AT			

2.2.4 *Thematic-final lexical stems are all verbal, and* vice-versa

We have established that the simplest of lexical, verbal stems consist of a root plus a thematic. For lexical stems in Kayardild the implicational relationship between being verbal and being thematic-final is biunique: all thematic-final lexical stems are verbal, and all verbal lexical stems are thematic final. This generalization ensures that whenever complex lexical stems are built of multiple morphological components we need only inspect the stem's right edge to determine whether it is verbal (in which case it will end with a thematic) or nominal (it will not). An important restriction here is that the biunique relationship is true only of **lexical** stems. When we come to inflected stems the implication breaks down in both directions.

2.2.5 *More complex stems of roots and thematic*

The Kayardild lexicon is richly populated with more complex stems also built of roots and thematics. Reduplicated verbal stems were introduced above. Here we survey reduplicated nominal stems, compounds, 'cranberry' roots, and more complex reduplicated structures.

Nominal root reduplication in Kayardild is common and has a range of idiosyncratic and regular meanings (Evans 1995a:200–1). Phonologically it consists of the concatenation of two underlying copies of the root across either kind of juncture, as in (2.7) and (2.8).[4] In glosses, short angled brackets '‹›' will be used as a convention to group multiple elements on one line which correspond to just one element on the line immediately above or below. Orthographic forms are given in italics. Surface phonological forms appear next, and underlying forms below them.

(2.7)	a. *kandukandu-*	b. *bardibardi-*	c. *wankawanka-*
	kantukantu-	paʈipaʈi-	wankawanka-
	kantu-kantu-	paʈi-paʈi-	wanka-wanka-
	‹blood-blood-›	‹whisker-whisker-›	‹branch-branch-›
	‹red›	‹shell sp.›	‹branches›

(2.8)	a. *kamarramarr-*	b. *bardiwardi-*	c. *wambalambal-*
	kamaramar-	paʈiwaʈi-	wampalampal-
	kamar+kamar-	paʈi+paʈi-	wampal+wampal-
	‹stone-stone-›	‹whisker-whisker-›	‹bush-bush-›
	‹gravel›	‹Lardil man›	‹sparse scrub›

The juncture type associated with the reduplication of a given nominal root cannot be predicted on any independent basis and must be listed in the lexical entry of the reduplicated stem.

[4] See Round (2009:129–31, 364–68) for further discussion and analysis.

Nominal compounds are also common and highly productive. Semantically most Kayardild compounds are exocentric (Evans 1995a:197–200), with X-Y denoting ‘an entity whose X is ((like) a) Y’ or the property of ‘having an X which is (like) Y’. An endocentric minority arguably denote ‘an X entity which is Y’. Only regular phonological junctures ‘-’ appear in compounds.[5] Examples are shown in (2.9).

(2.9) a. *kurndubirdi-*
kuɳʈupiʈi-
kuɳʈuŋ-piʈi-
‹chest-bad-›
‹suffering a bad chest›

b. *dulbardu-*
ʈulpaʈu-
ʈulk-paʈu-
‹ground-hard-›
‹hard ground›

c. *marralkunya-*
maralkuɳa-
maral-kuɳa-
‹ear-small-›
‹small-eared›

d. *ngumujungarra-*
ŋumucuŋara-
ŋumu-cuŋara-
‹black-big-›
‹pitch black›

e. *nalyakuri-*
ɳaljakuɻi-
ɳal-jakuɻi-
‹head-fish-›
‹bird sp.›

f. *minyingarnala-*
miɳiŋaɳala-
miɳi-ŋaɳala-
‹form-white cockatoo-›
‹termite›

The Kayardild lexicon contains just one verbal–verbal compound, *kabathaath-* ‘go and hunt (and return)’, built on /kapa-t̪-/ ‘find; hunt’ plus /t̪aa-t̪-/ ‘go and do and return’.

Nominal roots productively compound with verbal stems, in which case the verbal stem always appears rightmost, therefore resulting in a thematic-final, hence verbal stem. The semantics of such compounds are varied (see Evans 1995a:290–6) and nominal roots can contribute adverbial as well as entity-based meanings. The phonological junctures between nominal roots and verbal stems are regular ‘-’. Examples are shown in (2.10). In glosses the thematics appear as TH for the dental /t̪/ and J for the palatal /c/.

(2.10) a. *kurndukurrij-*
kuɳʈukuric-
kuɳʈuŋ-kuri-c-
‹behind-look-J›-
‹scan carefully›-

b. *warabaaj-*
waɻapaːc-
waɻa-paː-c-
‹mouth-bite-J›-
‹kiss›-

c. *marralkiniij-*
maralkiniːc-
maral-kiniː-c-
‹ear-cup$_{\text{NL}}$-J›-
‹cup one’s ear›-

d. *birdinmarraj-*
piʈinmarac-
piʈiɲ-wara-c-
‹mis$_{\text{NL}}$-go-J›-
‹go wrong way›-

e. *mijilaaj-*
micilaːc-
micil-ɻaː-c-
‹net-sew-J›-
‹sew a net›-

f. *nalbadij-*
ɳalpatic-
ɳal-pati-c-
‹head-carry-J›-
‹carry on one’s head›-

[5] A single exception appears to be *jarurndurn-* ‘long legged wasp sp.’, in which /ca/ ‘foot, leg’ is compounded across an exceptional juncture with /ʈuɳ-ʈuɳ/ ‘big’.

Examples (2.10c,d) contain elements subscripted as NL. These are 'cranberry' morphs, sometimes termed 'non-lexical' roots (Jackendoff 1975; Round 2009), which appear in compounds but not in maximally simple stems. Some non-lexical roots occur in enough stems for a more or less coherent meaning to be inferred, while for others this is not the case. Nominal examples of the former kind include /ju/ 'water' and /kuna/ 'child', shown in (2.11). The fact that the roots do not occur independently is shown in (2.11c,f).

(2.11)	a. *yubuuj-*	b. *yumariij-*	c. ***yu**-
	jupuːc-	jumaɻiːc-	ju-
	ju-puː-c-	ju-maɻu-i-c-	ju-
	‹water$_{NL}$-pull-J›-	‹water$_{NL}$-µDAT-µMID-J›-	
	'pull through water'	'submerge'	'water'
	d. ***kuna**walath-*	e. ***kuna**wuna-*	f. ***kuna**-
	kunawalat̪-	kunawuna-	kuna-
	kuna+palat̪-	kuna+kuna-	kuna-
	‹child$_{NL}$-µPL-›	‹child$_{NL}$-child$_{NL}$-›	
	'children'	'child'	'child'

Compound stems may also be reduplicated as in (2.12). In such cases the phonological junctures between the two copies will be the regular '-'.

(2.12)	a. *nalbirdirnalbirdi-*	b. *kamburikamburij-*
	ɳalpiʈiɳalpiʈi-	kampuɻikampuɻic-
	ɳal-piʈi-ɳal-piʈi-	kaŋ-puɻi-c-kaŋ-puɻi-c-
	‹head-bad-head-bad-›	‹speech-ROOT$_{NL}$-J-speech-ROOT$_{NL}$-J›-
	'very crazy'	'talking'
	c. *naldaarnaldaath-*	
	ɳaltaaɳaltaat̪-	
	ɳal-ʈaa-ɳal-ʈaa-t̪	
	‹head-bob$_{NL}$-head-bob$_{NL}$-TH›-	
	'loll one's head'	

2.3 Suffixes

Unlike roots, suffixes need not begin with an underlying consonant, and may be as short as a single segment. Representative examples appear in (2.13). Glosses in (2.13) are morphomic.

(2.13)	a. *-n*	b. *-ki*	c. *-ij*	d. *-nurru*	e. *-irrin*
	-n	+ki	-ic	-ɳuru	-iriɲ
	µN	µLOC	µSAME	µASSOC	µRES

f. *-ij*	g. *-wath*	h. *-maruth*	i. *-mungurru*
-i-c	-wa-t̪	-maɻu-t̪	-muŋuru
μMID-J	μINCH-TH	μDAT-TH	μADDICT

Many suffixes such as (2.13f–h) are lexically associated with a thematic, and all such suffixes end in a vowel. Those which are not associated with a thematic may end in a vowel or any of the underlying consonants or clusters listed in Table 2.16 (note that these form a proper subset of the phonological endings found on nominal roots).

Phonological junctures between suffixes and underlyingly adjacent elements may be either regular or exceptional as in (2.14a–c) and (2.14d–f) respectively.

(2.14)	a. *dangkakarrany-*	b. *thawurrkarrany-*	c. *yarramankarrany-*
	ʈaŋkakaraɲ-	t̪aurkaraɲ-	jaramankaraɲ-
	ʈaŋka-karaɲ-	t̪aur-karaɲ-	jaraman-karaɲ-
	man-μGEN-	stream-μGEN-	horse-μGEN-
	d. *dangkawuru-*	e. *balarruru-*	f. *damankuru-*
	ʈaŋkauɻu-	palaruɻu-	ʈamankuɻu-
	ʈaŋka+kuɻu-	palar+kuɻu-	ʈaman+kuɻu-
	man-μPROP-	white-μPROP-	tooth-μPROP-

For many suffixes there is just one juncture type that will always appear to the suffix's left. This is the case for the suffixes in (2.14). The 'morphomic genitive' μGEN is always preceded by a regular juncture '-', and the 'morphomic proprietive' μPROP is always preceded by an exceptional juncture '+'. With other suffixes this is not the case. For derivational suffixes the choice may be predictable according to the suffix's function, or it may be idiosyncratic. The morphomic privative (μPRIV) suffix /wari/ for example is preceded by an exceptional juncture when used derivationally as the 'negative nominalizer' (2.15a), and by a regular juncture when it appears in inchoativized privative stems such as in (2.15b).

(2.15)	a. *bangawalatharri-*	b. *yayarriwath-*
	paŋawalat̪ari-	jajariwat̪-
	paŋa-wala-t̪+wari-	jat̪-wari-wa-t̪-
	‹turtle-miss-TH-μPRIV-›	‹laugh-μPRIV-μINCH-TH-›
	‹a non-misser (with a spear) of turtles›	‹stop laughing›

TABLE 2.16 Attested final consonants and clusters

Suffixes		l	r		n	ɲ	ŋ	t̪	c			rŋ			
Nominal roots	ɻ	l	r	ɳ	n	ɲ	ŋ	t̪	c	k	lŋ	rŋ	ɻk	lk	rk

In (2.16) on the other hand there is no appreciable correlation between µPRIV's function and the choice of juncture.

(2.16) a. *bitharri-*
pit̪ari-
pit̪+wari-
‹good smell-µPRIV-›
‹stinking›

b. *miburwarri-*
mipuɻwari-
mipuɻ-wari-
‹eye-µPRIV-›
‹blind›

Complex stems containing suffixes can be reduplicated. The reduplication in (2.17a) contains the morphomic proprietive (µPROP), in (2.17b) the reciprocal, and in (2.17c,d) multiple suffixes at once.

(2.17) a. *bardiwurubardiwuru-*
paʈiuɻupaʈiuɻu-
paʈi+kuɻu-paʈi+kuɻu-
‹whisker-µPROP-whisker-µPROP-›
‹old man›

b. *karrmathukarrmathuth-*
karmat̪ukarmat̪ut̪-
karma-t̪u-karma-t̪u-t̪-
‹clasp-µRCP-clasp-µRCP-TH›-
‹clasp against one another›

c. *rarumbalarumban-*
ɻaɻumpalaɻumpaɲ-
ɻa-ɻuŋ+paɲ-ɻa-ɻuŋ+paɲ-
‹south-µALL-µPOSS-south-µALL-µPOSS-›
‹southerners›

d. *ngakuluwanngakuluwan-*
ŋakuluwanŋakuluwaɲ-
ŋa-ku-lu+paɲ-ŋa-ku-lu+paɲ-
‹1-2-pl-µPOSS-1-2-pl-µPOSS-›
‹our many›

Suffix allomorphy is discussed in §2.5.

2.4 The termination

One of the more idiosyncratic features of Kayardild word structure is the presence at the end of each syntactic word of a **termination** element, glossed as T. The termination carries no meaning and has four phonological realizations: /a/, /ta/, /ka/, and zero. In most cases the allomorph of T appearing at the end of a word is determined by the phonological form of the stem to which T attaches. A full set of representative, phonologically conditioned cases is shown in Table 2.17.

In instances conditioned purely by the phonology of the stem to which it attaches, the termination takes one of four forms. After stems of more than two morae which end in a low vowel and after stems that end in /uu/, the termination has no overt realization. After all other vowel-final stems it appears as /a/. After consonant-final stems, it appears as /ta/ following a coronal and /ka/ following a velar.

Not all instances of T are selected on the basis of a stem's phonology. The suffixes in Table 2.18 exceptionally select either the /a/ or zero allomorphs of a following

Table 2.17 Regular, phonologically conditioned forms of T

Stem properties		T, and examples			
			Underlying form		
Final string	Mora count	gloss	stem	T	Surface form
/a/	>μμ	'big'	cuŋara	-ø	cuŋara
		'who'	ŋa:ka	-ø	ŋa:ka
/a:/	(any)	-μABL	-naa	-ø	-naa
/u:/	(any)	-μPROP	+kuu	-ø	+kuu
/a/	μ	'foot'	ca	-a	ca:[a]
/a/	μμ	'man'	ʈaŋka	-a	ʈaŋka:
/i/	(any)	'bad'	piʈi	-a	piʈia
/u/	(any)	'woman'	maku	-a	makua
/r/	(any)	'stone'	kamar	-ta	kamara[b]
/ɻ/		'eye'	mipuɻ	-ta	mipuɻʈa
/l/		'leaf'	wiril	-ta	wirilta
/ɳ/		'hollow'	campaɳ	-ta	campaɳʈa
/n/		'tooth'	ʈaman	-ta	ʈamanta
/ɲ/		'low tide'	kapiɲ	-ta	kapinta
/t̪/		'animal'	jaɻput̪	-ta	jaɻputa
/c/		'one'	waɻɲi:c	-ta	waɻɲi:ta
/ŋ/	(any)	'together'	t̪at̪uŋ	+ka	t̪at̪uŋka
/k/		'tree sp.'	kirik	+ka	kirika

[a] On the alternative form /caɻa/ see §3.2.4.
[b] The surface phonological string [rt] is ill-formed in Kayardild; underlying /r-t/ is modified to surface [r].

Table 2.18 Suffixes which irregularly select the /a/ or zero allomorph of T

	Suffix			T	Suffix+T	
					Underlying form	Surface form
a.	Morphomic allative	(μALL)	/-ɻiŋ/	ø	/-ɻiŋ/	[-ɻi]
b.	Morphomic negative	(μNEG)	/-ɳaŋ/	ø	/-ɳaŋ/	[-na]
c.	Morphomic genitive	(μGEN)	/-karaɲ/[a]	ø	/-karaɲ/	[-kara]
d.	Thematics	(TH, J)	/-t̪/, /-c/	/a/	/-t̪-a/, /-c-a/	[-t̪a], [-ca]

[a] μGEN may also select the phonologically regular form of T, /ta/.

termination. Selecting for the zero allomorph can result in the underlying word form ending in a consonant which will be phonologically deleted at the surface. This occurs in Table 2.18 (a–c).

A number of high frequency nominal roots also select an idiosyncratic /a/ or zero allomorph of T if T appears directly after the root. These are *dathin-* /ʈat̪in/ 'that; there' which selects the /a/ allomorph, and the particles *kada-* /kata/ 'again', *bana-* /pana/ 'and', and *mara-* /maɻa/ COUNTERFACTUAL which select the zero allomorph. Some remaining morphological idiosyncrasies of T are discussed in §3.2.3 and §3.2.4. In §3.4 arguments are provided for why T is not a nominative CASE suffix and why T appearing directly after the thematics TH and J is not a tense/aspect/mood suffix.

2.5 Suppletive allomorphy of μPROP, μABL, and μCONS

The morphomic proprietive, ablative, and consequential (μPROP, μABL, μCONS) are each realized by two allomorphs, shown in Table 2.19. The allomorph with the greater segmental content is labelled 'strong' and the other one 'weak'. The alternations between strong and weak forms do not follow from any phonological rule in Kayardild, although the distribution of the two is partly conditioned by phonological factors as we will see.

The conditions under which the allomorphs are used are summarized in Table 2.20 and discussed in turn below.

TABLE 2.19 Strong and weak allomorphs realizing μPROP, μABL, and μCONS

	μPROP	μABL	μCONS
strong	kuɻu	napa	ŋarpa
weak	kuu	naa	ŋara

TABLE 2.20 Conditions on appearance of strong and weak allomorphs

Function of morphome	Allomorph used
Derivational	Strong only
All uses in song	Strong only
Realization of CASE:cons, TAMA:anta, TAMT:antt	Strong only
Realization of other CASE values in spoken language	Strong under conditions C, P1, P2; else weak[a]
Realization of other TAMA and TAMT values in spoken language	Strong under conditions P1, P2; else weak[a]

On conditions C, P1, P2 see main text
[a] weak~strong alternation for μPROP.

When μPROP, μABL, or μCONS function derivationally or when words are in song only the strong allomorphs are used. When μCONS realizes CASE:consequential, TAMT:antecedent, or TAMA:antecedent only the strong form is used. Otherwise whether the strong or the weak form is used depends on a number of factors, listed in Table 2.20 as conditions C, P1, and P2. For μPROP, the strong form may always be used as an alternative for the weak (Evans 1995a:145).

Condition C is morphological and applies to realizations of CASE, specifically CASE:proprietive by μPROP and CASE:ablative by μLOC-μABL. It is met if the μPROP or μABL morphome that realizes CASE fails to appear immediately before the termination, T, and when it is met the strong form is used; otherwise the weak form appears. Examples of μPROP and μABL appearing as the realization of CASE are shown in (2.18). In (2.18a,b) the morphomes sit immediately before T and the weak form appears (and optionally the strong for μPROP). In (2.18c,d) this is not the case, thus condition C is met and the strong allomorph appears.

(2.18) a. *wurankuruwa* ~ *wurankuu*
wuɻan+kuɻu-a ~ wuɻan+kuu-ø
food-μ̋PROP-T
'food-PROP'

b. *kangkuna*
kaŋku+ki-naa-ø
grandfather-‹μLOC-μ̋ABL›-T
'grandfather-‹ABL›'

c. *wurankuruntha*
wuɻan+kuɻu-in̪t̪a-ø
food-μPROP-μOBL-T
'food-PROP-SEJ'

d. *dankinabanguniya*
ʈan+ki-napa-ŋuni-a
this-‹μLOC-μABL›-μINST-T
'this-‹ABL›-INST'

Condition P1 is phonological. It relates to the prohibition in Kayardild surface phonological forms on strings consisting of a long vowel followed immediately by a short vowel or of two identical short vowels followed by a third short vowel, a constraint we may refer to as $*V_\alpha V_\alpha V$. If the occurrence of an allomorph would lead after the application of all phonological rules to the appearance of such a string, then that allomorph is not used. This is relevant for the strong allomorph of μPROP which is underlyingly /+kuu/ and whose initial /k/ is deleted if a vowel precedes it. If the preceding vowel is /u/ this should give us /u+kuu/ → [uuu], an illicit sequence. Examples (2.19a,b) illustrate condition P1 being met, and therefore triggering the use of the strong allomorph of μPROP following a /u/-final stem, but not being met after other vowel-final stems. Surface phonological forms are shown in the second line of the glosses.

(2.19) a. *ngukuwuruwa*
ŋukuuɻua *~ ŋukuuu
ŋuku+kuɻu-a *~ ŋuku+kuu-ø
water-μ̋PROP-T
'water-PROP'
or 'water-FUT'

b. *dangkawu* ~ *dangkawuruwa*
ʈaŋkauu ~ ʈaŋkauɻua
ʈaŋka+kuu-ø ~ ʈaŋka+kuɻu-a
man-μ̋PROP-T
'man-PROP'
or 'water-FUT'

Condition P2 also relates to the avoidance of vocalic strings in surface phonological forms, this time to the avoidance of a long vowel, or two indentical short vowels, followed by a semivowel ($V_\alpha V_\alpha S$). Such strings do in fact appear in Kayardild surface forms as illustrated in (2.20), but their creation is avoided if possible by the use of weak allomorphs.

(2.20)	a. *yiiwija*	b. *waayaaja*	c. *kuuwarriya*
	ji:wica	wa:ja:ca	ku:waria
	ji:wi-c-a	wa:-c-wa:-c-a	ku:k-wari-a
	‹sleep-J›-T	‹sing-J-sing-J›-T	‹wound-μPRIV›-T
	‹sleep›	‹sing a lullaby›	‹unscathed›

Examples (2.21a,b) illustrate condition P2 being met and triggering the use of the strong allomorphs of μPROP and μABL.

(2.21)	a. *kalathuruya*	
	kalat̪uɻuja	*~ kalat̪uuja
	kala-t̪+kuɻu+ki-a	*~ kala-t̪+kuu+ki-a
	‹cut-TH›-μ̋PROP-μLOC-T	
	‹cut›-POT-CMP	
	b. *dankinabaya*	
	ʈankinapaja	*~ ʈankinaaja
	ʈan+ki-napa+ki-a	*~ ʈan+ki-naa+ki-a
	here-‹μLOC-μ̋ABL›-μLOC-T	
	'here-‹PRIOR›-CMP'	

One may ask what evidence there is that the triggering condition in (2.21) is phonological and not, for example, the presence of the following μLOC, or the fact that μLOC realizes the inflectional feature +COMP. The evidence comes from the behaviour of μCONS, which also possesses strong and weak forms. Unlike μPROP and μABL the weak form of μCONS /ŋara/ does not end in a $V_\alpha V_\alpha$ string and consequently its allomorphy will not be affected by P2, which is sensitive to $V_\alpha V_\alpha S$ strings. This is shown in (2.22a). Morphologically, example (2.22a) is entirely parallel to (2.21a): the morphome whose strong/weak form we are interested in realizes a value of the inflectional feature TAMT and it is followed by a μLOC realization of +COMP, yet condition P2 is not triggered. This is because P2 is defined with respect to phonology, and not morphosyntax or morphomes.

(2.22)	a. *warrajarraya*	b. *warrajarrantha*
	waracaraja	waracaran̪t̪a
	wara-c+ŋara+ki-a	wara-c+ŋara-in̪t̪a-ø
	‹go-J›-μ̋CONS-μLOC-T	‹go-J›-μ̋CONS-μOBL-T
	‹go›-PAST-CMP	‹go›-PAST-SEJ

In cases where μPROP, μABL, and μCONS realize TAMT:potential, TAMA:future, TAMA:prior, or TAMT:past, and where neither of the conditions P1 or P2 is met, the default realization of μPROP, μABL, and μCONS is by the weak allomorphs /kuu/, /naa/, and /ŋara/ as illustrated in (2.23a,b), (2.23c,d), and (2.22a,b) respectively.

(2.23) a. *kalathuuntha*
kalat̪uun̪t̪a
kala-t̪+kuu-in̪t̪a-∅
‹cut-TH›-μ̋PROP-μOBL-T
‹cut›-POT-SEJ

b. *wurankuuntha*
wuɻankuun̪t̪a
wuɻan+kuu-in̪t̪a-∅
food-μ̋PROP-μOBL-T
food-FUT-SEJ

c. *dankinaantha*
ʈankinaan̪t̪a
ʈan+ki-naa-in̪t̪a-∅
here-‹μLOC-μ̋ABL›-μOBL-T
'here-‹PRIOR›-SEJ'

d. *warrajarrantha*
waracaran̪t̪a
wara-c+ŋara-in̪t̪a-∅
‹go-J›-μ̋CONS-μOBL-T
‹go›-PAST-SEJ

Before concluding, I wish to draw attention to the specific nature of the phonological conditions P1 and P2. These conditions are met when a surface phonological form would contain the dispreferred strings $V_\alpha V_\alpha V$ or $V_\alpha V_\alpha S$. Importantly, it is only the surface form which matters. For example in (2.23a–c) all of the underlying phonological forms contain $V_\alpha V_\alpha V$ strings, yet this is unproblematic; the word in each case is well-formed because there is no $V_\alpha V_\alpha V$ string at the surface. Likewise in examples (2.21a,b) the words containing weak allomorphs were dispreferred because they contained $V_\alpha V_\alpha S$ strings on the surface; in the underlying forms there were no dispreferred $V_\alpha V_\alpha S$ strings but this did not rescue them. The influence of P1 and P2 on the choice of allomorphs is thus a case of phonologically conditioned allomorphy driven not by underlying forms but by phonologically derived surface forms. Although the existence of such allomorphy has long been noted in generative phonology (Anderson 1975; Carstairs 1987, 1998) it has recently been claimed not to exist (Paster 2006, 2012). Kayardild provides counter-evidence to that recent claim (for further discussion see Round 2009:223–8).

2.6 Morphomes

Aronoff (1994) argues for the linguistic significance of **morphomic** categories, categories which figure in the systematic organization of a language's morphology but which are not isomorphic with any morphosyntactic, semantic, or phonological categories. In the present analysis Aronoff's morphomic categories are formalized as elements in a morphomic level of representation which mediates morphsyntactic/semantic representations and phonological representations.

One of the most basic functions of a morphome in the analysis of Kayardild is to capture the non-accidental sharing of an identical phonological realization by multiple inflectional or derivational features. For example, all of the features on the left in Figure 2.1 are realized by the same morphome, μLOC, which is then realized phonologically as /ki/. The mediating role of μLOC expresses the fact that the eventual realization of all of these features by /ki/ is not accidental. This generalization would go unexpressed if /ki/ were listed independently as the realization of all six features. Another case, involving μOBL is shown in Figure 2.2.

These mappings of multiple features onto the same morphome pervade the morphological system of Kayardild. In the inflectional system for example over 40 per cent of all feature values share an identical morphomic realization with at least one other inflectional feature value, and over 50 per cent share at least part of their exponence with a derivational operation. Examples illustrating some of the features' realizations schematized in Figure 2.1 are shown in (2.24). (Note that on the last line of the gloss the termination is not represented in any way.)

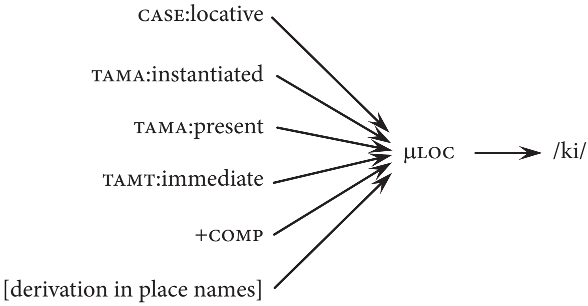


FIGURE 2.1 Realization of features as μLOC, and of μLOC as /ki/

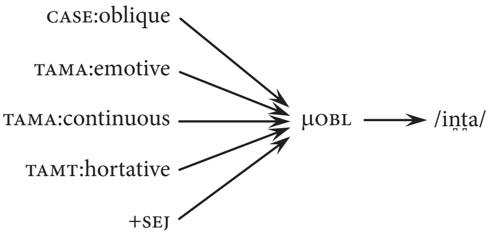


FIGURE 2.2 Realization of features as μOBL, and of μOBL as /in̪t̪a/

(2.24)	a.	*yarbuthiya*	b.	*yarbuthiya*	c.	*buruthiya*
		jaɻput̪+ki-a		jaɻput̪+ki-a		puɻu-t̪+ki-a
		animal-μLOC-T		animal-μLOC-T		‹gather-TH›-μLOC-T
		animal-CASE:LOC		animal-TAMA:INS		‹gather›-TAMT:IMM

d.	*yarbuthiya* jaɻput̪+ki-a animal-μLOC-T animal-COMP:+	e.	*Makarrkiya* makark+ki-a ‹anthill-μLOC›-T ‹Place name›

Morphomes capture more than just identities of individual forms. They also capture identities of shared, multiple forms, identities of aspects of forms, identities of subparts of forms, and identities of restrictions on morphotactics. The following subsections discuss each of these facts. More theoretically and technically oriented treatments of these issues can also be found in Round (2011; in prep a.; in prep b), where I show that other apparatus such as rules of referal (Zwicky 1985; Stump 1993) and the divorcing of function from realization (Beard 1995) do not on their own afford sufficient power to adequately express the morphological facts of Kayardild.

2.6.1 Identity of sets of phonological realizations

The features in Figure 2.1 and Figure 2.2 share more than the phonological realizations /ki/ and /in̪t̪a/. When any of the features from Figure 2.1 is realized next to any from Figure 2.2, as μLOC-μOBL, the eventual phonological realization of both features is /kurka/, a suppletive, cumulative realization of both μLOC and μOBL. Some examples are shown in (2.25). Facts such as this underscore the point that morphomic elements such as μLOC and μOBL are not simply placeholders for specific phonological forms, but are elements whose relationship to phonological forms is one of mapping, where the mapping may be one-to-one, or may be more complex. That features map to μLOC or to μOBL captures the fact that they share not just a single phonological realization but identical sets of phonological realizations.

(2.25)	a.	*dankurrka* ʈan+kurka-a here-‹μLOC.μOBL›-T here-‹LOC-EMO›	b.	*dankurrka* ʈan+kurka-a here-‹μLOC.μOBL›-T here-‹LOC-SEJ›	c.	*dankurrka* ʈan+kurka-a here-‹μLOC.μOBL›-T here-‹PRES-SEJ›

2.6.2 Identity of subparts of phonological realizations

Features may also share a subpart of their phonological realization with other features. This arises when derivational or inflectional features are realized as strings of multiple suffixal morphs. Comparable phenomena in Australian languages have been discussed elsewhere, usually in connection with suffixes that realize case, and have been discussed under the rubrics of 'pre-case' (Blake 1987), 'case spacing' (Dench and Evans 1988), 'derivational case' (Austin 1995), 'ligative' affixation (Blake 1987; Schweiger 2000), and 'compound case' (Schweiger 2000). Here, I will use the term **compound suffixation** to refer to cases where a string of multiple suffixal morphs fulfils just one function. Examples in derivation and inflection are shown in (2.26) and (2.27).

(2.26) Examples of compound suffixation in derivation

a. *ngarnkida*
ŋaɳ+ki-ic-ta
beach-‹**μLOC-μSAME**›-T
beach-‹**PERLATIVE**›
'moving along the beach'

b. *kalkanbalathida*
kalkan+palat̪-ic-ta
sick-‹**μPL-μSAME**›-T
sick-‹**EVERY**›
'all sick'

c. *rayinkirida*
ɻa-in+ki-ɻiŋ-ic-ta
South-‹**μABLC-μLOC-μALL-μSAME**›-T
South-‹**CENTRIPETAL BOUNDARY**›
'thing located to the south across a geographical boundary'

(2.27) Examples of compound suffixation in inflection

a. *kurrinmarriya*
kuri-c-n-wari-a
‹see-J›-‹**μN-μPRIV**›-T
‹see›-‹**NONVER**›

b. *dathinkina*
t̪at̪in+ki-naa-ø
that-‹**μLOC-μ̋ABL**›-T
that-‹**ABL**›-T

c. *danmulaaja*
t̪an-wula-i-c-a
here-‹**μABLO-μMID-J**›-T
here-‹**ABLS**›

In these examples the appearance of specific elements in the morphomic representation captures the fact that parts of the phonological form are also used elsewhere for other purposes. In almost all cases in (2.26) and (2.27) the individual suffix morphomes which comprise the compound suffixes also realize other functions when used by themselves.

2.6.3 Identity of aspects of phonological realization

Inflectional and derivational features may also share just certain aspects of their phonological realization. To take an inflectional example, both CASE:privative and the feature set {+NEG, TAMT:actual} are realized by the morph /wari/. However, CASE: privative is realized by /wari/ preceded by the regular juncture '-' whereas {+NEG, TAMT:actual} is realized by /wari/ preceded by the exceptional juncture '+'. This leads to different modifications of the underlying clusters that span the juncture, as can be seen in (2.28) where /t̪-w/ becomes [j] and /t̪+w/ becomes [t̪].

(2.28)

a. *yarbuyarriya* (**yarbutharriya*)
jaɻpujaria
jaɻput̪-wari-a
animal-μPRIV-T
animal-PRIV

b. *burutharriya* (**buruyarriya*)
puɻut̪aria
puɻu-t̪+wari-a
‹gather-TH›-μPRIV-T
‹gather›-NEG.ACT

The analysis here is that the morphomic units which realize CASE:privative and {+NEG, TAMT:actual} are complex. Both units are built on the same **primary morphome**, μPRIV. This can be seen in the morphomic glosses in (2.28). The units differ however in their **juncture feature**. The realization of CASE:privative is by μPRIV with a 'regular' juncture feature, while the realization of {+NEG, TAMT:actual} is μPRIV with an 'exceptional' juncture feature. To avoid visual clutter morphomic juncture features are not indicated in the morphomic gloss line. Their effect can be seen on the phonological line however.

A similar formal treatment can be extended to allomorphy. As introduced in §2.5, some morphomes are realized as different allomorphs under various conditions. In Chapter 11 it is argued that the nature of the system is that under some conditions the morphology passes an allomorph set (containing strong and weak allomorphs) to the phonology, from which the phonology selects one allomorph; under other conditions the morphology just passes one allomorph (always the strong allomorph). This means that in the general case a morphomic unit must also carry an **allomorphy feature** which indicates whether one allomorph or two will be passed to the phonology when it is realized. Allomorphy features are represented in morphomic glosses by a double acute accent above the μ in instances where the phonology passes two allomorphs (although the phonological gloss only shows the allomorph which the phonology ends up selecting). Examples are shown in (2.29), where CASE:proprietive is realized in (2.29a) with a morphomic allomorphy feature that results in it passing to the phonology just one allomorph, the strong form /kuɻu/; TAMA:future is realized in (2.29b) such that it passes two allomorphs, from which the phonology in this instance selects the weak form /kuu/.

(2.29)	a. *wurankuruntha*	b. *wurankuuntha*
	wuɻan+kuɻu-in̪t̪a-ø	wuɻan+kuu-in̪t̪a-ø
	food-μPROP-μOBL-T	food-μ̋PROP-μOBL-T
	food-PROP-SEJ	food-FUT-SEJ

A formal account of Kayardild morphology thus requires not only a morphomic level of representation, but a decomposition of the elements in that representation into three parts, or distinctive features: a primary morphome, a juncture feature, and an allomorphy feature.

2.6.4 Identity of morphotactic restrictions

Evans (1995a:105–7) points out that the Kayardild inflectional system places special linear sequencing restrictions on certain inflectional suffixes. Stated in terms of the current analysis, there are ordering restrictions on certain morphomes. The morphomic desiderative (μDES) and morphomic oblique (μOBL) can only appear immediately before the termination, T, while the morphomic locative (μLOC) can only appear before T, μOBL, μALL, or μABL. How these restrictions are obeyed varies from case to case. The μDES simply blocks any expected morpheme to its right other than T from being realized; μOBL shifts its linear position to the right edge of the word immediately before T, and the μLOC simply fails to be realized if it would be followed by the realization of an illicit morpheme. The crucial observation is that these generalizations can be stated in such a simple manner only in terms of morphomic categories, not in terms of the multiple, disparate features which those morphomic categories may realize, and not in terms of the disparate set of phonological morphs which the morphomes are realized as. To my knowledge Kayardild provides the clearest example yet of a linguistically significant morphomic level of representation, in the sense that a significant range of generalizations are accorded their simplest and most elegant expression in terms of the same, morphomically represented units.

2.6.5 TAM inflection and morphomic stem shape

It is not uncommon in inflectional systems for the question of whether or not an inflectional feature, for example number, receives a realization at all, to depend on the presence or absence of certain other inflectional features, for example certain case values. It can also occur that the (non)realization of an inflectional feature depends on the phonological form of the stem on which it would be realized. Thus, given that realization can depend on other inflectional features, that is, it can depend on the nature of the morphosyntactic representation, and given that it can depend on the phonological shape of a stem, that is, on the nature of the phonological representation, it should not be surprising if inflectional realization in Kayardild also depended on the nature of the morphomic representation, as indeed it does.

A significant point of differentiation between the present analysis and that of Evans (1995a) is that here the shape of the stem in its morphomic representation will play a crucial role in regulating the realization of the two TENSE/ASPECT/MOOD (TAM) features in the inflectional system. One feature, the 'thematic' TAM feature, will be realizable on stems which end morphomically with one of the thematics, TH and J, while the 'athematic' TAM feature will be realizable only on stems which do not end in a thematic. By stating the generalization in this way it is possible to dispense with one of the more striking aspects of Evans' (1995a) analysis of Kayardild, in which inflectional suffixes are analysed as altering a stem's 'morphological word class', from morphological nominal to morphological verbal or *vice versa*. Reasons for abandoning that analysis will be discussed more closely in Chapter 9.

2.6.6 Morphomicity in Evans (1995a)

Evans (1995a) formulates a distinctive notion of CASE which replicates several of the characteristics of the present, morphomic analysis of Kayardild although the detail and in particular the reasoning behind Evans' treatment of CASE are significantly different to the treatment here. We may begin with the similarities.

A number of morphosyntactic features which are analysed here as something other than CASE are analysed in Evans (1995a) as functions of CASE morphemes. In certain respects, Evans' CASE morphemes approximate the level of representation which is identified here as the morphome. For example the range of forms identified in Evans (1995a) as containing the oblique CASE morpheme comes close to those identified here as containing the morphomic oblique (μOBL) morphome; compare Figure 2.2 above with a similarly laid out diagram of Evans' oblique CASE, its functions, and its phonological realizations in Figure 2.3. (The right side of the diagram lists surface phonological variants rather than a single underlying form, which for present purposes is an insignificant difference.)

The approach taken by Evans (1995a) and formulated originally in Evans (1985) appears during a period of theoretical development in the Australianist literature occurring around the same time, notably in Dench and Evans (1988), Dench (1995), and Austin (1995), which tackled issues in the analysis of suffixes in Australian languages which mark CASE and have distinctive polyfunctionality. The approach replicates much of the mapping achieved with morphomes but with one significant gap: Evans' TENSE suffixes are treated differently, even though they share with CASE all of properties listed in §§2.6.1–2.6.4 above. Since Evans provides a careful articulation of the arguments underlying his model of CASE it is possible to compare them with the basis of the morphomic model used here.

The conceptual basis of CASE in Evans (1995a) is fundamentally different from that of morphomes in the present analysis. In addition to observations regarding similarities and identities of form, Evans (1995a:117–19) presents a set of semantic and syntactic arguments for positively identifying and grouping his morpheme-like elements as CASE markers, and another set of semantic and syntactic arguments for excluding TENSE. In contrast, the notion of a morphome employed here is that of a category which specifically is not coherently grounded in semantics, syntax, or phonological form, one which instead is a purely morphological category which figures prominently in the organization of the morphological system (Aronoff 1994). Let us briefly consider then whether Evans' semantic and syntactic arguments for grouping the functions of CASE and excluding TENSE are compelling.

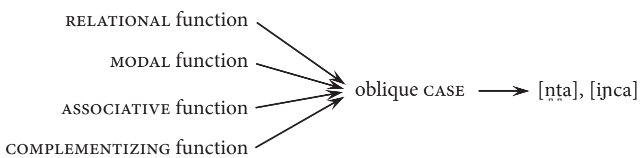


FIGURE 2.3 Oblique CASE in Evans (1995a)

In order to unite into one category the many functions of CASE, including 'MODAL CASE' which will be analysed in this book as a tense/aspect/mood feature, Evans (1995a:117–18) appeals to a definition of case due to Mel'cuk (1986). Key criteria are that the phenomenon in question should display morphological concord, and that it be used to distinguish types of syntactic dependency. All of Evans' functions of CASE do meet these criteria, but as we will see in Chapters 4–7 so do all inflectional features in Kayardild including NUMBER and the equivalent of Evans' TENSE. Thus the positive reasons for grouping CASE fail to stop at just CASE; they extend to all features and so fail to distinguish any proper subset.

The unification of TENSE with CASE is rejected by Evans (1995a:255) for three reasons. The first is that there fails to exist a matching CASE value, with a similar set of phonological realizations, for each value of TENSE. Problematic here is that among the different functions of CASE the same failure applies, and applies often. For example there is no value of COMPLEMENTIZING CASE to match the proprietive value of RELATIONAL CASE. If this criterion is applied uniformly, the single CASE category will be dissolved. The second reason is that there exists a one-to-many relationship between certain CASE and TENSE values. That is, in terms of its phonological realization and its diachronic source, the consequential CASE matches both the precondition TENSE and the past TENSE (in the terms of the morphomic analysis here, all three inflectional features are realized by μCONS). Again however, the same, supposedly problematic relationship can be found among the functions of CASE. The RELATIONAL ABLATIVE shares its forms with two kinds of MODAL ABLATIVE. Although the MODAL ABLATIVE is given a unitary label in Evans (1995a), it has two distinct functions, each with distinctive allomorphy (Evans 1995a:260–1). Thus if the second criterion is applied uniformly, it will also dissolve the single CASE category. The third is that 'the meanings of the [TENSE] inflections are sometimes difficult to relate synchronically' to CASE (Evans 1995a:255). This semantic argument carries little force. Both TENSE and the MODAL function of CASE relate to the semantic field of tense/aspect/mood and their affinities are therefore closer to one another than MODAL CASE is to either of RELATIONAL CASE (which corresponds to a more tradition notion of case) or COMPLEMENTIZING CASE (which indexes relationships between clauses). If the third criterion is applied uniformly, the single CASE category will once again be dissolved.[6]

Neither the positive arguments for grouping the functions of CASE together nor the negative arguments for dissociating them from TENSE are convincing. The approach

[6] It might appear that this predicament can be avoided by returning to Evans' semantic grounds for grouping case functions together. The claim is made that case systems are often semantically more heterogeneous than canonical descriptions of case suggest: 'the case systems of most languages abound in such problematic polysemy' (Evans 1995a:118), and this might be cited to justify tolerating a greater degree of semantic divergence in case categories than in others. However the question then arises as to whether one can ever draw a semantic boundary between case and other features. If not, then we cannot dissociate tense from case on semantic grounds as was proposed.

presented in this volume proceeds instead from the recognition that there exists no coherent, synchronic semantic or morphosyntactic basis to morphomic categories in Kayardild.

2.6.7 Realization for Evans' (1995a) CASE values is not uniform

Here I make a short but significant observation regarding the degree to which values for Evans' unitary CASE category have uniform phonological exponences. At one juncture Evans states that CASE suffixes 'have the same form and range of allomorphy regardless of their function' (Evans 1995a:118).[7] This statement has at times been taken at face value by other researchers,[8] but it is not correct. Two facts have been abstracted away from. First, the allomorphy of Evans' ablative CASE morpheme is different when it takes a MODAL function (signalling tense/aspect/mood) in precondition clauses, compared against its other uses (Evans 1995a:261). Secondly, the allomorphy of the proprietive CASE morpheme is not the same in its MODAL function as in its relational and adnominal functions generally (Evans 1995a:145).

In passing, it may be of interest to scholars of morphemic theory to observe the extended notion of the morpheme which is implicitly at play in Evans' (1995a) analysis of Kayardild CASE. First, CASE morphemes have multiple functions. Secondly, many of them have multiple forms, entailing the existence of many-to-many relationships between form and function. Finally, for CASE morphemes such as the ablative and proprietive, some of their multiple forms relate exclusively to only some of their multiple functions, a situation which prototypically would call for the postulation of separate morphemes. Arguably this indicates just how deeply non-morphemic the morphology of Kayardild is. Despite Evans' innovative approach to the CASE morpheme as an analytical device and the insights which have been obtained by applying it, there are significant additional insights which do not emerge until a morphomic analysis is used.

2.6.8 Morphomicization and implications for the analyst

Much has altered during the evolution of the modern Kayardild morphological system. Thematic markers would once have consistently correlated with the end of a lexical stem in a syntactically verbal word. Now they also appear in CASE suffixes on nouns. The suffix /n/ would once have been solely a derivational nominalizer, deriving the stems on which syntactic nouns were based. It is now the realization of μN, a morphomic category which retains the original nominalizing function but

[7] The sentence continues, 'except for variations resulting from exposed vs internal position, which are clearly derivative.' To the extent that Evans is referring here to effects such as the deletion of suffix-final segments by the phonology I agree that such variations are not significant. It is the variations conditioned by function which are significant.

[8] For example, by Sadler and Nordlinger (2006b), on which see §9.4.

also appears in four different TAM suffixes on verbs. The string /n-ŋarpa/ (now μN-μCONS) would once have been solely a nominalizer followed by a case marker but is now also a unitary, complex suffix realizing TAM.

The multiplication of polysemies, the accumulation of compound suffixes, and the co-opting of derivational exponents into the inflectional system would all have intensified the morphological complexity of Kayardild's ancestral line to the point where some language learners would have posited morphomic representations where their parents had not. Perhaps it was only after that tipping point that much of the complexity of modern Kayardild was elaborated, as the morphomic organization of the langauge invited reanalyses triggering the development of more of the same (see Evans 1995b regarding the recency of some of Kayardild's complex morphology).

Irrespective of what eventually is concluded regarding Kayardild's past, the challenge for the analyst of the modern language is that the link between phonological form and inflectional or derivational function has become complex and pervasively so. Many of the departures which the present analysis of Kayardild will make from Evans (1995a) are consequences of identifying different solutions to the task of sorting form from function. When deciding whether to depart from the results of earlier research I have found the most forceful motivations to lie in the operation of the morphological system as a whole, and the best analysis to be the one which captures such empirical generalizations with the greastest simplicity and insight.

3

Specific stems and suffixes

This chapter takes up specific aspects of the morphology of Kayardild which, although they will not be the focus of attention in later chapters, will be present in the data nonetheless. Since none of them is central to later analyses, some readers may wish to skip ahead now to Chapter 4. This chapter examines specific suffixes in §3.1, specific stems and stem–suffix dependencies in §3.2, and the place of song forms in Kayardild grammar in §3.3. Section 3.4 substantiates the current analysis of the termination in words that lack overt realizations of inflectional features.

3.1 Suffixes

3.1.1 Morphomic middle, μMID

The middle stem of a verb is formed by replacing the final thematic of the active stem with the morphomic middle (μMID) suffix plus the J thematic. All allomorphs of μMID consist segmentally of /i/, and since verb stems minus their thematic all end in vowels, the suffixation of μMID leads to underlying /V-i/ strings. Such strings are subject to some of the most complex phonology of Kayardild, with the repair of vowel hiatus in /V-i/ and /V-iː/ strings following one of five patterns (Round 2009:276–82). Which of the five patterns is followed is determined morphologically, which under the present account entails a representation at the morphomic level of a choice of phonological juncture, as for example by a hiatus juncture feature on μMID. The morpheme μMID has several uses. When used to form the middle stem of a verb it associates by default with a class II hiatus juncture feature, giving rise to the phonological forms illustrated in Table 3.1.[1]

Other allomorphs of μMID attach to derivational, verbal suffixes. An allomorph with a class V juncture feature attaches to the morphomic factitive (μFACT) and the

[1] Middle forms of intransitive verbs such as *wanjiij-* 'ascend' are rarely used in Kayardild but they do occur. The middle form of an intransitive verb will appear in nominalizations referring to places where some intransitive action takes place. For example, the stem *budubudu-‹warraan›-* 'boat-‹go-μMID-μN›' means 'harbour', literally, where boats go; *yalikida-‹wanjiin›-* 'crocodile-‹ascend-μMID-μN›' describes a place where crocodiles come ashore. Even reciprocals participate in the pattern: *barrngka-‹balanthiin›-* 'water lily-‹hit-μRCP-μMID-μN›' describes a swamp where water lilies hit against one another.

Table 3.1 Middles formed with the standard allomorph of μMID

	Gloss	Active stem forms		Middle stem forms	
		Underlying	Surface	Underlying	Surface
a.	‘see’	kuri-c-	kuric-	kuri-i-c-	kuriːc-
b.	‘gather’	puɻu-t̪-	puɻut̪-	puɻu-i-c-	puɻiiːc-
c.	‘leave’	ʈana-t̪-	ʈanat̪-	ʈana-i-c-	ʈanaːc-
d.	‘eat’	ʈia-c-	ʈiac-	ʈia-i-c-	ʈiaːc-
e.	‘ascend’	waɲciː-c-	waɲciːc-	waɲciː-i-c-	waɲciːc-
f.	‘scratch’	kuluː-c-	kuluːc-	kuluː-i-c-	kuliiːc-
g.	‘show’	maraː-c-	maraːc-	maraː-i-c-	maraiːc-
h.	‘shelter’	kiː-c-	kiːc-	kiː-i-c-	kiːc-
i.	‘pull’	puː-c-	puːc-	puː-i-c-	puiːc-
j.	‘bite’	paː-c-	paːc-	paː-i-c-	paiːc-

morphomic reciprocal (μRCP) suffixes. Examples are shown in Table 3.2.[2] The underlying string /u+i/ which yielded /iiː/ in Table 3.1 above now yields /iː/ due to the different hiatus juncture type.

3.1.2 Thematic inflectional suffixes and their middle forms

Certain inflectional CASE categories, termed **thematic case** categories, are realized morphomically by a string of two or more suffixes, the last of which is a thematic. Eight of these categories come in pairs whose formal relationship to one another can be expressed in terms of one suffix being basic and the other being comprised of the basic suffix plus μMID. These are listed in Table 3.3.

3.1.3 Morphomic reciprocal, μRCP

Much like for the middle, the reciprocal stem of a verb is made by replacing the thematic of the basic stem with one of the three morphomic reciprocal morphomes

Table 3.2 Other allomorphs of μMID attached to suffixes

	Gloss	Active stem forms	Middle stem forms	
		Underlying	Underlying	Surface
a.	μFACT	-ɻu-t̪-	-ɻu-i-c-	-ɻiː-c-
b.	μRCP	e.g. -n̪t̪u-t̪-	-n̪t̪u-i-c-	-n̪t̪iː-c-

[2] On the existence of middles of reciprocals, see fn.1 above.

TABLE 3.3 Thematic case suffixes, including those formed with µMID

	Gloss	Morphomic	Underlying	Surface	(juncture feature)
a.	human allative	µALLH-J	-cani-c-	-canic-	
b.	purposive	µALLH-µMID-J	-cani-i-c-	-caniːc-	III
c.	OBJ-ablative	µABLO-TH	-wula-t̪-	-wulat̪-	
d.	SUBJ-ablative	µABLO-µMID-J	-wula-i-c-	-wulaːc-	III
e.	dative	µDAT-TH	-maɻu-t̪-	-maɻut̪-	
f.	translative	µDAT-µMID-J	-maɻu-i-c-	-maɻiːc-	V
g.	OBJ-evitative	µOEV-TH	-waːlu-t̪-	-waːlut̪-	
h.	SUBJ-evitative	µOEV-µMID-J	-waːlu-i-c-	-waːlic-	IV

TABLE 3.4 Surface forms of plain stems and corresponding, regular reciprocal stems

	Gloss	Plain stem	Reciprocal stem	
a.	'see'	kuri-c-	kuri-ɲcu-t̪-	-µRCP1-TH
b.	'refuse to share'	kuiɻiː-c-	kuiɻiː-ɲcu-t̪-	-µRCP1-TH
c.	'gather'	puɻu-t̪-	puɻu-t̪u-t̪-	-µRCP2-TH
d.	'scratch'	kuluː-c-	kuluː-ɲcu-t̪-	-µRCP1-TH
e.	'leave'	t̪ana-t̪-	t̪ana-t̪u-t̪-	-µRCP2-TH
f.	'share'	ŋukulmaː-c-	ŋukulmaː-ɲcu-t̪-	-µRCP1-TH
g.	'eat'	t̪ia-c-	t̪ia-ɲcu-t̪-	-µRCP1-TH

(µRCP1/2/3) plus a thematic TH.[3] In most cases, thematic J is replaced by µRCP1-TH /ɲcu-t̪-/ and thematic TH by µRCP2-TH /t̪u-t̪-/, as shown in Table 3.4.

When a monosyllabic verbal root of the form /Caː/ is reciprocalized the string µRCP3-TH /n̪t̪u-t̪-/ is used and the long vowel of the root is shortened.[4] I have no examples of reciprocals attaching to /Ciː/ stems. The verbal root *thuu-* /t̪uː-/ 'curse'

[3] The formation of reciprocal stems is one area of the grammar where younger speakers' Kayardild differs noticeably from that of senior speakers, which is described here. Younger speakers often attach µRCP3 /n̪t̪u-t̪-/ to polysyllabic roots other than *bala-th-* 'hit', and sometimes form reciprocals of monosyllabic roots as if they were polysyllabic, e.g. *baa-nju-th-* 'bite-µRCP1-TH', or leave long vowels unshortened, e.g. *raa-nthu-th-* 'spear-µRCP3-TH'.

[4] This synchronically idiosyncratic vowel length alternation has a sound diachronic pedigree. Monosyllabic verbal roots can be reconstructed in proto Tangkic as having had short vowels. The long vowels in a verbal stem like *baaj-* 'bite' were innovated between proto Tangkic and proto Southern Tangkic—compare Lardil (Northern Tangkic) *beth-a* 'bite'. The short vowel in a reciprocal like *ranthuth-* 'spear RCP' is thus conservative.

TABLE 3.5 Plain and reciprocal stem forms built on monosyllablic verb roots

	Gloss	Plain stem	Reciprocal stem	
a.	‘bite’	paː-c-	pa-n̪t̪u-t̪-	-μRCP3-TH
b.	‘spear’	ɻaː-c-	ɻa-n̪t̪u-t̪-	-μRCP3-TH
c.	‘copulate with’	ʈaː-c-	ʈa-n̪t̪u-t̪-	-μRCP3-TH
d.	‘curse’	t̪uː-c-	cu-n̪t̪u-t̪-	-μRCP3-TH
e.	‘kiss’	waɻa-paː-c- ‘lit. mouth-bite-J’	waɻa-pa-n̪t̪u-t̪-	-μRCP3-TH
f.	‘pull’	ʈar-puː-c- ‘lit. thigh-pull-J’	ʈar-puː-ɲcu-t̪-	-μRCP1-TH

has an irregular reciprocal *ju-nthu-th* which appears to be based on /cuː/, plus suffixation of μRCP3-TH /n̪t̪u-t̪-/ and vowel shortening. In the case of compound stems which end in a monosyllabic verbal root there is variation:[5] sometimes one finds μRCP3 /n̪t̪u-t̪-/ with a shortened vowel, other times, μRCP1 /ɲcu-t̪-/ with the full vowel. A summary is shown in Table 3.5.

The verbal root /wuː-/ ‘give’ has a reciprocal form in which the root vowel is shortened and root plus thematic is reduplicated.[6] Moreover, the usual thematic J (which is the only thematic that can appear after long vowels and which therefore normally appears after long /wuː-/) is replaced by thematic TH (which can appear after the short vowel of shortened /wu-/). An ‘exceptional’ juncture appears between the two copies of root+thematic, and the thematic in the second copy is then replaced by μRCP /n̪t̪u-t̪/, yielding the form shown in (3.1).

(3.1) *wuthunthuth-*
wut̪un̪t̪ut̪-
wu-t̪-wu-n̪t̪u-t̪-
give-TH-give-μRCP-TH-

Idiosyncratically, the root /pala-t̪/ ‘hit’ selects either μRCP2 or μRCP3 yielding both *bala-nthu-th-* and *bala-thu-th-* ‘hit-μRCP-TH’. I have recorded individual speakers using both of these forms.

5 I have too few tokens of such words to determine what the basis of variation is. It could be lexical, phonological, or inter-speaker variation.

6 In proto Tangkic reduplicated monosyllabic roots had a long first vowel and short second, cf. Lardil’s *beej-be-* ‘bite RDP’. Kayardild’s *wuthunthuth-* contains an etymologically short second vowel plus recently shortened first vowel. Yukulta’s *wuuthunthuth-* ‘share something, lit. give RCP’ retains the original vowel lengths.

3.1.4 Morphomic genitive μGEN and μGENL /pa-/

The morphomic genitive (μGEN) is realized as /karaɲ/. After the roots *dan-* /ʈan/ 'here; this', *dathin-* /ʈat̪in/ 'there; that', and *kiyarrng-* /kiarŋ/ 'two',[7] the usual μGEN is preceded by /pa/ which is analysed here as a separate morph[8] labelled the 'genitive ligative' (μGENL), shown in (3.2).

(3.2)	a. *danbakarra*	b *dathinbakarra*	c. *kiyarrbakarra*
	ʈan-pa-karaɲ-ø	ʈat̪in-pa-karaɲ-ø	kiarŋ-pa-karaɲ-ø
	this-μGENL-μGEN-T	that-μGENL-μGEN-T	two-μGENL-μGEN-T
	'this-ø-GEN'	'that-ø-GEN'	'two-ø-GEN'

3.1.5 Non-inflectional, number-like suffixes

On the analysis advocated here, Kayardild possesses just two inflectional suffixes which convey number, the morphomic plural (μPL) and morphomic dual (μDU)—the criterial behaviour of an inflectional number suffix is that it exhibits concord within the DP or NP, cf §6.6.

Evans (1995a:183–7) also describes the morphomic plenty (μPLENTY) /wut̪iɲ/ as inflectional; however neither Evans' data nor my corpus furnish any examples which can support (or refute) that claim. Two suffixes described as having 'semantic affinities' with number suffix are the 'EVERY' use of μPL-μSAME and the 'morphomic another' (μANOTH) suffix, neither of which are inflectional according to the criterion of exhibiting concord in DP or NP, as illustrated in (3.3) and (3.4).

(3.3) *ngamburnurruwalathida*[9] *dulk* (not ... *dulwalathid*)
ŋampu-ŋuru-‹palat̪-ic›-ta ʈulk+ka
well-μASSOC-‹EVERY›-T place-T
'places all with wells' [E1984-5-7]

(3.4) *kiyarryarrada* *wurkar* (not ... *wurkarayarrada*)
kiarŋ-jarat̪-ta wuɻkaɻa-ø
well-μANOTH-T boy-T
'two more boys' [R2005-jun29]

3.1.6 Suffixes obscured by phonological modifications

In order to take into proper account the effects of phonological deletions, there are cases in which a morph is analysed as being underlyingly present even though it fails

[7] I have no tokens of a genitive inflection of *warngiij-* /waɻŋiːc/ 'one'.

[8] See also Round (2009:214–25) for motivation for this analysis from stress.

[9] Here the EVERY use of μPL-μSAME occurs after μASSOC which I interpret as derivational, and not a realization of the inflectional feature CASE:associative. The use of μASSOC to derive nominals meaning 'places with X', and the reference to many such places by use of μPL-μSAME, is common in my corpus, accounting for around one quarter of the instances of μPL-μSAME.

to appear in the surface form of some words. In all such cases, the reasoning behind the analysis is that in morphologically comparable forms, the morph in question can be identified as present at the underlying phonological level, and that phonological modifications for which there is independent evidence are expected to cause the deletion of the morph at the surface. One suffix which is often deleted at the surface is the μLOC, realized underlyingly as /ki/. The μLOC is always preceded by an 'exceptional' phonological juncture and hence its initial /k/ is often deleted. This can leave the /i/ adjacent to a preceding vowel in which case it can also be deleted. A range of scenarios is presented in (3.5). The underlying /k/ survives only after a nasal (3.5a–c) and is palatalized to /c/ after /ɲ/ (3.5b). Otherwise the /k/ does not surface (3.5d–f). When /k/ deletes the remaining /i/ becomes /j/ between two vowels (3.5e) and deletes entirely in the environment /V__C (3.5f).

(3.5)	a.	b.	c.
	dathinkiya	*duujinjiya*	*burungkina*
	ʈat̪inkia	ʈuːciɲcia	puɻuŋkinaa
	ʈat̪in+ki-a	ʈuːciɲ+ki-a	puɻuŋ+ki-naa-ø
	that-μLOC-T	younger sibling-μLOC-T	ripe-‹μLOC-μ̋ABL›-T
	that-INS	younger sibling-INS	ripe-‹ABL›
	d.	e.	f.
	yarbuthiya	*dangkaya*	*dangkana*
	jaɻput̪ia	ʈaŋkaja	ʈaŋkanaa
	jaɻput̪+ki-a	ʈaŋka+ki-a	ʈaŋka+ki-naa-ø
	animal-μLOC-T	person-μLOC-T	person-‹μLOC-μ̋ABL›-T
	animal-INS	person-INS	person-‹ABL›

The thematics TH and J are realized as underlying laminal plosives which delete before a following apical consonant (3.6), although their underlying presence can leave a trace in the deretroflexion of a following apical retroflex, (3.6b).

(3.6)	a.	b.
	kabanda	*warrana*
	kapanta	warana
	kapa-t̪-n-ta	wara-c-ɳaŋ-ø
	‹hunt-TH-μN›-T	‹go-J›-μNEG-T
	‹hunter›	‹go›-NEG.IMP

3.2 Stems and stem–suffix dependencies

3.2.1 Personal pronominal stems

There are three series of personal pronominal stems in Kayardild, referred to here as **basic**, **possessive**, and **sejunct**. In each series there is a contrast between first, second, and third person; and singular, dual, and plural number. In the dual and plural of the basic and possessive series a contrast exists between exclusive (i.e. 1-d, 1-p) and inclusive (1-2-d, 1-2-p). Non-singular number categories are marked overtly by /r ~ ra ~ ru/ (dual) or /l ~ la ~ lu/ (plural). A special non-singular inclusive form exists solely

TABLE 3.6 Person/number roots

	Singular		Non-singular
	Basic	Other	
1	ŋat̪	ŋicu	ŋa
1-2			ŋa-ku
2	ɲiŋ	ŋuŋ	ki
3	ɳi		pi

TABLE 3.7 Underlying forms of basic, possessive and sejunct pronominal stems

	Basic	Possessive	Sejunct
1s	ŋat̪-	ŋiciɲ-	ŋicuwa-
1d	ŋar-	ŋar(a)waɲ-	ŋar(a)wa-
1p	ŋal-	ŋal(a)waɲ-	ŋalawa-
12d	ŋakur-	ŋakurwaɲ-	
12p	ŋakul-	ŋakul(u)waɲ-	
12nonsg		ŋakiɲ-	
2s	ɲiŋ-	ŋumpaɲ-	ŋumpa-
2d	kir-	kirwaɲ-	kirwa-
2p	kil-	kil(u)waɲ-	kiluwa-
3s	ɳi-	ɳiwaɲ-	ɳiwa-
3d	pir-	pirwaɲ-	pirwa-
3p	pil-	pil(u)waɲ-	piluwa-

Vowels in parentheses are optional.

in the possessive series. For each person category in each series, the singular root differs from a common, non-singular root. In the first and second person the singular root also differs between the basic series on the one hand and the possessive and sejunct series on the other. Person/number roots are summarized in Table 3.6.

The basic series is used as the stem when the word is associated either with no inflectional features or solely with the +COMP feature. The sejunct series (corresponding to Evans' (1995a) 'subject oblique' series) is used when solely +SEJ is associated with the word. The possessive series is used in all other inflectional contexts, and also serves as the possessive stem and as the pronominal stem used in compounds (cf §3.2.6). Stems are shown in Table 3.7 and their analysis into constituent morphs in Table 3.8. The morphomic possessive and sejunct morphs (µPOSS, µSEJ) /paɲ/, /pa/ are preceded by an 'exceptional' juncture, hence underlying /p/ often surfaces as [w]; the initial /i/ of µINY /iɲ/ forces the deletion of a preceding, underlying /u/ vowel.

TABLE 3.8 Analysis of basic, possessive and sejunct pronominal stems

Basic		Possessive		Sejunct	
1s	ŋat̪-	1s-µINY	ɲicu-iɲ-	1s-µSEJ	ŋicu+pa-
1-d	ŋa-r-	1-d-µPOSS	ŋa-r(a)+paɲ-	1-d-µSEJ	ŋa-r(a)+pa-
1-p	ŋa-l-	1-p-µPOSS	ŋa-l(a)+paɲ-	1-p-µSEJ	ŋa-la+pa-
1-2-d	ŋa-ku-r-	1-2-d-µPOSS	ŋa-ku-r+paɲ-		
1-2-p	ŋa-ku-l-	1-2-p-µPOSS	ŋa-ku-l(u)+paɲ-		
		1-2-µINY	ŋa-ku-iɲ-		
2s	ɲiŋ-	2s-µPOSS	ŋuŋ+paɲ-	2s-µSEJ	ŋuŋ+pa-
2-d	ki-r-	2-d-µPOSS	ki-r+paɲ-	2-d-µSEJ	ki-r+pa-
2-p	ki-l-	2-p-µPOSS	ki-l(u)+paɲ-	2-p-µSEJ	ki-lu+pa-
3s	ŋi-	3s-µPOSS	ŋi+paɲ-	3s-µSEJ	ŋi+pa-
3-d	pi-r-	3-d-µPOSS	pi-r+paɲ-	3-d-µSEJ	pi-r+pa-
3-p	pi-l-	3-p-µPOSS	pi-l(u)+paɲ-	3-p-µSEJ	pi-lu+pa-

3.2.2 *Irregular suffixed forms of stems*

Three lexical stems have partially idiosyncratic suffixed forms, as documented by Evans (1995a:129, 367, 642) and shown in Table 3.9. In the first two cases, the idiosyncratic form is in variation with a regular form.[10]

In all three cases, the idiosyncratic suffixed forms differ in only small respects from the (attested or unattested) regular form. In terms of a formal analysis, one could posit phonological modifications specific to the word forms which cause them to deviate from regular forms, or posit idiosyncratic allomorphs such as: /kari/ for µPRIV which would attach to the regular stem /wuɻan/ in *wurankarri*; an irregular, cumulative STEM+µPROP form /palmpuu/ for *balmbuu*;[11] and an irregular stem /ŋaː/ or /ŋaːk/ to which the regular µGEN suffix /karaɲ/ would attach in *ngaakarra*.

The root *mawurraji-* /mauraci-/ 'fighting spear' has an optional form *mawurrajin-* when uninflected, which when followed by the regular allomorph of T yields /mauracinta/. In an inflected word only the root /mauraci-/ is used.

[10] The form *wurankarri-* has an idiosyncratic meaning 'hungry', though I have also heard it used with the productive meaning 'food-less', used in reference to a bush with no fruit.

[11] According phonological principles found elsewhere in Kayardild there is no way to attach an irregular suffix to the regular stem /palmpi/, or to attach regular µPROP /kuu/ to an irregular stem, to yield /palmpuu/ and so a cumulative, irregular form would need to be listed whole.

TABLE 3.9 Idiosyncratic suffixed forms of lexical stems

	Plain stem	Idiosyncratic	Regular
a.	*wuran-* wuɻan- food	*wurankarri-* wuɻankari- food.µPRIV	*wuranmarri-* wuɻan-wari- food-µPRIV
b.	*balmbi-* palmpi- tomorrow	*balmbu-* palmpuu- tomorrow.µPROP-	*balmbiwu-* palmpi+kuu- tomorrow-µPROP
c.	*ngaaka-* ŋaːka- what	*ngaakarrany-* ŋaːk-karaɲ what-µGEN-	**ngaakakarrany-* ŋaːka-karaɲ- what-µGEN-
		ngaakarra ŋaːk-karaɲ-ø what-µGEN-T	**ngaakakarra* ŋaːka-karaɲ-ø what-µGEN-T

3.2.3 Irregular µPL-T

The morphomic plural (µPL) is realized solely as /palaṯ/ except at the end of a word. At the end of a word there are two possibilities in free variation. In the first, µPL is realized as /palaṯ/ followed by the phonologically regular /-ta/ allomorph of T. In the second, the string µPL-T is realized as /palaː/. One analysis of the latter is that µPL has an allomorph /pala/ before T, which idiosyncratically selects the /-a/ allomorph of T. This would accord with the historical picture, where µPL descends from an erstwhile particle /walaṯ/ ~ /wala/ (Round 2011c)[12] which would have selected phonologically regular allomorphs /-ta/ and /-a/ for T. An alternative synchronic analysis is that /palaː/ is the cumulative realization of µPL and T. I am not aware of any synchronic grounds for preferring one analysis over the other.

3.2.4 The increment

Nominal roots with the shape /CV/ are rare in Kayardild. There are three with the shape /Ca/. When uninflected each of these is optionally followed by a morphomic increment (INC) realized phonologically as /ɻ/ and which in turn idiosyncratically selects the /-a/ allomorph of T. This is shown in Table 3.10, which also compares the

[12] cf Lardil *wala* 'and then', *walac-i* 'in addition'. The change from initial /w/ to /p/ is motivated by the innovation of an 'exceptional' juncture before the newly grammaticalized suffix—note that the initial /p/ of µPL still often surfaces as [w] in modern Kayardild.

TABLE 3.10 Incremented /Ca/ roots

Root		With no INC	With INC
ca	'foot'	ca-a 'foot-T'	ca-ɻ-a 'foot-INC-T'
ca	'rain'	ca-a 'rain-T'	ca-ɻ-a 'rain-INC-T'
ɻa	'south'	ɻa-a 'south-T'	ɻa-ɻ-a 'south-INC-T'
maɻ	'hand'	maɻ-ta 'hand-T'	

TABLE 3.11 An incremented /Cu/ root

Root		With no INC	With INC
ɻu	'fat'	*ɻu-a, *~ɻuː 'fat-T'	ɻu-ɻ-a 'fat-INC-T'
ʈuɻ	'faeces'	ʈuɻ-ta 'faeces-T'	

incremented roots with a true /Caɻ/ stem, which selects the regular, phonologically determined allomorphy of T.[13]

Senior speakers in my corpus use only the unincremented root in inflected forms or in compounds as in (3.7a,b), whereas younger speakers use the incremented form as an alternative to the basic root even in inflected and derived forms, as in (3.7c). The increment does arguably appear in the derivational locative stem /ɻaɻi-/ of the 'south' root /ɻa/, on which see §3.2.5.

(3.7)	a. *jathaldinda*	b. *rawu*	c. *jarmurnduwa*
	ca-t̪alti-c-n-ta	ɻa+kuu-ø	ca-ɻ-muɳʈu-a
	rain-stand-J-μN-T	south-μ̋PROP-T	foot-INC-crooked-μPROP-T
	'steady rain'	south-FUT	'pigeon-toed' (younger speaker)

13 Evans (1995a:124) characterizes individual speakers as using either exclusively the unincremented or the incremented forms. The relevant data I have are scanty, but one speaker is recorded using both unincremented /ca-a/ 'foot-T' and incremented /ɻa-ɻ-a/ 'south-INC-T'.

TABLE 3.12 An incremented polysyllabic root

Root		With no INC	With INC
ciŋka	'scrub'	*ciŋka-a 'scrub-T'	ciŋka-ɻ-a 'scrub-INC-T'
ʈawaɻ	'tree sp.'	ʈawaɻ-ta 'tree sp.-T'	

There is one /Cu/ root, *ru-* /ɻu/ 'fat' which also takes the increment,[14] though relevant data are limited. When uninflected the root has only ever been attested as incremented /ɻu-ɻ-a/, never */ɻuː/ or */ɻu-a/, as shown in Table 3.11 where incremented /ɻu/ is contrasted with a true /Cuɻ/ stem such as /ʈuɻ/ 'faeces'.

All attested inflected forms of /ɻu/ were uttered by senior speakers and are shown in (3.8). Compared to /Ca/ roots the increment is used in more contexts with /ɻu/ but with so few forms it is not possible to make any reliable further generalizations. Roots of the shape /Ci/ are never followed by the increment.

(3.8) a. *ruriya*
ɻu-ɻ+ki-a
fat-INC-μLOC-T
'fat-∅-INS'

b. *rururuwa*
ɻu-ɻ+kuɻu-a
fat-INC-μ́PROP-T
'fat-PROP'

c. *rumarra*
ɻu-mara-
fat-μUTIL-T
'fat-UTIL'

A single polysyllabic root in Kayardild can also be analysed as taking an increment. The uninflected form of *jingkara* 'scrub' is shown in Table 3.12 alongside the uninflected form of a true polysyllabic /ɻ/-final root.

All inflected forms of *jingkara* are built on the incremented root /ciŋka-ɻ/. Examples are shown in (3.9a,c–f).

(3.9) a. *jingkariya*
ciŋka-ɻ+ki-a
‹scrub-INC›-μLOC-T
‹scrub›-LOC

b. *jingkarnguniya*
ciŋka-ɻ-ŋuni-a
‹scrub-INC›-μINST-T
‹scrub›-INST

c. *jingkariiwatha*
ciŋka-ɻ+kiː-wa-t̪-a
‹scrub-INC›-‹μLLOC-μINCH-TH›-T
‹scrub›-‹COLL›

14 Another root, *duu-* 'anus' is presumably underlyingly /ʈuu/. It does not occur with INC when uninflected (i.e. one does not find */ʈuɻa/). I have no information on its inflection (my consultants politely avoided using the word when I asked about it), but it appears in one compound recorded by Evans, with a long (or double) vowel: *duungambungambu* /ʈuu-ŋampu-ŋampu-/ 'flatulent, lit. anus-well-well'.

Table 3.13 Cardinal roots and first order derived stems, and their analysis

	North	South	East	West
Root	cirkaɻa-	ɻa-	ɻi-	paṯ-
Allative stem	cirkuɻuŋ-	ɻaɻuŋ- ɻa-ɻuŋ	ɻiluŋ-	paluŋ- paṯ-ɻuŋ-
	north.µALLC	south-µALLC	east.µALLC	west-µALLC
Ablative stem	cirkaan-	ɻain- ɻa-in-	ɻiːn- ɻi-in-	paṯin- paṯ-in-
	north.µABLC	south-µABLC	east-µABLC	west-µABLC
Locative stem	cirkaɻi	ɻaɻi- ɻa-ɻ+ki-	ɻia-	paṯi- paṯ+ki
	north.µLOC	south-INC-µLOC	east.µLOC	west-µLOC

3.2.5 *Compass locational stems*

Like many Australian languages Kayardild possesses a rich set of derived stems based on roots denoting the four cardinal compass points. For a comprehensive discussion of their usage see Evans (1995a:206–27). Tables 3.13–3.17 present analyses of the stems' morphological constituency. Many stems contain allomorphy which is old, in some

Table 3.14 Additional stems based directly on cardinal roots

	North	South	East	West
Far side of boundary	cirkarŋa-~cirkurŋa-	ɻaŋurŋa- ɻa+ŋurŋa-	ɻiŋurŋa- ɻi+ŋurŋa-	paṯurŋa- paṯ+ŋurŋa-
	N.µBOUND	S-µBOUND	E-µBOUND	W-µBOUND
Inchoative	cirkaɻawaṯ- cirkaɻa-wa-ṯ- N-µINCH-TH	ɻawaṯ- ɻa-wa-ṯ- S-µINCH-TH	ɻiwaṯ- ɻi-wa-ṯ- E.µINCH-TH	pajaṯ- paṯ-wa-ṯ- W-µINCH-TH
Yonder	ŋanikincirkaɻa- ŋanikin-cirkaɻa- µYON-N	ŋanikilaː- ŋanikin-ɻaː- µYON-S	ŋanikili- ŋanikin-ɻi- µYON-E	ŋanikinpaṯ- ŋanikin-paṯ- µYON-W
Hail	cirkaɻamali- cirkaɻa-mali- N-µHAIL	ɻamali- ɻa-mali- S-µHAIL	ɻimali- ɻi-mali- E-µHAIL	panmali- paṯ-mali- W-µHAIL

cases tracing back to proto Tangkic. Our concern here will be with the synchronic system and accordingly forms are analysed in terms of roots and suffixes which are regular across several forms, and phonological modifications attested elsewhere in the language.

Table 3.13 sets out the four cardinal roots and what we may term **first order** derived stems. First order stems will each serve as the base of several other **second order** stems. Stems in the table are presented first as phonological wholes, then divided into component morphs and internal junctures, then accompanied by a morphomic gloss.

Table 3.14 lists additional stems based directly on cardinal roots.

Table 3.15 shows second order stems based on the allative stem. The 'facing' forms illustrate a whole family of compounds comprised of the allative stem plus a body part, meaning 'having one's BODY-PART facing N/S/E/W'. Attested body parts used in such compounds are *bardaka-* /paʈaka-/ 'belly', *kirrk-* /kirk/ 'nose', *kurndung-* /kuɳʈuŋ/ 'chest', *mibur-* /mipuɻ/ 'eye', *thukan-* /t̪ukan-/ 'beard', and *wara-* /waɻa/ 'beak'.

Table 3.16 shows second order stems based on the ablative stem. The empty cell in the 'ablative remote' line corresponds to an unattested form.

Table 3.17 shows second order stems based on the locative stem.

TABLE **3.15** Second order stems based on the allative stem

	North	South	East	West
ORIGIN	cirkuɻumpaɲ	ɻaɻumpaɲ	ɻilumpaɲ	palumpaɲ
	cirkuɻuŋ+paɲ	ɻa-ɻuŋ+paɲ	ɻiluŋ+paɲ	pat̪-ɻuŋ+paɲ
	N.µALLC-µPOSS	S-µALLC-µPOSS	E.µALLC-µPOSS	W-µALLC-µPOSS
ALLATIVE CONTINUOUS	cirkuɻiːc	ɻaɻiːc	ɻiliːc	paliːc
	cirkuɻuŋ-iːc	ɻa-ɻuŋ-iːc	ɻiluŋ-iːc	pat̪-ɻuŋ-iːc
	N.µALLC-µCONT	S-µALLC-µCONT	E.µALLC-µCONT	W-µALLC-µCONT
TURN TO	cirkuɻicat̪-	ɻaɻicat̪-	ɻilicat̪-	palicat̪-
	cirkuɻuŋ-ic+wa-t̪-	ɻa-ɻuŋ-ic+wa-t̪-	ɻiluŋ-ic+wa-t̪-	pat̪-ɻuŋ-ic+wa-t̪-
	N.µALLC-µSAME-µINCH-TH	S-µALLC-µSAME-µINCH-TH	E.µALLC-µSAME-µINCH-TH	W-µALLC-µSAME-µINCH-TH
MOVE TO	cirkuɻiculut̪-	ɻaɻiculut̪-	ɻiliculut̪-	paliculut̪-
	cirkuɻuŋ-ic-ulu-t̪-	ɻa-ɻuŋ-ic-ulu-t̪-	ɻiluŋ-ic-ulu-t̪-	pat̪-ɻuŋ-ic-ulu-t̪-
	N.µALLC-µSAME-µMOV-TH	S-µALLC-µSAME-µMOV-TH	E.µALLC-µSAME-µMOV-TH	W-µALLC-µSAME-µMOV-TH
FACING	cirkuɻupaʈaka	ɻaɻupaʈaka	ɻilupaʈaka	palupaʈaka
	cirkuɻuŋ-paʈaka	ɻa-ɻuŋ-paʈaka	ɻiluŋ-paʈaka	pat̪-ɻuŋ-paʈaka
	N.µALLC-belly	S-µALLC-belly	E.µALLC-belly	W-µALLC-belly

TABLE 3.16 Second order stems based on the ablative stem

	North	South	East	West
ABLATIVE REMOTE		ɻainic- ɻa-in-ic- S-µABLC-µSAME	ɻi:nic- ɻi-in-ic- E-µABLC-µSAME	paṯinic- paṯ-in-ic- W-µABLC-µSAME
ABLATIVE CONTINUOUS	cirkaani:c- cirkaan-i:c- N.µABLC-µCONT	ɻaini:c- ɻa-in-i:c- S-µABLC-µCONT	ɻi:ni:c- ɻi-in-i:c- E-µABLC-µCONT	paṯini:c- paṯ-in-i:c- W-µABLC-µCONT
ABLATIVE HAIL	cirkaanmali- cirkaan-mali- N.µABLC-µHAIL	ɻainmali- ɻa-in-mali- S-µABLC-µHAIL	ɻi:nmali- ɻi-in-mali- E-µABLC-µHAIL	paṯinmali- paṯ-in-mali- W-µABLC-µHAIL
NEAR SIDE OF BOUNDARY	cirkaankiɻic- cirkaan+ki-ɻiŋ-ic- N.µABLC-µLOC-µALL-µSAME	ɻainkiɻic- ɻa-in+ki-ɻiŋ-ic- S-µABLC-µLOC-µALL-µSAME	ɻi:nkiɻic- ɻi-in+ki-ɻiŋ-ic- E-µABLC-µLOC-µALL-µSAME	paṯinkiɻic- paṯ-in+ki-ɻiŋ-ic- W-µABLC-µLOC-µALL-µSAME

TABLE 3.17 Second order stems based on the locative stem

	North	South	East	West
LOCATIVE REMOTE 1	cirkaɻic- cirkaɻi-c- N.µLOC-µREM	ɻaɻic- ɻa-ɻ+ki-c- S-INC-µLOC-µREM	ɻiaṯ- ɻia-ṯ- E.µLOC-µREM	
Locative remote 2		ɻaɻici ɻa-ɻ+ki-ṯ+ki S-inc-µLOC-µREM-µLOC	ɻiaṯi ɻia-ṯ+ki E.µLOC-µREM-µLOC	paṯici paṯ+ki-ṯ+ki W-µLOC-µREM-µLOC
ENDPOINT	cirkaɻiɲin- cirkaɻi-iɲin- N.µLOC-µEND	ɻaɻiɲin- ɻa-ɻ+ki-iɲin- S-INC-µLOC-µEND	ɻiaɲin- ɻia-iɲin- E.µLOC-µEND	paṯiɲin- paṯ+ki-iɲin- W-µLOC-µEND

3.2.6 Suffixation of compound stems and argument structure

Some suffixes attach to bases containing multiple roots. When functioning as a derivational nominalizer, the morphomic nominalizer (µN) freely attaches to a nominal stem + verbal stem complex (3.10), to a nominal stem + reduplicated verbal stem (3.11), or to nominal + nominal + verbal stems as in (3.12).

(3.10) a. *bijarrbardaanda*
picarpa-ʈaː-c-n-ta
‹dugong-mount-J-μN›-T
‹dugong ‘wrestler’›

b. *makukurriinda*
maku-kuri-i-c-n-ta
‹woman-look-μMID-J-μN›-T
‹one who is watched by women›

c. *damurukuliyiinda*
ʈamuɻu-kuluː-i-c-n-ta
‹corm-dig-μMID-TH-μN›-T
‹corm-digging instrument›

(3.11) a. *munilayiilayiinda*
munir-ɻaː-i-c-ɻaː-i-c-n-ta
‹breast-spear-μMID-J-spear-μMID-J-μN›-T
‹plant sp.›—one whose stem is snapped and pricked against a woman’s breast to promote lactation (lit. ‘breast-pricking instrument’)

b. *kantharrjaajaanda*
kan̪t̪ark-caː-c-caː-c-n-ta
‹alone-poke-J-poke-J-μN›-T
‹one who pokes alone› (in the sand for crabs)

(3.12) a. *muthardangkakurilunda*[15]
mut̪a-ʈaŋka-kurir-ɻu-t̪-n-ta
‹many-person-dead-μFACT-TH-μN›-T
‹killer of many people›

b. *wurankanthadiyanda*
wuɻan-kan̪t̪ark-ʈia-c-n-ta
‹food-alone-eat-TH-μN›-T
‹one who eats food alone›

In the formation of certain place names (3.13) the morphomic consequential (μCONS) attaches to nominal stem + verb stem complexes in a parallel fashion.

(3.13) a. *Julwakarayiijarrba*
culwaka-ɻaː-i-c-ŋarpa-ø
‹trevally-spear-μMID-J-μCONS›-T
‹Place name› lit. ‘(where) trevally was speared’

b. *Miburkalkatharrba*
mipuɻ-kalka-t̪-ŋarpa-ø
‹eye-fall ill-TH-μCONS›-T
‹Place name› lit. ‘(where) eyes got sick’

The nominal stem component of compound stems in these constructions can also be represented by pronominal stems. Pronominal stems plus verb stems appear in plain (3.14a) and past (3.14b) nominalizations.

(3.14) a. *niwanmarndinda*
ɳi+paɲ-maɳʈi-c-n-ta
‹3sg-μPOSS-rob-J-μN›-T
‹the one who robbed him›

b. *ngijinbadijarrba*
ŋicu-iɲ-pati-c-ŋarpa-ø
‹1sg-μINY-carry-J-μCONS›-T
‹my mother, lit. the one who bore me›

[15] There appears to be some optionality in the order of the nominal roots here: compare *maku-mutha-‹karrngin›-* ‘woman-many-‹take-th-μN›-’, i.e. ‘taker of many women’.

Common noun and prononimal stems also appear in complex stems in consequential nominalizations, formed by suffixation of the string μN-μCONS (3.15).

(3.15) a. *niwanmirrkaanngarrba*
ɳi+paɲ-wirka-i-c-n-ŋarpa-ø
‹3sg-μPOSS-initiate-μMID-J-μN-μCONS›-T
‹the one initiated by him›

b. *dalururdalurubalaanngarrba*
ʈaluɻuʈaluɻu-pala-i-c-n-ŋarpa-ø
‹gun-kill-μMID-J-μN-μCONS›-T
‹the ones killed by the gun›

The word forms in (3.10)–(3.15) are all derivational nominalizations of verbal stems, compounded with nominal stems whose semantic function is to contribute arguments (or adjuncts) for the event type denoted by the verb stem.[16] It is of interest to note that the morphomic privative, proprietive, and associative suffixes (μPRIV, μPROP, μASSOC) also attach to compound stems in which nominal components contribute argument-like semantics pertaining to stative event types, even though stems in these instances lack a verbal component, consisting instead of nominal$_1$ + nominal$_2$. The complete word forms have the meanings '(not) having nominal$_2$ at nominal$_1$' as shown in (3.16), with the argument-like nature of the nominals evidently projected from the semantics of the (non-verbal) derivational markers. This fact will be relevant in §9.2.3 when we review the claim that certain inflectional suffixes should be analysed as verbalizers in part because they appear to have an argument structure.

(3.16) a. *warawurankuru*
waɻa-wuɻan-kuɻu-a
‹mouth-food-μPROP›-T
‹having food in its mouth›

b. *kurndukunawunawuru*
kuɳtuŋ-kuna~kuna-kuɻu-a
‹chest-child$_{NL}$-child$_{NL}$-μPROP›-T
‹having a child at her chest›

c. *nathardangkawarri*
ɳat̪a-ʈaŋka-wari-a
‹camp-man-μPRIV›-T
‹unmarried› (of woman),
lit. 'having no man in the camp'

d. *nathamakurnurru*
ɳat̪a-maku-ɳuru-a
‹camp-woman-μASSOC›-T
‹married› (of man),
lit. 'having a woman in the camp'

3.2.7 Lack of CASE:genitive inflection of pronominal stems

In the two languages most closely related to Kayardild, the genitive CASE inflection of pronominal stems contains the usual, possessive stem followed by the morphomic genitive ligative (μGENL) suffix and the morphomic genitive proper (μGEN). An

[16] For further examples and a discussion of the semantics of such nominalizations see Evans (1995a:455–69).

example from Yangkaal (Hale 1960a) is shown in (3.17). The facts in Yukulta are comparable (Keen 1972, 1983).

(3.17)	$[_{\text{DP}}$ ***ngijinbakarra***	*ngamathukarra*$_{\text{GEN}}$]	*dangkaa.*
Yangkaal	ŋiciɲ-pa-karaɲ-ø	ŋamat̪u-karaɲ-ø	ʈaŋka-a
	1sg.μPOSS-μGENL-μGEN-T	mother-μGEN-T	person-T
	1sg.POSS-∅-GEN	mother-GEN	person
	‘my mother’s people’ [Hale 1960a:4]		

In Kayardild I have just three recorded instances of DPs in which one would expect, all things being equal, to find a pronominal stem inflected for CASE:genitive in the same manner. What is actually found appears to be a single word composed of a compounded pronominal stem and kin term. All three examples are uttered by the same speaker and all contain the kin term *thabuju* ‘elder brother’. Two are shown in (3.18) and (3.19).

(3.18)	***Ngijin**thabujukarra*	*maku*
	ŋicu-iɲ-t̪apucu-karaɲ-ø	maku-a
	1sg-μINY-e.Br-μGEN-T	wife-T
	1sg-POSS-e.Br-GEN	wife
	‘My elder brother’s wife.’ [R2005-jun05b]	

(3.19)	***Niwan**thabujukarra*	*wuman.*
	ɳi-waɲ-t̪apucu-karaɲ-ø	wumana
	3sg-μPOSS-e.Br-μGEN-T	wife.T
	3sg-POSS-e.Br-GEN	wife
	‘His elder brother’s wife.’ [R2005-jun29]	

Other determiners are free to inflect for CASE:genitive, as illustrated in (3.20).

(3.20)	***Dathinbakarr***	*kiyarrbakarr*	*dangkakarr*
	ʈat̪in-pa-karaɲ-ø	kiarŋ-pa-karaɲ-ø	ʈaŋka-karaɲ-ø
	that-μGENL-μGEN-T	two-μGENL-μGEN-T	man-μGEN-T
	that-∅-GEN	two-∅-GEN	man-GEN
	kunawun	*kurrkath!*	
	kuna+kuna-ø	kurka-t̪-a	
	‹child$_{\text{NL}}$-child$_{\text{NL}}$›-T	‹take-TH›-T	
	‹child›	‹take›	
	‘Take those two men’s children!’ [W1960]		

3.3 Song forms and their place in Kayardild grammar

Kayardild has not been documented as possessing any special spoken registers in which the phonology, morphology, or syntax departs from normal everyday speech. However, the morphology of Kayardild song is distinctive. From a diachronic perspective it is archaic.[17]

There are two points on which the morphology of Kayardild song departs from the morphology of the spoken register. The first departure relates to the morphomic allative (μALL) which in spoken Kayardild has just one allomorph /ɻiŋ/ but in song has /ɻuŋ/ in addition (the latter form is etymologically prior, cf Yukulta /ɭuŋ/). The second departure pertains to the allomorphy of μPROP, μABL, and μCONS, introduced in §2.5 above. As mentioned, song permits only the use of strong allomorphs, never weak. This is illustrated in the case of μPROP which realizes the feature value TAMA:future, in (3.21) and (3.22).

(3.21) Spoken register

	a.	b.
	malawu	*thardawuuntha*
	mala+kuu-ø	ṯaɭa+kuu-iṉṯa-ø
	sea-μ̋PROP-T	shoulder-μ̋PROP-μOBL-T
	sea-FUT	shoulder-FUT-SEJ

(3.22) Song register [R2007-jun04b, R2007-jul07a]

	a.	b.
	malawuruwa	*thardawuruntha*
	mala+kuɻu-a	ṯaɭa+kuɻu-iṉṯa-ø
	sea-μPROP-T	shoulder-μPROP-μOBL-T
	sea-FUT	shoulder-FUT-SEJ

Although song permits only strong allomorphs, this is not to say that song forms always merely neutralize a strong/weak distinction found in the spoken register. A case in point is μCONS, which has a weak allomorph /ŋara/ and strong allomorph /ŋarpa/. In the spoken register the weak (and never the strong) allomorph of μCONS realizes TAMT:past, as shown in (3.23a), while the strong (and never the weak) allomorph realizes TAMT:precondition and CASE:consequential, as in (3.23b,c). In song, although I have identified only a handful of instances of TAMT:past, they are all realized by the strong (and not the weak) allomorph of μCONS as illustrated in (3.24).

(3.23) Spoken register

	a.	b.	c.
	kurrijarra	*kurrijarrba*	*yarbunyarrba*
	kuri-c+ŋara-ø	kuri-c+ŋarpa-ø	jaɻpuṯ-ŋarpa-ø
	‹see-J›-μ̋CONS-T	‹see-J›-μCONS-T	animal-μCONS-T
	‹see›-PST	‹see›-PRECT	animal-CONS-T

[17] See also Evans (1995a:597) for a Kayardild chant, which may be unique in its genre.

(3.24) Song register [R2007-jul07a]
a. *kurrijarrba*
kuri-c+ŋarpa-ø
‹see-J›-µCONS-T
‹see›-PST

Significantly, it is only in the comparison of the two registers that we find the evidence that /ŋarpa/ and /ŋara/ are related as strong–weak allomorphs, since in neither register taken on its own is there is a morphosyntactic feature value which is realized by both /ŋarpa/ and /ŋara/. Since it appears that all adults in traditional Kayardild society both composed and sang songs and thus had mastery over both the spoken and sung registers, and since the morphological system in both registers is so similar, it is reasonable to assume that speakers possessed a single grammar which underlay all forms. Accordingly, when analysing Kayardild morphology, evidence is considered from both registers. The correct derivation of register-appropriate forms is included in the formal account Kayardild's realizational morphology in Chapter 11.

3.4 The termination

3.4.1 The termination is not a nominative case marker

In the analysis proposed in this book, all Kayardild words end at the morphomic level of representation with a meaningless morphome T, the termination. The termination is posited in order to account for a set of phenomena all related to the right edge of the Kayardild word. Some of these are treated by Evans (1995a) in terms of a 'nominative' suffix and some in terms of special, word-final allomorphs of morphemes. Here I provide an argument for why T is not a nominative morpheme and why the final /a/ vowel of certain verb forms is better analysed as T than as a TAMT inflection.

Let us refer to an analysis of Kayardild which invokes a nominative (NOM) suffix rather than T as one which adopts a 'nominative (NOM) hypothesis'. The nominative hypothesis gains initial plausibility from a set of observations listed in Table 3.18. A key fact here is that the phonological realization of T is zero if it follows a double vowel /aa/ or /uu/, or an /a/ vowel after a stem of more than two morae.

The first observation (Table 3.18(a)) is that all verbal words are minimally three morae in length and since most end in /a/ or /uu/ they do not end in any overt exponent of T. The nominative hypothesis supposes that NOM is simply not present at the end of these words. Of course this makes sense given that they are verbs. The second observation (Table 3.18(b)) is that most (non-nominative) case marked nominal words also end in /a/ or /uu/, and so also do not end in any overt exponent

TABLE 3.18 Endings of inflected words and their NOM-hypothesis analysis

	Class of inflected word	Phonological properties	Overt T/NOM	Analysis
a.	Verbal words	All >μμ, most ending in final /a/ or /uu/	Usually none	NOM not present
b.	Nominal words in most non-NOM cases	Most ending in final /a/ or /uu/	Usually none	NOM not present
c.	Nominal words in 'adnominal' cases	Various final segments	none, or often /a, ta, ka/	NOM is present
d.	Otherwise case-less nominal words	Various final segments	none, or often /a, ta, ka/	NOM is present

of T, and so the nominative hypothesis supposes that NOM is not present there either. The final observation (Table 3.18(c,d)) is that overt T appears on two classes of nominals: those which are otherwise CASE-less, and which are taken to be inflected for NOM, and those which are inflected with the set of 'adnominal' CASE values, which are then taken to be inflected for 'adnominal case' plus NOM (Evans 1995a:136–7). The NOM hypothesis then is that the NOM suffix is a morphologically meaningful suffix whose distribution is governed by morphological categories. However a closer examination of the facts shows that the true generalizations are phonological.

First we can note that the 'adnominal case' suffixes often end in consonants or the short high vowel /i/ or /u/. Examples are the origin CASE realized phonologcially (via μORIG) by /waːɲ/, the privative CASE realized phonologcially (via μPRIV) by /wari/ and associative CASE realized phonologically (via μASSOC) by /ɳuru/. These all require an overt realization of T after them on phonological grounds (though once final /i/ and /u/ are followed by /a/, the resulting strings /ia/ and /ua/ often reduce phonetically to [i] and [u]). When we take a second look at the few other inflectional suffixes in Kayardild which also end in /i/ or /u/ we find that they too are followed by overt /a/. (No other inflectional suffixes end in consonants.)

What I have analysed in this book as the morphomic locative (μLOC) is usually the 'locative case' in Evans' (1995a) system, a suffix which functions as the (relational) locative case, the modal locative, and complementizing locative cases, none of which are adnominal cases. The phonological realization of μLOC is /ki/ which ends in /i/ and so is followed regularly by T /a/ at the end of a word, as in (3.25a). On Evans' analysis that /a/ vowel is not NOM, but rather part of an allomorph of μLOC which ends in /ia/, as shown for example in (3.25b).

(3.25)	a. *dathinkiya*	b. *dathinkiya*	
	ʈat̪in+ki-a	ʈat̪in+kia	
	that-μLOC-T	that-COMPLEMENTIZING.LOC	
	that-CMP	(after Evans 1995a)	

By positing this allomorphy in the locative case marker, the extra /a/ in (3.25) is accounted for, though on that analysis it remains accidental that the allomorphy involves the same phonological content as a NOM suffix.

The difficulty for the NOM hypothesis comes from the fact, not documented in Evans (1995a) that all other /i/ and /u/ final inflectional suffixes also get followed by /a/ (with the usual optional reduction of /ia/ and /ua/ to [i] and [u]). This includes Evans' immediate tense, realized (via μLOC) by /ki/, the negative actual tense, realized (via μPRIV) by /wari/, the (non-adnominal) instrumental case realized (via μINST) by /ŋuni/ and the potential tense and (non-adnominal) modal proprietive case realized occasionally (via μPROP) by /kuɻu/. All of these are followed by /a/ which, if phonetic reduction doesn't apply, appears in the surface phonetic form. In order to maintain the NOM hypothesis, all of these suffixes would require an extra allomorph which differed from the existing allomorph only by the addition of /a/. The consequence is an undermining of the original claim that the distribution of NOM is governed by morphological factors, since now, in all cases where NOM does not appear according to those morphological factors (which were closely correlated with phonology to begin with), we require allomorphy whose content reproduces precisely what the phonologically conditioned form of NOM would have been, had it appeared. It is simpler to dispense with the morphologically meaningful NOM suffix and recognize instead the presence of a formal element with no meaning, and whose realization is determined by the phonology of its base.

3.4.2 TAMT:actual, TAMT:imperative, and T

Verbs which take the actual and imperative value of the thematic tense/aspect/mood (TAMT) feature end in the phonological realization /t̪/ or /c/ of a thematic (TH or J) followed by /a/. Round (2009:161–3) argues that the /a/ in this case is not inserted by

TABLE 3.19 Identical realization of most TAMT values irrespective of +NEG

	TAMT:potential	TAMT:immediate	TAMT:prior
Without +NEG	*warrajuu*	*warrajiya*	*warrajarra*
	wara-c+kuu-ø	wara-c+ki-a	wara-c+ŋara-ø
	‹go-J›-μ́PROP-T	‹go-J›-μLOC-T	‹go-J›-μ́CONS-T
	‹go›-POT	‹go›-IMM	‹go›-PST
With +NEG	*warranangku*	*warranangkiya*	*warranangarra-*
	wara-c-ɳaŋ+kuu-ø	wara-c-ɳaŋ+ki-a	wara-c-ɳaŋ+ŋara-ø
	‹go-J›-μNEG-μ́PROP-T	‹go-J›-μNEG-μLOC-T	‹go-J›-μNEG-μ́CONS-T
	‹go›-NEG-POT	‹go›-NEG-IMM	‹go›-NEG-PST

Table 3.20 Realization of TAMT:actual and imperative with and without +NEG

	TAMT:imperative	TAMT:immediate
Without +NEG	*warraja*	*warraja*
	wara-c-a	wara-c-a
	‹go-J›-T	‹go-J›-T
	‹go› (IMP)	‹go› (ACT)
With +NEG	*warrana*	*warrajarria*
	wara-c-ɳaŋ-ø	wara-c-wari-a[a]
	‹go-J›-μNEG-T	‹go-J›-μPRIV-T
	‹go›-NEG.IMP	‹go›-NEG.ACT

[a] This final /-a/ is T, and not for example an exponent of TAMT:actual, as shown by its absence when μPRIV is followed by other material such as *marraajarrida* /mara: -c-wari-ic-ta/ 'show-TH-μPRIV-μSAME-T, i.e. still hasn't shown'.

phonological epenthesis, but this leaves the question of whether the final /a/ is a TAMT suffix, or a realization of T. The evidence is not overwhelming but does suggest that the /a/ is a realization of T.

Most TAMT values are realized identically in the absence of +NEG and when they co-occur with +NEG, as shown in Table 3.19.

This is not the case for TAMT:actual or TAMT:imperative. When TAMT:imperative co-occurs with +NEG only a μNEG morphome appears, as shown in Table 3.20. When TAMT:actual co-occurs with +NEG only the μPRIV morphome appears. When either occur without +NEG a final /a/ vowel appears which could be taken as a realization of TAMT or just as T.

Going by the facts (i) that regular, non-cumulative markers of TAMT features usually do appear in negative verbs; (ii) that this is not the case for TAMT:imperative and TAMT:actual; (iii) that the forms of non-negative TAMT:imperative and TAMT: actual verbs can be accounted for in terms of T; and (iv) that imperative and default-like tenses such as actual are often zero-marked cross-linguistically, the analysis adopted here will be that the final /a/ of non-negative imperative and actual TAMT verb forms is T.

4

Correlates of inflection

When a Kayardild word appears in a syntactic setting it appears in an appropriately inflected form. Since a word's syntactic environment partly determines its form, it makes sense to speak of a transfer of information between the syntactic and the morphological components of the Kayardild grammar. The remainder of this book will be concerned with the morphological and syntactic correlates of that transfer and will progressively adduce a formal account of the inflectional system. For the purposes of formalization, it will be assumed that a **morphosyntactic representation** is calculated for each word in a sentence. This provides all of the information required by the **realizational morphology** for spelling out an appropriately inflected form of the word, in a manner which can then be interpreted by the phonology.

The current chapter provides a preliminary orientiation to the issues which will be involved in the analysis of Kayardild inflection. Chapters 5–8 then examine various aspects of Kayardild syntax and its relationship to the morphology, and Chapter 9 addresses some overarching issues which arise. Chapter 11 presents a formal, constraint-based implementation of the analysis. Here we examine inflectional features in §4.1, morphological realization in §4.2, feature co-occurence restrictions in §4.3, concord in §4.4, and non-surface syntactic structures and their evidential bases in §4.5.

4.1 Inflectional features and their values

Kayardild inflection will be analysed here in terms of seven distinct morphosyntactic features. All seven will be treated as privative, which is to say that words may be positively specified for them or may be entirely unspecified for them. Four of the features are also multivalued, so that a positive specification for the feature entails a specification for one of several permissible values of that feature. Notational conventions which will be used are: (i) F:Ø to indicate that a word is unspecified for feature F; (ii) +F to indicate that a word is positively specified for feature F; and (iii) F:v to indicate that a word is specified for value v of feature F. The seven features are as follows, each discussed in turn:

- case
- number
- thematic tense/aspect/mood/polarity/diathesis: TAMT
- athematic tense/aspect/mood/polarity: TAMA
- negation
- complementization
- sejunct

4.1.1 Case

CASE takes any one of the twenty-four values shown in Tables 4.1 and 4.2. The morphosyntactic feature CASE indexes several distinct kinds of syntactic relationship: between DPs and their dominating clause or verb, between a DP and another DP that

TABLE 4.1 Athematic values of the feature CASE

CASE value	Abbreviation	Main semantic and grammatical functions	Evans 1995a
Ablative	ABL	sources of motion; certain possessors; human demoted logical subjects of passives	143–5
Allative	ALL	destinations; spatially extended locations	150
Associative	ASSOC	temporary locations; accompaniers; temporarily possessed items	154–6
Consequential	CONS	causes of subsequent, typically undesirable states or events, usually through contact	159–60
Denizen	DEN	ecological habitats	176–7
Genitive	GEN	possessors; circumessive locations; inanimate demoted passive subjects	150–2
Instrumental	INST	certain instruments	153–4
Locative	LOC	locations; goals in certain three-participant events	138–42
Oblique	OBL	objects of nominal predicators	148–9
Origin	ORIG	provenance; sources of existence; means or circumstances of catching/obtaining quarry	156–8
Privative	PRIV	lacked properties and objects; narrow scope negation	158–9
Proprietive	PROP	possessed properties and objects; certain instruments; transferred objects; intended goals; topics of conversation or song	145–8
Utilitive	UTIL	conventional uses; targetted times; temporal durations	160–2
Ø	(not glossed)	subjects and direct objects; miscellaneous categories not assigned other CASE values	

TABLE 4.2 **Thematic values of the feature CASE**

CASE value	Abbr.	Main semantic and grammatical functions	Evans 1995a
Dative	DAT	recipients; beneficiaries; destinations to which an entity is transferred	160–70
Donative	DON	transferred entities or cultural knowledge; certain instruments	175
Human allative	ALLH	human goals of movement or travel	—
Collative	COLL	destinations; goals of movement or travel whose location is reliably known; non-human entities which impinge upon the subject	168–9
Objective ablative	ABLO	sources of the direct object's motion	171–3
Objective evitative	EVITO	sources of the direct object's fear-driven motion	173–5
Purposive	PURP	sought, yearned-for, and missed entities	175–6
Subjective ablative	ABLS	sources of the subject's motion	171–3
Subjective evitative	EVITS	sources of the subject's fear-driven motion; causes of fear in the subject	173–5
Translative	TRANS	entities and events awaited or obtained without exertion of control; destinations to which the subject is transferred	170–1

it modifies, and between a predicate DP and its subject. A morphological distinction can be made between 'thematic' and 'athematic' case values, the significance of which is discussed in §4.3.2. Tables 4.1 and 4.2 provide a brief characterization of the main semantic and grammatical functions of the CASE values. The reader is referred to pages of Evans (1995a) for more detailed descriptions and examples; see also Appendix A for equivalences between Evans' analysis and the features employed here.

Most values of Kayardild CASE are semantically rich, and the thematic values in particular have narrow and specialized meanings mostly pertaining to events of movement and transfer. What brings these disparate functions together as values of a single morphosyntactic feature is that they are all in paradigmatic opposition with one another; they share the same kinds of potential distribution across the words in a sentence and they associate with the same kinds of syntactic nodes, namely DPs. These facts are explored further in later chapters.

4.1.2 Number

NUMBER, abrreviated NUM, can take one of the two positively specified values shown in Table 4.3. Most often though NUMBER is left unspecified, as NUMBER:Ø—this does not signal 'singular', rather that the speaker has chosen not to provide any information.

4.1.3 Thematic tense/aspect/mood/polarity/diathesis: TAMT

Abbreviated TAMT, this feature takes any one of the fourteen values shown in Table 4.4 and signals tense, aspect, and mood, and in some cases polarity and diathesis.

The semantic and grammatical functions of TAMT in Kayardild are, if anything, even richer and more disparate than CASE. Nevertheless, this set of values comprises a coherent class in terms of how and where it is realized and distributed in the clause. This in itself is interesting: the Kayardild inflectional system is tremendously complicated but it is highly organized. Disparate semantic functions are channelled into just a few distinct features whose regularities are shared. The analysis to be developed here attempts to express precisely these regularities of organization in a maximally perspicuous, informative, and elegant manner.

4.1.4 Athematic tense/aspect/mood/polarity: TAMA

ATHEMATIC TENSE/ASPECT/MOOD, abbreviated TAMA, takes one of the eleven values listed in Table 4.5. Like TAMT, it signals tense, aspect, mood, and some polarity.

4.1.5 Negation

NEGATION, abbreviated NEG, is a unary feature conveying clause-level negation.

4.1.6 Complementization

Clauses in Kayardild may be **complementized** in which case their constituents may bear overt marking for the unary morphosyntactic feature COMPLEMENTIZATION, abbreviated COMP. Clauses are complementized under a variety of conditions mostly connected to discourse level and cross-clausal factors (see Evans 1995a:488–529).

TABLE 4.3 **Values of the feature NUMBER**[a]

NUMBER value	Abbreviation
dual	DU
plural	PL
Ø	(not glossed)

[a] Number values on personal pronouns do not correspond to a morphosyntactic feature (cf §6.4); they are glossed in lower case (sg/du/pl).

Table 4.4 Values of the feature TAMT

TAMT value	Abbr.	Main semantic and grammatical functions	Evans 1995a
Actual	ACT	the default, non-future tense	256–7
Apprehensive	APPR	undesirable events; events to be avoided	264–5
Desiderative	DES	desirable events; conditional protases for hypothetical future events; clausal complements of indirect communication verbs	262–3
Hortative	HORT	immediately relevant, desirable events	263–4
Immediate	IMM	events occurring at the moment of speech	257–8
Imperative	IMP	imperative	256
Nonveridical	NONVER	non-occurring events	376, 475–6
Past	PST	past tense; (with +NEG) events which came close to occurring	260–1
Potential	POT	futurity; expectation; prescription; desire; possibility; purposives; clausal complements of communication verbs	258–60, 518–20
Progressive	PROG	ongoing, uncompleted actions; subordinate purpose-of-instrument clauses	161, 266, 472–4
Resultative	RES	completed events with a lasting effect; with active verbs yields passive diathesis	267, 476–80
Thematic antecedent	ANTT	events which precede a temporal reference point	480–3
Thematic directed	DIRT	events which are spatially extended; subordinate purpose-of-movement clauses	265–6, 486–7
Thematic incipient	INCPT	events which closely follow a temporal reference point	—
Thematic precondition	PRECT	events which precede another; conditional protases	261–2

4.1.7 Sejunct

Complementized clauses also come in two types, which I will refer to as **sejunct** and **nonsejunct**, and which are discussed in §5.1 and §9.1.3. Constituents in sejunct clauses may bear overt inflection for the unary morphosyntactic feature SEJUNCT, abbreviated SEJ.

TABLE 4.5 **Values of the feature TAMA**

TAMA value	Abbr.	Main semantic correlates	Evans 1995a
Athematic antecedent	ANTA	events which precede a temporal reference point	480–3
Athematic directed	DIRA	events which are spatially extended; subordinate purpose-of-movement clauses	265–6, 486–7
Athematic incipient	INCPA	events which closely follow a temporal reference point	—
Athematic precondition	PRECA	events which precede another; conditional protasis	261–2
Continuous	CONT	ongoing, uncompleted actions	266, 472–4
Emotive	EMO	desirable events; undesirable events	402–3
Functional	FUNC	subordinate purpose-of-instrument clauses	161
Future	FUT	futurity; expectation; prescription; desire; possibility; purposives; clausal complements of communication verbs	402
Instantiated	INS	events which have taken place or are taking place; events which are not occurring	402
Negatory	NEGAT	non-occurring events	376
Present	PRES	present tense	511–12
Prior	PRIOR	past tense; (with +NEG) events which came close to occurring	402

4.2 Morphological realization

Chapter 2 introduced the complex relationships that can hold between morphological form and function in Kayardild, including the roles of an intermediate, morphomic level of representation, phonological juncture types, allomorphy, cumulative realization, and compound suffixes. All of these phenomena figure in the realization of Kayardild's inflectional features. Selected examples follow and a complete formal implementation of Kayardild's realizational morphology is provided in Chapter 11.

Many inflectional feature values share their realization with others. To take one example, CASE:locative, TAMA:instantiated, TAMA:present, TAMT:immediate and +COMP are all realized by the primary morphome μLOC. In the examples shown in (4.1a–d), μLOC is in turn realized phonologically as /+ki/.

(4.1) a. *yarbuthiya*
jaɻput̪+ki-a
animal-μLOC-T
animal-LOC
'at an animal'

b. *yarbuthiya*
jaɻput̪+ki-a
animal-μLOC-T
animal-INS
'an animal (TAMA:instantiated)'

c. *buruthiya*
puɻu-t̪+ki-a
‹gather-TH›-μLOC-T
‹gather›-IMM
'is gathering'

d. *yarbuthiya*
jaɻput̪+ki-a
animal-μLOC-T
animal-CMP
'an animal (+CMP)'

CASE:privative is realized by the primary morphome μPRIV, and μPRIV also serves as the cumulative exponent of {+NEG, TAMT:actual}. More specifically though, CASE:privative is realized as μPRIV with a 'regular' juncture type, indicated in the phonological gloss line by '-', while {+NEG, TAMT:actual} is realized as μPRIV with an 'exceptional' juncture indicated by '+' as shown in (4.2a,b). The choice of phonological juncture determines whether the underlying cluster /t̪w/ surfaces as the glide [j] or the plosive [t̪].

(4.2) a. *yarbuyarriya* (**yarbutharriya*)
jaɻput̪-wari-a
animal-μPRIV-T
animal-PRIV
'without an animal'

b. *burutharriya* (**buruyarriya*)
puɻu-t̪+wari-a
‹gather-TH›+μPRIV-T
‹gather›-NEG.ACT
'doesn't gather'

As mentioned in Chapter 2, inflectional and derivational suffixes are often identical in form. In the pairs (4.3a,b) and (4.3c,d) a single suffix realizes inflectional feature values in the first word but is derivational in the second.

(4.3) Inflected verbs

a. *kurrijarriya*
kuri-c+wari-a
‹see-J›+μPRIV-T
‹see›-NEG.ACT
'doesn't see'

c. *kurrinda*
kuri-c-n-ta
‹see-J›+μN-T
‹see›-PROG
'is seeing'

Derivationally nominalized verbs

b. *kurrijarriya*
kuri-c+wari-a
‹see-J›+μPRIV-T
‹see›-NEGATIVE.NOMINALIZER
'one who doesn't see'

d. *kurrinda*
kuri-c-n-ta
‹see-J›+μN-T
‹see›-NOMINALIZER
'one who sees'

Turning to allomorphy, CASE:proprietive and TAMA:future in (4.4) are both realized by μPROP, but differ in terms of their allomorphy feature: CASE:proprietive in (4.4a) is realized as μPROP which passes one allomorph (the strong allomorph) to the phonology, while TAMA:future in (4.4b) is realized as μPROP which passes both allomorphs. Consequently in (4.4a) the strong allomorph /kuɻu/ appears as the ultimate realization of CASE:proprietive while in (4.4.b) the phonology has selected the weak allomorph /kuu/ for TAMA:future.

(4.4) a. *wurankuruntha*
wuɻan+kuɻu-in̪t̪a-ø
food-μPROP-μOBL-T
food-PROP-SEJ
'having food (+CMP)'

b. *wurankuuntha*
wuɻan+kuu-in̪t̪a-ø
food-μ̋PROP-μOBL-T
food-FUT-SEJ
'food (TAMA:future, +CMP)'

Several feature values are realized by compound suffixes. Examples shown in (4.5) are TAMT:nonveridical, which is realized by μN-μPRIV, and CASE:ablative, realized by μLOC-μABL.

(4.5) a. *kurrinmarriya*
kuri-c-n-wari-a
‹see-J›-‹μN-μPRIV›-T
‹see›-‹NONVER›
'isn't seeing'

b. *dathinkina*
ʈat̪in+ki-naa-ø
that-‹μLOC-μ̋ABL›-T
that-‹ABL›
'from that'

4.3 Feature co-occurrence

4.3.1 Antagonistic feature values and the suppression of realization

An analytic move which will contribute significantly to a coherent account of Kayardild morphosyntax is the recognition that certain pairs of morphosyntactic feature values are **antagonistic**, in the sense that the realization of one will preclude or suppress the realization of another. This means that although some words may be associated with two feature values F:v and G:w, only one of those two features will be overtly realized. A complete list of pairs of antagonistic feature values, and antagonistic features is given in Table 4.6.

In the case of +SEJ and +COMP the former feature value is always realized at the expense of the latter if the two co-occur; it is marked as prioritized in Table 4.6. In

TABLE 4.6 Pairs of antagonistic features and feature values

a.	^+SEJ[a]	+CMP
b.[b]	TAMA	TAMT
c.[b]	TAMA	NEG

[a] ^F indicates that the realization of F is prioritized.
[b] Antagonism applies only to features in the same set T_C; see discussion in §5.7.

other cases, the question of which feature value gets realized is resolved by contextual factors.

The motivation for positing antagonistic pairs of feature values is twofold. First, an antagonistic relationship expresses a generalization in the morphology of Kayardild which is not necessarily expected otherwise, namely that certain combinations of feature values are simply never realized together on a single word. Secondly, and more importantly, the positing of antagonistic relationships in the Kayardild grammar allows us to recognize that some words may be associated with certain feature values F:V, even though F:V receives no overt realization on that word, due to the co-presence of a certain other feature value G:W. When formalizing principles of morphological realization the recognition of antagonistic, or 'disjunctive', or 'blocking' relationships between morphosyntactic features has a long history in morphological theory (Anderson 1986) and as we will see it permits powerful generalizations to be made regarding the syntactic distribution of feature values within the Kayardild sentence.

4.3.2 A twin, antagonistic system of tense–aspect–mood (TAM) inflection

Kayardild possesses a twin, and antagonistic, system of tense–aspect–mood–polarity (TAM) inflection. That is to say, the TAM semantics of a Kayardild clause is inflectionally marked in two different ways, though only one kind of marking may appear on any given word. The analysis of these facts will be that each clause in Kayardild is associated with a single value of TAMT (the 'thematic' TAM feature), a single value of TAMA (the 'athematic' feature), and a value of NEGATION. Let us refer to the set of TAM features {TAMT, TAMA, NEG} corresponding to given clause C, as $\mathbf{T}_C$, so that the set $\mathbf{T}_C$ contains an exhaustive representation of the morphosyntactically relevant TAM semantics of clause C. Now, the feature TAMA stands in an antagonistic relationship to both TAMT and NEG (cf §4.3.1) and thus of the three features in $\mathbf{T}_C$, for any given word either (i) only TAMT and NEGATION will be realized; or (ii) only TAMA will be realized; or (iii) none of the three may be realized; but it is impossible for all three to be realized on the same word.[1]

Some words in a sentence inflect for none of the features in $\mathbf{T}_C$ and the complex issue of whether or not a given word will inflect for features in $\mathbf{T}_C$ is discussed in detail in Chapter 5. For the moment it will suffice to observe that most words within the verb phrase (VP) do inflect for features in $\mathbf{T}_C$ while words outside the VP never do.

As stated, some words inflect for TAMT/NEG, and others for TAMA. Which of these two possibilities obtains follows straightforwardly from the morphomic composition

[1] As we will see in §5.3, it is possible for additional mixes of features to be realized once we examine words within embedded clauses; however the restrictions on features which are associated with one and the same clause will always hold.

Table 4.7 Syntactic position and inflection for features in $\mathrm{T_C}$

Syntactic position	Overt inflection for TAMT	NEG	TAMA
Words outside of VP	—	—	—
Most words inside VP			
stem ends morphomically in thematic (TH or J)	✓	✓	—
stem does not	—	—	✓

of the stem to which a TAM suffix attaches, as summarized in Table 4.7. Stems that end in a thematic element (TH or J) inflect for the thematic feature TAMT and for NEG, while stems that end in anything else inflect for the athematic feature TAMA.

Entering into this equation is the fact that (i) all lexical verbal stems end morphomically in a thematic; (ii) all lexical nominal stems do not; but that (iii) the thematic CASE suffixes also end with a thematic, as do the realizations of TAMA:incipient and TAMT:incipient. This means that bare verbal stems, and all stems ending in thematic CASE suffixes will inflect alike for the TAM features in $\mathrm{T_C}$ (the situation with words in incipient clauses is more complicated due to the clausal embedding involved; see §5.4.1).

The division of the majority of VP-internal words into two groups—one inflecting for one kind of TAM information, and one inflecting for another kind—pervades the grammar of Kayardild. A way in which the present analysis offers a simpler account than Evans (1995a) is that here, those two kinds of overtly marked TAM information always correspond to the features TAMT/NEG on the one hand and TAMA on the other. In Evans (1995a) every clause contains two groups of VP-internal words that inflect for different kinds of TAM information, but the features involved range across any one of four combinations involving six features or feature-like operations. The use of such a large number of features in Evans (1995a) obscures the generalization, that a single set of principles underlies TAM marking in all Kayardild clause types. Comparisons between the proposals are found in §9.2.

4.3.3 Restrictions on paired values of TAMT and TAMA

Separate from the question of which features are overtly realized, there exist restrictions on which TAM features values may be associated with one and the same clause.

The features TAMT and TAMA both encode information about TAM semantics, but their values do not correspond to one another in a one-to-one fashion (indeed if they did then TAMT and TAMA could be collapsed into a single feature). Instead, the two features exhibit a limited degree of indepedent variation (Evans 1995a, 1995b). Let us refer to the values of TAMT and TAMA which are elements of the same set $\mathrm{T_C}$ (i.e. which associate with the same clause) as being **paired**. The co-occurrence restrictions that exist on paired TAMT and TAMA values interact with two further syntactic factors: whether a clause is complementized (cf §5.1), and whether or not the clause is a subordinate, embedded VP constituent (cf §5.3). Table 4.8 lists the attested, paired values of TAMA and TAMT in uncomplementized full clauses, complementized full

TABLE 4.8 **Paired TAMA and TAMT values attested (✓) or likely accident gap (—)**

TAMT	TAMA	Uncomplementized full clause	Complementized full clause	EmbeddedVP
Apprehensive	Emotive	✓	✓	
Apprehensive	Future	✓	✓	
Desiderative	Emotive	✓	✓	
Hortative	Emotive	✓	✓	
Nonveridical	Future	✓	✓	
Nonveridical	Prior	✓	—	
Past	Prior	✓	✓	
Potential	Future	✓	✓	
Th. precondition	A. precondition	✓	✓	
Nonveridical	Negatory	✓	—	✓
Progressive	Continuous	✓	—	✓
Resultative	TAMA:∅	✓	—	✓
Th. antecedent	A. antecedent	✓	✓	✓
Th. directed	A. directed	✓	—	✓
Actual	Instantiated	✓		
Apprehensive	Instantiated	✓		
Imperative	TAMA:∅	✓		
Immediate	Instantiated	✓		
Nonveridical	Instantiated	✓		
Potential	Instantiated	✓		
Apprehensive	Present		✓	
Immediate	Present		✓	
Nonveridical	Present		✓	
Progressive	Functional			✓
Th. incipient	A. incipient			✓

clauses, and in embedded VPs. Paired values whose lack of attestation I regard as likely accidental gaps in the corpus are marked '—'.

4.4 Concord

Undoubtedly the most central and striking attribute of Kayardild inflection is the phenomenon which I will term **concord**.[2] Concord is defined in (4.6) and a simple example follows in (4.7).

(4.6) Concord
The morphological realization, on multiple words dominated by a syntactic node **n**, of a morphosyntactic feature value associated with **n**.

The example in (4.7) shows a DP, ending with *thungalu* 'thing' and associated with CASE:proprietive, which in turn contains an embedded DP ending with *dangkanabawu* 'man' and associated with CASE:ablative.

(4.7) [$_{\text{DP}}$[$_{\text{DP}}$	*balarrinabawu*	*dangkanabawu* $_{\text{ABL}}$]	*thungalu* $_{\text{PROP}}$]
	palar+ki-napa+kuu-ø	ʈaŋka+ki-napa+kuu-ø	t̪uŋal+kuu-ø
	white-‹μLOC-μABL›-μ̋PROP-T	man-‹μLOC-μABL›-μ̋PROP-T	thing-μ̋PROP-T
	white-‹ABL›-PROP	man-‹ABL›-PROP	thing-PROP

'having a white man's thing (i.e. a tape recorder)' [R2005-jul21]

All three words in (4.7) are dominated by the matrix DP node, and all three inflect for CASE:proprietive; words within the subordinate DP are dominated by both the matrix and the subordinate nodes and are inflected for both CASE:ablative and CASE:proprietive. What (4.7) illustrates is in fact a particular kind of concord which I will term **transparent concord**, defined in (4.8).

(4.8) Transparent concord
The overt morphological realization, on all words dominated by a syntactic node **n**, of a morphosyntactic feature value associated with **n**.

In describing Kayardild it will be useful to contrast transparent concord with **conditioned concord** defined in (4.9).

[2] 'Concord' in this sense has been used by Klokeid (1976) with respect to Lardil, Dench and Evans (1988) with respect to case marking in Australian languages in general, Evans (1995a) with respect to Kayardild, and Plank (1995) with respect to *Suffixaufnahme* in general. See also Evans (2003) for a comparative-theoretical discussion of his analysis of Kayardild in relation to notions of concord, agreement, and government.

(4.9) Conditioned concord
The morphological realization of a morphosyntactic feature value F:V, associated with a syntactic node **n**, on all words which (i) are dominated by a syntactic node **n** and (ii) are morphologically capable of inflecting for F:V.

A more involved example of concord is shown in (4.10).

(4.10) *Ngada*	*mungurru,*	[$_{S''}$ *makuntha*	[$_{VP}$ *yalawujarrantha*
ŋat̪-ta	muŋuru-a	maku-in̪t̪a-ø	jalawu-c+ŋara-in̪t̪a-ø
1sg-T	know-T	woman-µOBL-T	‹catch-J›-µ̋CONS-µOBL-T
1sg	know	woman-SEJ	‹catch›-PST-SEJ

yakurinaantha	[$_{DP}$ [$_{DP}$ *thabujukarranguninaantha* $_{GEN}$]
jakuɻi+ki-naa-in̪t̪a-ø	t̪apucu-karaɲ-ŋuni+ki-naa-in̪t̪a-ø
fish-‹µLOC-µ̋ABL›-µOBL-T	brother-µGEN-µINST-‹µLOC-µ̋ABL›-µOBL-T
fish-‹PRIOR›-SEJ	brother-GEN-INST-‹PRIOR›-SEJ

mijilnguninaanth $_{INST}$] $_{PRIOR, PST}$] $_{+SEJ}$]
micil-ŋuni+ki-naa-in̪t̪a-ø
net-µINST-‹µLOC-µ̋ABL›-µOBL-T
net-INST-‹PRIOR›-SEJ
'I know that the woman caught the fish with brother's net.' [E5.ex.1-16]

In (4.10) the subordinate clause complement of *mungurru* 'know' is bracketed as [$_{S''}$ … $_{+SEJ}$]. The subscripted S″ on the left bracket indicates that the constituent is of type S″ (a clause) and +SEJ on the right bracket (last in the sentence) indicates the SEJUNCT feature associated with the clause. The +SEJ feature exhibits transparent concord within the clause. The verb phrase (VP) within that same clause is associated with TAMT:past and TAMA:prior. Both these feature values exhibit conditioned concord—TAMT:past is marked on all stems in VP which end with a thematic, and TAMA: prior is marked on all stems in VP which do not. The sentence ends with the embedded DP structure '[$_{DP}$[$_{DP}$ brother's $_{GEN}$] net $_{INST}$]' in which the CASE features of both DPs exhibit transparent concord. As a result of all this the most embedded word of all, *thabujukarranguninaatha* 'brother', is marked for its own CASE:genitive, for CASE:instrumental, for TAMA:prior and for +SEJ.[3]

Example (4.10) offers a good illustration of the inflectional complexity of individual words that can arise due to concord, but it does not on its own provide much of an indication of the complexities which exist within the Kayardild system of concord

[3] Strictly speaking, to be consistent with the analysis built up in following chapters: the clause marked S″ in (4.10) is also associated with a +CMP feature which exhibits the limiting case of conditioned concord: it is associated with each word in the clause but in every instance is blocked from being realized by the presence of +SEJ. In addition the TAMT:prior feature associates with an S node rather than VP *per se.* These issues are covered in Chapter 5.

itself. Chapters 5–9 are devoted to an examination of those complexities, and their analysis.

4.5 Surface syntax, non-surface syntax, and concord

We proceed now to an initial introduction to the issues relating to Kayardild syntax and the approaches to them which will be expanded on in Chapters 5–9.

4.5.1 Kayardild syntax, briefly

The main predicate of a Kayardild clause is either a single verb, or a set of verbs with non-contradictory argument structures, or a predicate DP. A verb of transfer or movement may be elided if its meaning is recoverable from context. Verbs can take up to two syntactic complement DPs and they may subcategorize for various non-complement arguments. The complement DPs can be promoted to subject in passive clauses and can be syntactically topicalized. They can also be syntactically focalized, as can the subject DP. Word order within DPs is fixed, but the order of verbs and DPs within the clause is free, to the extent that any order is possible even if not equally likely or appropriate in all contexts. The word order of particles is more constrained and is defined in terms of the edges of other surface-syntactic constituents. DPs are freely elided when their reference is recoverable from context. It is not uncommon for multiple, identically inflected DPs to be juxtaposed in a single clause. DP juxtaposition has several functions including apposition, conjunction, and disjunction. An array of embedded structures is attested. DPs can contain embedded DPs or embedded VPs as modifiers, and predicate DPs can take full embedded clauses as complements. Clauses themselves can contain embedded 'adverbial' VP adjuncts and main verbs can take embedded clause complements.

4.5.2 Non-surface syntax in the account of inflection

Because DPs and verbs are freely ordered within the clause there is no constituent in the clause which is both larger than the DP and consistently contiguous other than the clause itself. However, the central claim of the remainder of this chapter is this: morphosyntactic features in Kayardild are always associated with sets of words which relate to one another in a strict, hierarchically embedded fashion. Discontinuity on the surface masks an intricately embedded underlying order.

If we refer to the set of words on which a morphosyntactic feature is realized as that feature's **domain** (Dench and Evans 1988), then once the effects of antagonism (§4.3) have been factored out the domains of features in Kayardild relate to one another precisely like hierarchically embedded syntactic constituents. Moreover, these constituents are not random assemblages of words. Despite the fact that there is no evidence from surface word order for constituents such as VP (Evans

1995a:120–1, 534) the inflectional domains of Kayardild appear distinctly similar to domains such as VP, S, DP, and NP which can be detected on the basis of word order in many other languages.

It makes sense then to speak of a 'non-surface syntactic' structure in Kayardild, with respect to which all Kayardild inflectional features exhibit either transparent or conditioned concord within some or other constituent. The relationship between non-surface syntax and surface syntax appears to be something akin to scrambling, although apart from particles (Chapter 10) I make no attempt to analyse surface word order in this study.

4.5.3 *Embedded domains*

Let us define the notation **D**(x) as follows: (i) **D**(F:v) stands for the domain of a feature value F:v; (ii) **D**(F) stands for the domain of all of the values of F (in the case that they all coincide); and (iii) **D**(F,G) stands for the domains of all of the values of feature F and of feature G (in the case that they all coincide). Let the statement **D**(G) ⊃ **D**(F) express the fact that all of the constituent types which occur in the domain of F also occur in the domain of G, but not *vice versa*. Now it can be observed that the relationships in Table 4.9 all hold in Kayardild.

4.5.4 *Feature attachment and percolation in non-surface syntax*

On the account proposed here the embedded domains of Table 4.9 correspond to embedded, contiguous constituents in non-surface syntax (see §4.5.5 for specifics). To account for the distributions of inflectional features across the words of a clause, it is proposed that morphosyntactic feature values each attach to a specific syntactic node, and from there percolate downward to all nodes below and eventually to individual words (details of this mechanism will be set out in Chapter 8). As such, it will be useful to distinguish between the initial **attachment** of a feature to a node before percolation takes place, and the eventual **association** of a feature with potentially many nodes and words. Note that under this model if features F and G attach to nodes

TABLE 4.9 Embedding of Kayardild feature domains

a. **D**(+COMP) ⊃ **D**(+SEJ) ⊃ **D**(TAMA:x) ⊃ **D**(TAMA:y) ⊃ **D**(TAMA:z), where:
  x = continuous, negatory[a,b]
  y = emotive, future, present, prior[a,b]
  z = directed, instantiated[b]

b. **D**(CASE, NUMBER[c]) ⊃ **D**(NUMBER[c])

[a] possibly also athematic precondition.
[b] possibly also athematic antecedent, functional.
[c] NUMBER has two possible concordial domains, cf §6.6.

$\mathbf{n}_{\mathrm{F}}$ and $\mathbf{n}_{\mathrm{G}}$ respectively, and $\mathbf{n}_{\mathrm{F}}$ is dominated by $\mathbf{n}_{\mathrm{G}}$, then it follows that $\mathbf{D}(\mathrm{G}) \supset \mathbf{D}(\mathrm{F})$. For reasons which will become clear in §5.3, a special status must be accorded to the highest node of a clause, S″. That node presents an opaque barrier across which no other features can percolate.

4.5.5 Non-surface syntactic structures

I will assume that non-surface syntactic structures conform to the general X-bar schema shown in Figure 4.1. This analysis is chosen partly in order that the generalizations made here remain accessible to a wide range of syntactic theories, but also because the structure provides a good fit with the data.

Something of an exception to the general X-bar structure of Figure 4.1 are the nodes S and S″. The sole immediate constituent of S is VP, while S″ acts mostly like another X′ node.

For two reasons, I do not assume branching to be binary. First, since DP juxtaposition is not uncommon, and since there is no evidence (from inflection) of internal hierarchical structure among juxtaposed DPs, it is appropriate to treat all juxtaposed DPs as sisters. As a consequence, if a given XP permits one DP daughter then it will also permit multiple, juxtaposed DP daughters. Second, we will encounter large classes of clausal adjunct DPs, all of which exhibit identical inflectional properties. Even though these are not necessarily juxtaposed their inflectional behaviour is indistinct from that of true juxtaposed DPs and their analysis in terms of non-surface syntax will be the same, that is, they will be sisters under a common mother node.

Although some adjuncts will be analysed as sisters, there are other cases where the inflectional evidence calls for a hierarchical analysis. As will we see shortly the non-surface syntactic structure of Kayardild—posited on the basis of inflectional evidence—is at its most intricate at the level of adjuncts, in particular at the level of DP adjuncts to VP and S-category nodes.

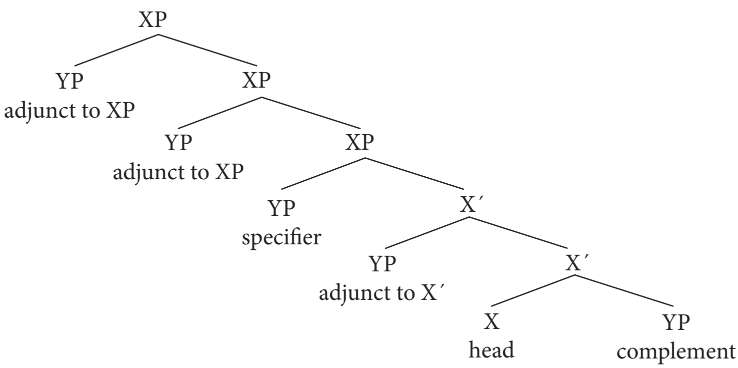


FIGURE 4.1 X-bar schema

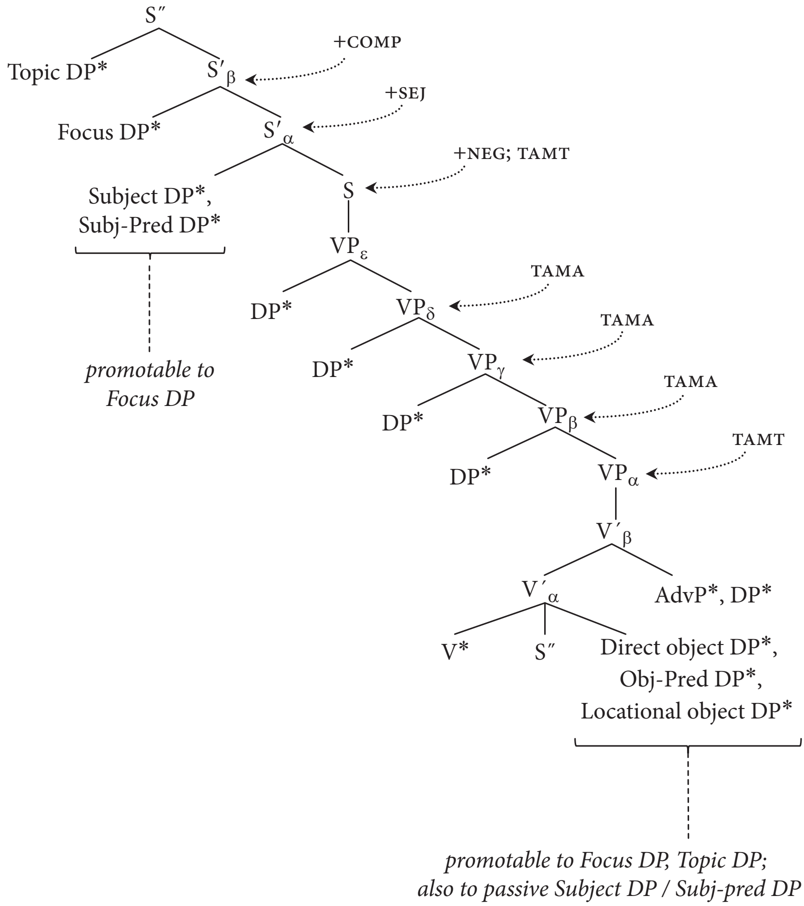


FIGURE 4.2 Non-surface clause structure

The configurational structure of the non-surface clause, and the attachment points of morphosyntactic features (though not all individual values), is shown in Figure 4.2. A Kleene star '*' indicates points at which multiple sisters may appear.

The non-surface syntax and surface syntax of DPs is identical, and is shown in Figure 4.3.

4.5.6 Height of attachment and linear order of realization

The syntactic nodes to which feature values attach have various heights relative to one another, inferred from the relative embedding of their domains. In cases where more than one feature is overtly realized on a given word, the relative syntactic height

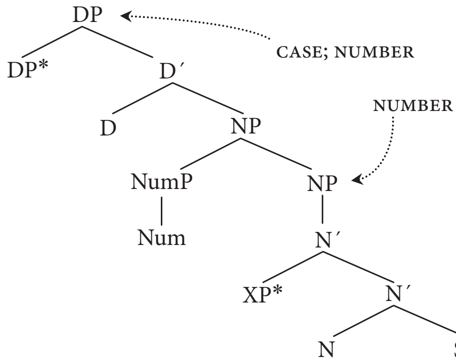


FIGURE 4.3 DP structure

of a feature's attachment generally[4] corresponds with the linear order of its morphological realization: the higher the node of attachment, the farther from the lexical stem the attaching feature will be realized.

4.5.7 Other approaches to layered clausal structure

Although it is beyond the scope of this book to make more than passing comment, the layered view of Kayardild clause structure in Figure 4.2 above, which is posited on the basis of evidence from inflection, can be compared with the layered clause structure which has gained acceptance within Chomksyan generative grammar over the past two decades. Although the latter is based on quite different empirical data and theoretical arguments, researchers such as Pollock (1989), Chomsky (1991), and Cinque (1999) among others have argued that clauses possess a more articulated hierarchical structure than was assumed in earlier models of generative grammar (Chomsky 1965, 1986). Although more recent work has predominantly postulated phrases whose heads have no overt realization, the seminal arguments for splitting the IP constituent made by Pollock (1989) focused on syntactic consistuents in English and French whose heads correlate with visible tense and agreement morphology. Those proposals thus share a modicum of commonality with the arguments I will present for Kayardild, insofar as the layering of clause structure relates in some way to overtly realized, tense-like morphosyntactic features.[5] By the same token though there are significant differences between the model of Kayardild syntax proposed here and mainstream Chomksyan research into articulated clause structure.

[4] The order of μOBL can be exceptional, cf §2.6.4.

[5] Layered clause structure has also been invoked in generative accounts of 'scrambling' (e.g. Thráinsson 2001), an empirical phenomenon in which DPs are freely rearranged. As noted earlier, DPs in Kayardild surface syntax also exhibit something akin to this behaviour.

In Kayardild the features which attach to each of the several nodes in the clause or in the DP are assumed to do so because from that one structural position they percolate downwards to many words, sometimes very many words, often spread across several subordinate XP domains. By way of contrast, the clausal layers of recent generative theory are typically associated with features that trigger the movement of just one element (whether an X^0 head or a higher projection) into some domain associated with that feature, and thus the interaction between a clausal node and the rest of the clause is highly circumscribed. Actual morphological agreement has recently been pursued in relation to a quite different, long-distance 'Agree' operation (Chomsky 2000), although even here the focus remains on agreement between a trigger and one specific target. In Kayardild, the positing of layered clausal structure is fundamentally driven by the existence of triggers whose 'target' is everything that its node dominates.

4.5.8 Word classes and phrasal categories

The present analysis of Kayardild distinguishes between just two lexical, morphological word classes: **nominals** and **verbals**. In terms of their morphomic composition, lexical verbal stems end formally in a thematic, while lexical nominal stems do not. In terms of syntax, verbal stems provide the base for words which are syntactically verbal, and nominal stems the base for words which are syntactically nominal. In addition to these morphologically grounded nominal and verbal superclasses though, the analysis of Kayardild syntax presented here also recognizes syntactic subclasses.[6]

To begin with nominals, the words which are built upon nominal lexical stems can be divided into several syntactic subclasses, members of which can occupy distinct types of syntactic positions (cf Evans 1995a:236). A primary division can be made between subclasses which participate in non-surface syntactic structures and which consequently may become associated with morphosyntactic features and so inflect, and those which do not participate in non-surface syntactic structures and which

[6] This correspondence between a small number of morphological classes and a larger number of syntactic classes is typical of many Australian languages (Blake 1987:2–3). In the present study syntactic subclasses are posited with the aim of accounting for why certain morphosyntactic features end up associating with the words they do. In taking this (morpho)syntactically-driven approach, the current analysis more closely resembles the general approach to Australian languages taken by Blake (1987, 2001), than by Dixon (1980) who also places semantic properties at the forefront. Nevertheless, I depart from Blake's (2001) practice by defining syntactic phrases (DP, AP, etc.) in terms of the syntactic subclasses (D, A, etc.) of their heads rather than the broader morphological classes (nominal, verbal). In Evans (1995a) word classes are stated to be 'based on the suffixing possibilities for each word' (1995a:84ff). Taken at face value this resembles the criteria used here for morphological classes. In practice though, semantic properties play a non-trivial role in distinguishing word classes from one another in Evans (1995a) and in some cases pre-empt considerations from morphosyntax: some particles in Evans (1995a) inflect for TAMA while others do not, yet they are treated as one word class presumably on the basis of their function; conjunctions and interjections are similar in their failure to inflect, yet they are treated as two classes, and both are distinguished from non-inflecting particles.

therefore do not inflect. In the former group are determiners D, numbers Num, adjectives A, and nouns N. These all appear in (subconstituents of) determiner phrases. In the latter group are clitic particles, interjections and ideophones (particles are discussed in §4.5.9). With respect to interjections and ideophones I assume that neither of these classes of words participates in syntactic structures and that this is why they fail to inflect.

Words built upon verbal lexical stems fall into two syntactic subtypes: verbs V and adverbs Adv, both of which always participate in non-surface syntactic structures.

Several nominal and verbal lexemes are able to function, with modified semantics, in more than one syntactic subclass. For example, *warngiij-* functions as D meaning 'a certain', as Num meaning 'one' and as A meaning 'common, shared'; *kuruluth-* functions as V meaning 'kill' and as Adv meaning 'do intensely' (Evans 1995a:86, 237). Because the multiple syntactic subclasses of these words all correspond to a single morphological superclass though, there is no derivational morphology which signals a 'shift' between one syntactic subclass and the next, rather the exact same lexical stem is used in each syntactic function. Accordingly, disambiguation of the intended meaning of such lexemes relies on context, a matter which will play a central role in arguments for the existence of the DP in Chapter 6.

Corresponding to the syntactic subclasses of Kayardild the following phrasal categories will be recognized: determiner phrases DP, number phrases NumP, adjective phrases AP, noun phrases NP, verb phrases VP, and adverb phrases AdvP. A comparison between the word classes and syntactic phrases used here and those of Evans (1995a) is provided in Appendix A.

4.5.9 Surface syntax, particles, and particle-like DPs

Although Kayardild word order is notionally 'free', strong biases in actual word order are readily apparent and while the exploration of such matters is beyond the scope of this study I assume that pragmatic and discourse factors play a key role in determining or at least restricting surface word order (for recent overviews of research into pragmatically determined word order in Australian languages see Austin 2001; Mushin 2005; Baker and Mushin 2008). To mention but one example, it is common for a sequence of juxtaposed, coreferential DPs referring to a place to begin with a demonstrative (i.e. deictic) DP, and be followed by a more semantically contentful DP. Examples appear in (5.15), (6.23), and (7.12). Beyond these general biases in surface word order, however, it is possible to identify a small number of Kayardild words whose surface word order is yet more strongly constrained, and which never inflect. The analysis proposed here is that these words constitute the syntactic, **particle** subclass of the morphological superclass of nominals; particles do not appear at all in non-surface syntactic structure, but rather are introduced directly into the surface syntax as **special clitics**[7] (Anderson 2005; Zwicky 1977), appearing at the edges of certain surface-syntactic domains. Because particles are absent from non-surface syntactic structure, they are not assigned morphosyntactic features and they do not inflect. A discussion of the syntax of particles, which has not previously been reported in Kayardild, is presented in Chapter 10.

4.5.10 DP constituents with predicative content

There are two kinds of predicative constituents in Kayardild which will be analysed here as DPs. It is not apparent from casual inspection that these constituents ought to be treated as DPs, but once a full array of evidence has been considered it seems most reasonable to conclude that they are. A good example is seen in (4.11).

(4.11)	*Dathina*	*kunawuna*	***jungarr.***
	ʈat̪ina	kuna+kuna-ø	cuŋara-ø
	that.T	‹child$_{NL}$-child$_{NL}$›-T	big-T
	that	‹child›	big

'That child is big.' [W1960]

Here, as in many Kayardild clauses, the main clausal predicate shown in bold is not verbal but nominal. The question is, is the predicate in (4.11) a full DP, or perhaps an NP, or just an AP? Likewise we can consider depictive second predicates, which may be nominal (4.12) or clausal (4.13). Are these simple NPs and VPs, or are they NPs and VPs embedded within an otherwise empty matrix DP?

(4.12)	***Darrathiwu***	*ngakulda*	*wuranku*	*diyaju.*
	ʈarat̪i+kuu-ø	ŋa-ku-l-ta	wuɻan+kuu-ø	ʈia-c+kuu-ø
	hot-μ̋PROP-T	1-2-pl-T	food-μ̋PROP-T	‹eat-J›-μ̋PROP-T
	hot-FUT	1-2-pl	food-FUT	‹eat›-POT

'We'll eat the food hot.' [R2005-jul21]

(4.13)	*Ngada*	***kurrinngarrba***	***wuranngarrb,***	*ngumbanju*
	ŋat̪-ta	kuri-c-n-ŋarpa-ø	wuɻan-ŋarpa-ø	ŋuŋ+paɲ+kuu-ø
	1sg-T	‹see-J›-‹μN-μCONS›-T	food-μCONS-T	2sg-μPOSS-μ̋PROP-T
	1sg	‹see›-‹ANTT›	food-ANTA	2sg-ø-FUT

wuuju.
wuː-c+kuu-ø
‹give-J›-μ̋PROP-T
‹give›-POT

'Having seen the food I will give it to you.' [W1960]

[7] While particles are special clitics, they are not phonological clitics. That is, particles in Kayardild constitute independent words both phonologically and grammatically. See Round (2009:180–83) regarding Kayardild's two phonological clitics /=ɳa/ and /=ic/.

The same question arises regarding the status of adverbial VPs such as the 'motion purpose' clause in (4.14).

(4.14)	*Balmbu*	*ngada*	*daliju*
	palmpuu-ø	ŋat̪-ta	ʈali-c+kuu-ø
	tomorrow.μPROP-T	1sg-T	‹come-J›-μ̋PROP-T
	tomorrow.FUT	1sg	‹come›-POT

ngumbanjiringku	***kamburijiringku.***
ŋuŋ+paɲ+ki-ɹiŋ+kuu-ø	kampuɹi-c+ki-ɹiŋ+kuu-ø
2sg-μPOSS-‹μLOC-μALL›-μ̋PROP-T	‹talk-J›-‹μLOC-μALL›-μ̋PROP-T
2sg-ø-‹DIRA›-FUT	‹talk›-‹DIRT›-FUT

'Tomorrow I'll come to talk to you.' [E453.ex.11-8]

All of these predicate XPs are analysed here as sitting inside a DP constituent. Evidence for that analysis converges from two independent directions. For one, the survey of Kayardild morphosyntax in the following chapters will independently yield evidence for the existence of otherwise-empty DPs whose sole overt material is NP, AP, and VP. As such, the syntactic structures that are required in order to place predicate XPs inside a matrix DP are structures that must exist in Kayardild anyhow. Secondly, once it has been formalized, the mechanism of feature percolation turns out to treat predicate APs, NPs, and VPs (or, under this analysis, their matrix DP) exactly like other DPs and exactly unlike other APs, NPs, and VPs. The account of feature percolation, a central process in the operation of Kayardild inflection, is therefore significantly simplified if we suppose that these predicate XPs are embedded under DP nodes: percolation then needs only to distinguish DP nodes from non-DP nodes.

5

The clause and VP

Chapters 5–8 flesh out the account of Kayardild inflection sketched in Chapter 4 and provide the main arguments supporting it. Overarching issues that arise are dealt with in Chapter 9. The current chapter furnishes data and argumentation for the

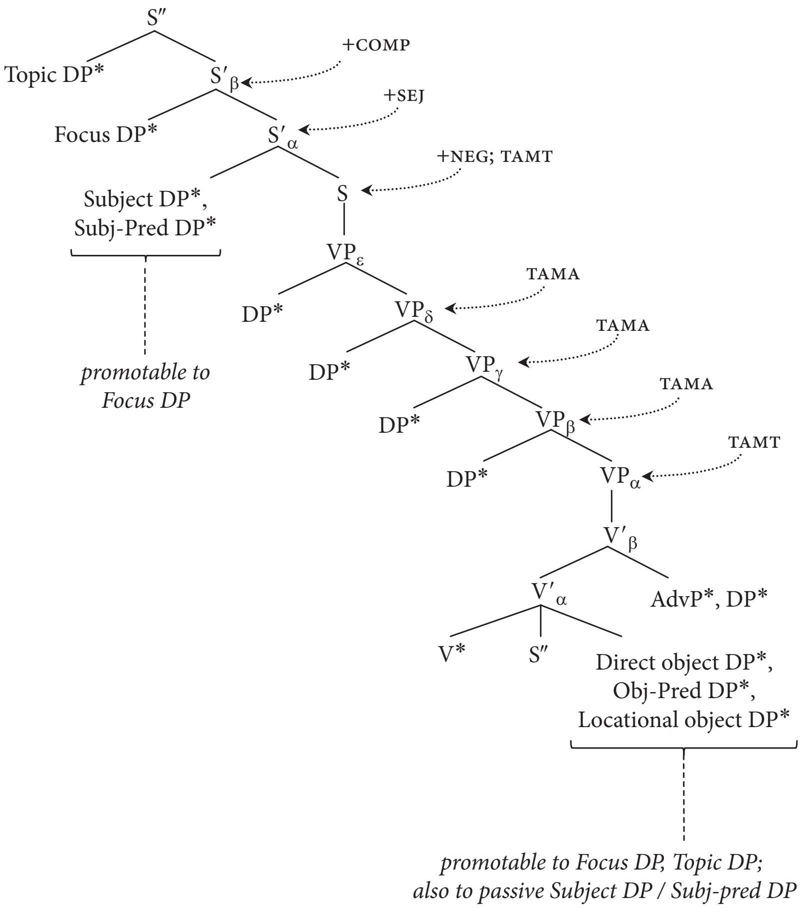


FIGURE 5.1 Non-surface clause structure

existence and arrangement of the S- and V-category nodes in the non-surface clausal structure shown in Figure 5.1. Significant parts of both the data and its interpretation are novel. Discussion begins in §5.1 with the features +SEJ and +COMP which attach to the S′ nodes, and the attachment of TAMT and NEGATION features is discussed in §5.2. Embedded S″ constituents are examined in §5.3 and embedded VPs in §5.4. The lower reaches of the clause below VP_{α} are dealt with in §5.5 and the substantial topic of TAMA is covered in §§5.6–5.9.

5.1 Complementization and S-category nodes

Many clauses in Kayardild are **complementized**. All complementized clauses are associated with a +COMP feature value, and some are also associated with a sejunct feature +SEJ. When words in a clause inflect for +SEJ or +COMP nearly every nominal and verbal word in the clause will do so.

Constituents which escape inflection for one or both of +COMP and +SEJ are topic DPs (Evans 1995a: 533–9) covered in §5.1.2, and a newly identified class of focus DPs covered in §5.1.3.

To accommodate these facts the uppermost region of the Kayardild clause will be assumed to contain four hierarchically organized S-category nodes. The feature values +SEJ and +COMP attach respectively to S'_{α} and S'_{β}. Topic DPs are daughters of the topmost node S″, and thus are unable to inherit either +SEJ or +COMP via feature percolation. Focus DPs are daughters of S'_{β} and so can inherit +COMP but not +SEJ. All other constituents of the clause are situated below both S′ nodes and so can inherit +SEJ and +COMP. Finally, +SEJ and +COMP are antagonistic, meaning that no word will ever inflect for both. A word associated with both +SEJ and +COMP will inflect overtly only for +SEJ.

5.1.1 Complementized (in)subordinate clauses

Clauses may be complementized if they are subordinate, or if they contain topic or focus DPs. We begin here with the former. The functions of complementized subordinate clauses and the conditions which require or permit them to be used are discussed in Evans (1995a:488–529). Since these are complex and not directly relevant to present matters they will not be reviewed here, although it should be noted that complementized subordinate clauses can be ‘insubordinated’ and appear without their matrix clause. In their (in)subordinate use complementized clauses regularly exhibit distinctive, overt inflection on every nominal and verbal word in the clause. I will refer to two kinds of complementized clause, **sejunct** and **nonsejunct**, whose traits are summarized in Table 5.1.

Sejunct clauses are the default. Nonsejunct clauses are used when the subject is either (i) first person inclusive, or (ii) second person and ‘the speaker wants to group

TABLE 5.1 Sejunct and nonsejunct complementized clauses

Clause type	Usage	Features
Nonsejunct	When subject is: (i) first person inclusive, OR (ii) second person and the speaker wishes to express solidarity with the addressee	{+COMP, SEJ:∅}
Sejunct	otherwise	{+COMP, +SEJ}

him/herself with the addressee' (Evans 1995a:494). That is to say, there is a disjoint condition on using nonsejunct clauses, which hinges on grammatical person features and on the pragmatic expression of solidarity between speaker and addressee. This combination of conditions is typologically idiosyncratic, and I know of no other language which makes use of it (see §9.1 for arguments against analysing sejunct/nonsejunct as person marking).

Sejunct complementized clauses exhibit overt +SEJ inflection which is realized by μOBL on all words bar subject pronouns. On subject pronouns +SEJ is realized by μSEJ.[1] Sejunct complementized clauses are illustrated in (5.19) below with a third person subject and in (5.1) with a second person subject.

(5.1)	*Jinaa*	*bijarrb,*	[*ngumbaa*	*kurulutharranth*] ?
	cina-a	picarpa-ø	ŋuŋ+pa-a	kuɻulu-t̪+ŋara-in̪t̪a-ø
	where-T	dugong-T	2sg-μSEJ-T	‹kill-TH›-μ́CONS-μOBL-T
	where	dugong	2sg-SEJ	‹kill›-PST-SEJ
	'Where is the dugong which you killed?' [E493.ex.1213b]			

Nonsejunct complementized clauses exhibit overt inflection for +COMP, which is realized as μLOC on all words bar subject pronouns. On subject pronouns +COMP has no overt realization.[2] Examples of nonsejunct subordinate clauses are shown in (5.2) with a first person inclusive subject and in (5.3) with a second person subject.

(5.2)	*Jinaa*	*bijarrb,*	[*ngakulda*	*bakiinki*	*kurulutharray*] ?
	cina-a	picarpa-ø	ŋa-ku-l-ta	paki:-c-n+ki-a	kuɻulu-t̪+ŋara+ki-a
	where-T	dugong-T	1-2-pl-T	‹all-J-μN›-μLOC-T	‹kill-TH›-μ́CONS-μLOC-T
	where	dugong	1-2-pl(CMP)	‹all›-CMP	‹kill›-PST-CMP
	'Where is the dugong which we all killed?' [E493.ex.12-12]				

[1] Historically, the forms in sejunct clauses derive from dative marking: the proto Southern Tangkic dative was realized by μOBL, except on pronouns, where the modern Kayardild μSEJ pronouns continue the old dative series (Evans 1995a).

[2] Forms in nonsejunct clauses derive historically from ergative marking: the proto Southern Tangkic ergative was realized by μLOC, except on pronouns where the bare pronominal stem was used (Evans 1995a).

TABLE 5.2 Realization of +COMP and +SEJ, which are antagonistic

Features associated with a word	Feature realized	Morphomic realization
+COMP	+COMP	μLOC
{+COMP, +SEJ}	+SEJ	μOBL

(5.3) *Jinaa* *bijarrb,* [*nyingka* *kurulutharray*] ?
cina-a picarpa-ø ɲiŋ+ka kuɻulu-t̪+ŋara+ki-a
where-T dugong-T 2sg-T ‹kill-TH›-μ̈CONS-μLOC-T
where dugong 2sg(CMP) ‹kill›-PST-CMP
'Where is the dugong which you killed?' [E493.ex.12-13a]

Inflection in subordinate complementized clauses is analysed as follows. The feature values +SEJ and +COMP are antagonistic, so no word may inflect for both. When a word bears both features +SEJ will always be realized at the expense of +COMP (§4.3.1); this is summarized in Table 5.2.

The proposal then is that all complementized clauses are associated with a +COMP feature which percolates from S'_{β} to all subordinate nodes. In addition, sejunct clauses (but not nonsejunct clauses) are associated with a +SEJ feature which percolates from S'_{α} to all subordinate nodes. In the subordinate clauses under consideration in this section all words are located below both S' nodes, entailing that words in nonsejunct clauses will inherit +COMP only and will inflect overtly for it, while words in sejunct clauses will inherit both +COMP and +SEJ will inflect overtly only for +SEJ. The motivations for choosing this analysis over other alternatives will become clear as we examine other complementized clause types containing topic and focus DPs.

5.1.2 Complementized main clauses and topic DPs

Figure 5.1 indicates the sets of DPs which can be promoted from their usual position in the clausal hierarchy to a pair of syntactically distinct, topic and focus positions. Any clause with a DP promoted to these positions will be complementized.[3]

Evans (1995a:533–9) documents complementized clauses with several kinds of topic DP, all of which fail to inflect overtly for +SEJ or +COMP. These inflectional facts are analysed here as following from the placement of the topicalized DP as daughter of S'' at the top of the clause. The features +SEJ and +COMP attach lower than this and thus the topic DP daughters of S'' are too high in the clause to inherit

[3] Regarding topic DPs in uncomplementized clauses, which are situated much lower in the clause, see §5.9.

them by percolation, even when all other constituents in the clause do so. An example of a sejunct clause containing a topic DP is shown in (5.4) with the topic DP indicated in bold.[4] An example of a nonsejunct clause containing a topic DP is shown in (5.5).

(5.4)	*Ngijuwa*	***bingkurnda***	*wungijarranth!*
	ŋicu+pa-ø	piŋkuɳ-ta	wuŋi-c+ŋara-in̪t̪a-ø
	1SG-µSEJ-T	mud crab-T	‹steal-J›-µ̋CONS-µOBL-T
	1SG-SEJ	mud crab	‹steal›-PAST-SEJ

‘So I’ve been stealing *mangrove crabs*!’ [E536.ex.12-125d]

(5.5)	***Kambuda***	*kalathuruya*	*narranguniwuruya,*
	kamputa-ø	kala-t̪+kuɻu+ki-a	ɳara-ŋuni+kuɻu+ki-a
	nut-T	‹cut-TH›-µ̋PROP-µLOC-T	knife-µINST-µ̋PROP-µLOC-T
	nut	‹cut›-POT-CMP	knife-INST-FUT-CMP

kurdawujuruy.
kuʈa-wu-c+kuɻu+ki-a
coolamon-‹µDON-J›-µ̋PROP-µLOC-T
coolamon-‹DON›-POT-CMP
‘*Pandanus nut* we’ll cut with a knife and put in a coolamon.’[R2005-jul08]

The topicalized DPs in (5.4) and (5.5) are both direct object topics. Evans (1995a:534) also documents ‘instrument’ topics, which occur only in passive clauses. In both of Evans’ examples, the topic DP itself is elided and inferred from context. One example is repeated in (5.6). Reasons for why instruments in passive clauses should count amongst the DPs which can be promoted to topic are discussed in §5.5.2.

(5.6)	*Kunawunantha*	*kariijurrk.*
	kuna+kuna-in̪t̪a-ø	kaɻi-i-c+kurka-ø
	‹child$_{NL}$-child$_{NL}$›-µOBL-T	cover-‹µMID-J›-‹µLOC.µOBL›-T
	‹child›-SEJ	cover-‹MID›-‹IMM-SEJ›

Discussing a type of disinfectant leaf: ‘Babies are covered in it’ [E534.ex.12-121]

Another type of topicalized DP is the CASE:locative DP (Evans 1995a:539) as in (5.7).[5]

[4] Notice that in terms of surface syntax, the topic DP in (5.4), which is uninflected for +COMP, is straddled by DPs which do carry inflection for +COMP, illustrating the fact that the non-surface syntactic structure which determines inflectional distributions cannot be equated with constituent structure at the surface.

[5] A complication here is that the inflection of both the topicalized DP and of the rest of the clause is identical in form to the inflection of a focus DP and its complementized clause. However, there are semantic/pragmatic differences between topicalized locative DPs and focalized location DPs (see (5.12) and following text below), and the example in (5.7) contains a topic DP, rather than a focus DP.

(5.7)

Jungarraya	***minduluya***	*ngijuwa*	*badijuunth.*
cuŋara+ki-a	mintulu+ki-a	ŋicu+pa-ø	pati-c+kuu-in̪t̪a-ø
big-μLOC-T	bundle-μLOC-T	1sg-μSEJ-T	‹carry-J›-μ̋PROP-μOBL-T
big-LOC	bundle-LOC	1sg-SEJ	‹carry›-POT-SEJ

‘I’ll carry mine *in a big bundle.*’ [E539.ex.12-132]

The final attested type of topicalized DP is a ‘body part as locus of effect’, as shown in (5.8). ‘Body part as locus of effect’ DPs can be regarded a species of secondary predicate in Kayardild (see the suggestion to this effect in Evans 1995a:362–3), so that the second clause of (5.8) might be paraphrased more literally as ‘you’ll hit (somebody) eye-wise’. Example (5.8) thus illustrates a DP which has been promoted to topic from the ‘Obj-pred DP’ position of Figure 5.1.

(5.8)

Kirra	*balathuna*	*kuruluthun,*
ki-r-a	pala-t̪-u-t̪-ɳaŋ-ø	kuɻulu-t̪-u-t̪-ɳaŋ-ø
2-du-T	‹hit-TH›-‹μRCP-TH›-μNEG-T	‹do.hard-TH›-‹μRCP-TH›-μNEG-T
2-du	‹hit›-‹RCP›-NEG.IMP	‹do.hard›-‹RCP›-NEG.IMP

miburld,	*balanharranth.*
mipuɻ̪-ta	pala-t̪+ɲara-in̪t̪a-ø
eye-T	‹hit-TH›-μAPPR-μOBL-T
eye	‹hit›-APPR-SEJ

‘Don’t you two hit one another hard, you’ll hit (someone) *in the eye.*’ [W1960]

5.1.3 Complementized main clauses and focus DPs

Evans (1995a) does not describe complementized clauses with focus DPs *per se*, although focus DPs which stand alone without any other clausal context (cf §5.1.4 next) are described as being marked by an ‘independent use of locative case’, which is analysed here as a μLOC suffix realizing +COMP.

Complementized clauses containing focus DPs are what provides the motivation for positing both a +COMP feature and a +SEJ feature in sejunct clauses—all other sejunct clauses such as those in §5.1.1 and §5.1.2 could be described equally well by assuming that the +COMP feature is entirely absent. In this respect the key property of focus DPs is that they are daughters of S'_{β} and therefore are low enough to inherit +COMP but too high to inherit +SEJ. Consequently a focus DP in a sejunct clause will inherit and inflect overtly for +COMP while all other constituents will inherit both +COMP and +SEJ and thus inflect overtly only for +SEJ.[6]

[6] Clauses with focus DPs (§5.1.3) descend historically from a matrix clause ergative DP (marked with μLOC, or unmarked if pronominal) plus a relative clause marked for ergative or dative case. The existence of such clauses in proto Southern Tangkic has already been reconstructed by Evans (1995a:542–9). The use of etymologically ergative morphology to mark focus is not entirley unexpected. Ergative marking has recently been documented in a number of Australian languages as signalling not only grammatical

Since clauses of this type have not been documented before, I give six examples in (5.9)–(5.14). The first three illustrate focus DPs in combination with all three of the most common TAMA values found in complementized clauses. The grammatical functions of the focus DPs are intransitive subject (5.9), transitive subject (5.10), and transitive object (5.11). The subjects are third person and hence the clauses are sejunct. The focus DP is shown in bold.

(5.9) Sejunct clause; focus DP is intransitive subject

Dankiya	***kunawunaya***	*barjijarranth!*
ʈan+ki-a	kuna+kuna+ki-a	paɻci-c+ŋara-in̪t̪a-ø
this-µLOC-T	‹child$_{NL}$-child$_{NL}$›-µLOC-T	‹fall-J›-µ́CONS-µOBL-T
this-CMP	‹child›-CMP	‹fall›-PST-SEJ

'*This child* has been born!' [R2005-jul21]

(5.10) Sejunct clause; focus DP is transitive subject

Riinkiya	***bathinkiya***	***dangkawalathiya***
ɻi-in+ki-a	pat̪-in+ki-a	ʈaŋka+palat̪+ki-a
east-µABLC-µLOC-T	west-µABLC-µLOC-T	person-µPL-µLOC-T
east-ABLC-CMP	west-ABLC-CMP	person-PL-CMP

bana	***rilumbanjiya***	*jardiwurrka*
pana	ɻiluŋ+paɲ+ki-a	caʈi+kurka-ø
and	‹east.µALL-µPOSS›-µLOC-T	group-‹µLOC.µOBL›-T
and	‹east.C.ORIG›-CMP	group-‹PRES-SEJ›

dardanyijurrka	*ngakuluwanjurrk!*
ʈaʈaɲi-c+kurka-ø	ŋa-ku-lu+paɲ+kurka-ø
‹surround-J›-‹µLOC.µOBL›-T	1-2-pl-µPOSS-‹µLOC.µOBL›-T
‹surround›-‹IMM-SEJ›	1-2-pl-ø-‹PRES-SEJ›

'*People from every which way (lit. from the east and west) and in the east* have surrounded us mob!' [R2005-aug02a]

(5.11) Sejunct clause; focus DP is transitive object

Dankiya	***kunawunaya***	***rikawalathijiya***
ʈan+ki-a	kuna+kuna+ki-a	ɻika+palat̪-ic+ki-a
this-µLOC-T	‹child$_{NL}$-child$_{NL}$›-µLOC-T	cold-‹µPL-µSAME›-µLOC-T
this-CMP	‹child›-CMP	cold-‹EVERY›-CMP

ngijuwa	*karijuunth!*
ŋicu+pa-ø	kaɻi-c+kuu-in̪t̪a-ø
1sg-µSEJ-T	‹cover-J›-µ́PROP-µOBL-T
1sg-SEJ	‹cover›-POT-SEJ

'I'll cover up *these children who are all cold*!' [R2005-jul19a]

function (transitive subject) but also pragmatic functions, including focus and unexpectedness (Gaby 2008; McGregor 2006).

In (5.12) the subject is first person inclusive[7] so a nonsejunct clause must be used. All clause constituents inherit +COMP and since no +SEJ feature is involved, all of them inflect overtly for it. The focus DP in (5.12) has been promoted from the position 'locational object DP' in Figure 5.1 (on which, cf §5.5).

(5.12) Nonsejunct clause; focus DP is locative complement of V

Kurdaya	*wuyiijuruya*	*ngakulda*
kuʈa+ki-a	wuː-i-c+kuɻu+ki-a	ŋa-ku-l-ta
coolamon-µLOC-T	‹put-µMID-J›-µ̋PROP-µLOC-T	1-2-pl-T
coolamon-CMP	‹place on one's person›-POT-CMP	1-2-pl(CMP)

Talking about collecting edible foods: 'We'll pick them up and carry them on our person *in coolamons*.' [R2005-jul08]

Examples (5.13) and (5.14) both contain focalized second predicates on the subject. In (5.13) both the subject DP and the 'body part as locus' second predicate DP are focalized. In (5.14) only the second predicates are focalized while the subject DP is not, indicating that the two may be focalized independently.

(5.13) Focalized subject DP and 'body part as locus' subject secondary predicate DP

[$_{DP}$ ***Kunawalathiya***]	[$_{DP}$ ***bardakaya***]	*kalkanharranth.*
kuna+palaʈ̪+ki-a	paʈaka+ki-a	kalka-ʈ̪+ɲara-in̪ʈ̪a-ø
‹child$_{NL}$-µPL›-µLOC-T	belly-µLOC-T	‹get sick-TH›-µAPPR-µOBL-T
child-PL-CMP	belly-CMP	‹get sick›-APPR-SEJ

'*The children* will get sick *in their stomachs*.' [R2005-jul08]

(5.14) Focalized subject secondary predicate DP, but not subject DP

Warrajuuntha	*ngijuwa*	*jaajaajuunth,*
wara-c-kuu-in̪ʈ̪a-ø	ŋicu-pa-ø	caːcaː-c-kuu-in̪ʈ̪a-ø
‹go-J›-µ̋PROP-µOBL-T	1sg-µSEJ-T	‹poke around-J›-µ̋PROP-µOBL-T
‹go›-POT-SEJ	1sg-SEJ	‹poke around›-POT-SEJ

bardakawarriya,	*kamburinangkuuntha*	***bardakawarri.***
paʈaka-wari+ki-a	kampuɻi-c-ŋaŋ+kuu-in̪ʈ̪a-ø	paʈaka-wari+ki-a
‹belly-µPRIV›-µLOC-T	‹talk-J›-µNEG-µ̋PROP-µOBL-T	‹belly-µPRIV›-µLOC-T
‹hungry›-CMP	talk-NEG-POT-SEJ	‹hungry›-CMP

'I'll walk around poking (in the mud for crabs), *hungry*; *hungry*, I won't talk.' [R2005-jul21]

[7] The focalized DP *kurdaya* is not the subject, as a third person subject would require a sejunct clause. Nor is *kurdaya* is a direct object, as the verb *wuyiij-* is intransitive. On the lack of overt CASE:locative on *kurdaya*, see §6.8.

5.1.4 Focus clauses lacking overt VP

The focus DPs construction introduced above is most often used to convey that the referent of the focalized DP has just come to the speaker's attention, often because it has just entered the extra-linguistic context. A common conversational implicature (Grice 1969; Sperber and Wilson 1986) associated with the focus DP construction is that the speaker's reason for articulating this fact is to bring the referent to the addressee's attention too. Evans (1995a:141) documents essentially the same meanings associated with utterances consisting of nominal material alone, inflected with μLOC, which I will analyse here as focus DPs in a complementized clausal structure which lacks any overt VP material. Like all other focus DPs, the focus DPs in such constructions inherit +COMP from above and inflect overtly for it. Examples from Evans (1995a) are shown in (5.15)–(5.16).

(5.15)	*Wankuya*	*dathinki*	*riinki!*
	wanku+ki-a	t̪at̪in+ki-a	ɻi-in+ki-a
	shark-μLOC-T	that-μLOC-T	east-μABLC-μLOC-T
	shark-CMP	that-CMP	east-ABLC-CMP

'Hey, there's a shark (coming at you) from the east there!' [E141.ex.4-28][8]

(5.16) *Rajurrinki!*
ɻacuri-c-n+ki-a
‹walk-J›-μN-μLOC-T
‹walk›-PROG-CMP
Granny to toddler: 'Hey you can walk!' [E142.ex.4-31]

Each of the DPs above are inflected with μLOC but one might ask, does this μLOC realize +COMP, or does it realize TAMA:instantiated or CASE:locative, both of which are also realized by μLOC? An answer will emerge by a process of deduction. First, proof that the μLOC is not a realization of TAMA:instantiated comes from examples such as (5.17). In (5.17) the word *bijarrbawuruy* conveys what the song (*wangarri*) is about, but 'subject matter' DPs of this kind never inflect for TAMA (§5.6.2; also Appendix B, §B.5.4) and thus the μLOC in (5.17) cannot be a realization of TAMA:instantiated.

(5.17)	*Dankiya*	*wangarri,*	*ngijinji,*	*bijarrbawuruy!*
	t̪an+ki-a	waŋar+ki-a	ŋicu-iɲ+ki-a	picarpa+kuɻu+ki-a
	this-μLOC-T	song-μLOC-T	1sg-μPOSS-μLOC-T	dugong-μPROP-μLOC-T
	this-CMP	song-CMP	1sg-POSS-CMP	dugong-PROP-CMP

'(Hear) this song, of mine, about dugong!' [R2007-may14a]

[8] See also example (10.34) where this same DP appears within an entire clause recorded by Wurm (1960).

Evidence that μLOC is not a realization of CASE:locative comes from examples such as (5.18).

(5.18) *Ngada* *rarungki!*
ŋat̪-ta ɻa-ɻuŋ+ki-a
1sg-T south-μALLC-μLOC-T
1sg(CMP) south-ALLC-CMP
A man has returned to Bentinck Island (the 'south' island) for the first time in decades: '(Look at) me in the south!' [R2005-jul05b]

If it were associated with CASE:locative (or with TAMA:instantiated for that matter) the first singular pronoun in (5.18) ought to have appeared as *ngijinji*, a possessive pronominal stem followed by μLOC, which it does not. Instead it appears as the plain pronoun which is expected in association with +COMP (since pronouns do not inflect overtly for +COMP, §5.1.1). Meanwhile compass-direction allative stems such as *rarung-* do not inflect for CASE:locative or TAMA:instantiated (cf §5.6.2; Appendix B, §B.4.4) but are expected to inflect for +COMP, as the stem does in (5.18). Thus the inflection of both words in (5.18) is inconsistent with an analysis in terms of CASE:locative or TAMA:instantiated, while an account in terms of +COMP is without problem. Despite the lack of overt VP material in examples such as (5.15)–(5.18), the inflection of their μLOC-marked DPs exactly matches that of the focus DPs of §5.1.3, just as their semantics matches. The appropriate analysis is therefore as daughters of S''_β which inherit and inflect for +COMP.

5.2 The attachment of TAMT and NEGATION

For morphomic reasons the features TAMT and NEGATION are only overtly realized on verbs, adverbs, DPs inflected with thematic CASE values, and words in 'incipient' clauses (cf §5.4.1). In the sections which follow I will present reasons to believe that all of these constituents sit below the lowest VP node, VP_α. One approach to the attachment site of TAMT and +NEG would therefore be to assume that they attach as low as possible, at VP_α, and percolate down from there. Proposing any higher attachment site would be vacuous insofar as it would not change one's predictions regarding which constituents in the general case should inflect for TAMT and +NEG. Thus, in cases where there is no evidence to the contrary, I will assume that TAMT values attach at VP_α. However, for some values of TAMT, and for +NEG, a second factor does comes into play.

As mentioned in Chapter 4 each clause in Kayardild associates with one value of TAMT, one value of TAMA, and sometimes with +NEG. In §5.4 we will see that Kayardild possesses a set of embedded VP clauses. Many TAMT values and the feature +NEG never associate with embedded VPs (see also §4.3.3), although

Table 5.3 +neg, tamt values, associated clause types, and attachment sites

	Clause type	Permissible associated features	Attachment site
a.	Main clauses, embedded S″, but not embedded VP	+neg; tamt: actual, apprehensive, desiderative, hortative, immediate, imperative, past, potential, thematic precondition	S
b.	Main clauses, embedded S″, embedded VP	tamt: thematic antecedent, thematic directed, progressive, resultative, nonveridical	VP_{α}
c.	Embedded VP only	tamt: thematic incipient, functional	VP_{α}

they can associate with full clauses. The absence of such features in association with embedded VP constituents can be accounted for by supposing that they attach above the maximal VP node, VP_{ε}, in which case only clausal constituents larger than VP_{ε} can associate with them.[9] A list of tamt features and +neg, and their association with clause types, is shown in Table 5.3.

We have established that the features in Table 5.3(a) attach above VP_{ε}, but not yet precisely where. In terms of their linear order of morphological realization, each of the features in Table 5.3(a) is realized closer to the stem than +sej and +comp. This suggests that their node of attachment is lower (or at least no higher) than the nodes to which +sej and +comp attach (§4.5.6). I will therefore assume that the feature values in Table 5.3(a) attach at S.[10]

5.3 Embedded S″

Kayardild possesses two kinds of embedded, clause-like constituents (Evans 1995:451). One which I analyse as embedded S″ (the maximal projection of the clause) never inherits morphosyntactic features from clauses above it, and can always contain a subject. The other which I analyse as embedded VP_{ε} (the maximal VP projection) always inherits morphosyntactic features from nodes above it and

[9] Notwithstanding this, an embedded VP can and will inherit features via percolation from its matrix clause: see §5.7

[10] Strictly speaking it would be possible to conflate the nodes S and S'_{α} into one and have +sej, tamt, and +neg attach to it. This would mean that tamt and +neg would notionally percolate down onto the subject and subject second predicate DP daughters of the conflated node, even though nothing in those DPs ever inflects for tamt or +neg. Technically this would not be problematic, since no words in those DPs are of the right morphomic shape to inflect for tamt or +neg, thus even if they inherited the features they would not inflect for them. The choice here not to conflate the nodes is made for expository reasons; it is distracting to have features that are never realized percolating onto subjects. On a typological note, the majority of languages reported in Nordlinger and Sadler (2004) which inflect their DPs for clause-level tam features do inflect subjects. If one did conflate S and S'_{α} then Kayardild would (covertly) also conform to that pattern.

never contains a subject. Embedded S″ is discussed in this section and embedded VP_{ε} in §5.4. For a detailed treatment of embedded S″ in terms of its functions and conditions on its use see Evans (1995a:ch.12) under the rubric of 'finite subordinate clauses'; for VP_{ε} see Evans (1995a:ch.11) under 'non-finite clauses'.[11]

An embedded S″ constituent does not inherit any features from its matrix clause. Accordingly it will be assumed here that the S″ node, the maximal node of the clause, uniquely constitutes an opaque barrier to all feature percolation. Embedded S″ clauses themselves may be complementized or uncomplementized, as illustrated respectively in (5.19) and (5.20). See also (9.24) for an embedded complementized S″ within a matrix complementized clause.

(5.19) Sentence with complementized (sejunct), embedded S″

Ngada	*kurrij,*
ŋat̪-ta	kuri-c-a
1sg-T	‹see-J›-T
1sg	‹see›

[$_{S''}$ *niwaa*	*nathawurrka*	*danathurrk*] .
ɳi+pa-a	ɳat̪a+kurka-ø	ʈana-t̪+kurka-ø
3sg-μSEJ-T	camp-‹μLOC.μOBL›-T	‹leave-TH›-‹μLOC.μOBL›-T
3sg-SEJ	camp-‹PRES-SEJ›	‹leave›-‹IMM-SEJ›

'I saw him leave the camp.' [E495.ex.12-20]

(5.20) Sentence with uncomplementized, embedded S″

Ngada	*warrajarra*
ŋat̪-ta	Wara-c+ŋara-ø
1sg-T	‹go-J›-μ̋CONS-T
1sg	‹go›-PST

[$_{S''}$ *kurriju*	*dulku*]	*Rukuthina.*
kuri-c+kuu-ø	ʈulk+kuu-ø	ɻukut̪i+ki-naa-ø
‹look-J›-μ̋PROP-T	country-μ̋PROP-T	(place name)-‹μLOC-μ̋ABL›-T
‹look›-POT	country-FUT	(place name)-‹PRIOR›

'I went to Rukuthi to see the country.' [E499.ex.12-30]

Like other S″ constituents, an embedded S″ may or may nor contain an overt subject, as illustrated in (5.19) and (5.20) respectively. Perception verbs such as *kurrij-* 'see' in (5.19) can take embedded S″ complements (Evans 1995a:512–13), as can predicate nominals such as *mungurru* 'know that [S″]', which appears in example (4.10).

[11] Although Evans (1995a) arranges his discussion under the headings of 'finite' and 'nominalized' clauses, finiteness itself does not correlate perfectly with the division which is made, since 'motion purpose' clauses are finite on Evans' account but they pattern syntactically with 'nominalized' clauses. I prefer to view the distinction in terms of the syntactic constituents involved rather than their verbal morphology.

Sentences containing embedded S″ within embedded S″ are unattested; see §9.3 for further discussion of recursion in Kayardild.

5.4 Embedded VP

In terms of their function there are two main kinds of embedded VP clause. The first, which I will term **adnominal**, modifies or contributes a second predicate to a matrix subject or object DP,[12] while the second kind, which I will refer to as **adverbial**, denotes certain kinds of secondary events related to the event of the main clause. Examples of the two kinds appear in (5.21) and (5.22) respectively.

(5.21)	[*Ngada*	*kurrija*	*birrwanji,*	[***bulanki***
	ŋat̪-ta	kuri-c-a	pi-r+paɲ+ki-ø	pula-t̪-n+ki-a
	1sg-T	‹see-J›-T	3-du-μPOSS-μLOC-T	‹remove-TH›-μN-μLOC-T
	1sg	‹see›	3-du-ø-INS	‹remove›-PROG-INS

thungalwulanki	***kurdawurrk*** $_{\text{CONT,PROG}}$] $_{\text{INS,ACT}}$]
t̪uŋal-wula-t̪-n+ki-a	kuɽa+kurka-a
tree-‹μABLO-TH›-μN-μLOC-T	bark-‹μLOC.μOBL›-T
tree-‹ABLO›-PROG-INS	bark-‹INS-CONT›

‘I saw them pulling bark off a tree.’ [W1960]

(5.22)	[*Balmbu*	*ngada*	*warraju*
	palmpuu-ø	ŋat̪-ta	wara-c+kuu-ø
	tomorrow.μPROP-T	1sg-T	‹go-J›-μ̋PROP-T
	tomorrow.FUT	1sg	‹go›-POT

[***bijarrbaringku***	***raajiringku*** $_{\text{DIRA,DIRT}}$] $_{\text{FUT, POT}}$]
picarpa+ki-ɻiŋ+kuu-ø	ɻaː-c+ki-ɻiŋ+kuu-ø
dugong-‹μLOC-μALL›-μ̋PROP-T	‹spear-J›-‹μLOC-μALL›-μ̋PROP-T
dugong-‹DIRA›-FUT	‹spear›-‹DIRT›-FUT

‘Tomorrow I will go to spear dugong.’ [E474.ex.11-83]

This section will be concerned with identifying the permissible internal constituents of embedded VPs and accounting for their inflection, and giving a brief characterization of the VPs’ functions. Questions of where exactly in their matrix clauses embedded VPs sit must await further discussion below, although a synopsis runs as follows. Evans (1995a:451) observes that embedded VP clauses exhibit distributional properties that parallel DPs, and the analysis here will be that they sit inside a DP, as an adjunct to N′ (§7.5). The DPs which contain the embedded VP clauses then occupy syntactic positions equivalent to subject or object DPs in the case of

[12] Regarding one questionable exception to this see §9.3.

adnominal embedded VPs, and are daughters of V'_{β} in the case of adverbial embedded VPs (§5.7).

Embedded VPs do not contain overt subjects. The implicit subjects of adnominal VPs are coreferential with the matrix argument (i.e. subject or object) which they modify or supply second predicates to. The implicit subjects of adverbial embedded VPs are always coreferential with the matrix subject. Structurally, embedded VPs are VP_{ε} constituents, that is, instances of the maximal VP projection. Arguments for this will emerge as the data are examined below.

5.4.1 Adverbial embedded VP

Here we examine adverbial embedded VPs, of which there are three semantic kinds. Two of them are not analysed as clausal constituents in Evans (1995a) and to that extent their syntactic analysis here is novel.

Adverbial embedded VPs sit within a DP daughter of V'_{β}. This is low enough in their matrix clause for them to inherit by percolation any TAMT and TAMA feature associated with the matrix clause (see also §5.7). In addition, and as for any clause in Kayardild, adverbial embedded VPs associate with their own TAMT and TAMA features, and thus their internal constituents may inflect for TAM features associated both with the embedded VP and the matrix clause. The first semantic type of adverbial embedded VP is the 'motion purpose' VP. These are analysed as embedded VPs both in Evans (1995a:486–7) and in the present account, and are illustrated in (5.22) above. Motion purpose adverbial VPs denote an event which is the purpose for the movement event denoted in the main clause. Morphosyntactically they associate with TAMA:directed (glossed DIRA) and TAMT:directed (glossed DIRT) and they inherit TAM features from the matrix clause (in (5.22) the matrix features were TAMT:potential and TAMA:future). For morphomic reasons the words in a motion purpose clause will inflect for matrix TAMA, and not matrix TAMT. This follows from the fact that the realization of both of the embedded TAM features, TAMT:directed and TAMA:directed, is the morphomic string μLOC-μALL. That string does not end in a thematic and hence when any word in the motion purpose clause comes to be inflected for matrix TAM, it is the athematic matrix TAMA feature which is realized. In example (5.23) the matrix features are TAMT:past and TAMA:prior. The verb in the motion purpose clause inflects for its local TAMT value (DIRT) and its matrix TAMA value, TAMA:prior.

(5.23)	[*Ngada*	*ngumbanjanijarr,*	[***kamburijiringkina*** DIRA,DIRT] PST, PRIOR]
	ŋat̪-ta	ŋuŋ+paɲ-cani-c+ŋara-ø	kampuɻi-c+ki-ɻiŋ+ki-naa-ø
	1sg-T	2sg-μPOSS-‹μALLH-J›-μ̋CONS-T	‹talk-J›-‹μLOC-μALL›-‹μLOC-μ̋ABL›-T
	1sg	2sg-ø-‹ALLH›-PST	‹talk›-‹DIRT›-PRIOR

'I came to talk to you' (lit. 'I came to you, to talk') [W1960; E487.ex.11-82]

The only internal constituents attested in motion purpose clauses are verbs and direct objects.

The second semantic kind of adverbial embedded VP is an 'instrument purpose' clause which denotes the use to which an instrument will be put which is obtained or created in the event denoted by matrix clause. Instrument purpose clauses associate inherently with TAMT:progressive and TAMA:functional and they inherit matrix TAM features as well. Examples (5.24)–(5.26) illustrate instrument purpose clauses embedded in matrix clauses associated with a variety of TAM values. Example (5.24) demonstrates that instrument purpose clauses are not merely relative clauses on matrix DPs. In (5.24) the matrix verb *ngamburath* 'dig a hole' is intransitive and thus the entity (a cooking trench), whose instrument-like purpose is denoted by the embedded clause, is not an argument in the matrix clause; its existence is merely entailed by the matrix verb's semantics. The matrix TAMA value in (5.24) is TAMA:instantiated, which is inherited by the embedded VP.

(5.24)

[*Ngamburath*	*bilda*	*makuwa*	*bithiind,*
ŋampuɻa-t̪-a	pi-l-ta	maku-a	pit̪iːn-ta
‹dig hole-TH›-T	3-pl-T	woman-T	man-T
‹dig hole›	3-pl	woman	man

[***yakurimarray***	***dathinmarraya***	***wuranmarray***
jakuɻi-mara+ki-a	t̪at̪in-mara+ki-a	wuɻan-mara+ki-a
fish-µUTIL-µLOC-T	that-µUTIL-µLOC-T	creature-µUTIL-µLOC-T
fish-FUNC-INS	that-FUNC-INS	creature-FUNC-INS

kawanki. FUNC,PROG] ACT,INS]
kawa-t̪-n+ki-a
‹roast-TH›-µN-µLOC-T
‹roast›-PROG-INS
'Those men and women are digging a ground oven for roasting that fish.' [W1960; E161.ex.4-102]

In (5.25) the matrix clause is an imperative, associated with TAMT:imperative and TAMA:Ø. Because the matrix TAMA value is Ø no overt marking for it is visible in either the matrix clause or the embedded adverbial VP.

(5.25)

[*Dalijarrmath*	*birndbirndi*	*wumburumarr,*	*dathina*	*birndbirndi,*
t̪ali-c-arma-t̪-a	piɳʈipiɳʈi-a	wumpuɻuŋ-mara-ø	t̪at̪ina	piɳʈipiɳʈi-a
‹come-J›-‹µCAUS-TH›-T	shell-T	spear-µUTIL-T	that.T	shell-T
‹come›-‹CAUS›	shell	spear-UTIL	that	shell

[***thungalmarra***	***kaland,*** FUNC,PROG] IMP,Ø]	*wumburumarr.*
t̪uŋal-mara-ø	kala-t̪-n-ta	wumpuɻuŋ-mara-ø
tree-µUTIL-T	‹cut-TH›-µN-T	spear-µUTIL-T
tree-FUNC	‹cut›-PROG	spear-UTIL

'Bring the shell knife for a spear, that shell, for cutting the tree, for a spear.'
[W1960, cf E161.ex.4-103, Round 2009:466.ex.6-25[13]]

In both (5.24) and (5.25) the only DP in the embedded clause was a direct object. In (5.26) the embedded clause contains the intransitive verb *wuyii-* 'put on self'. This verb never takes a direct object but it can collocate with either a 'body part as locus of effect' second predicate or, as here in (5.26), with a locational object (in the non-surface syntax locational objects are sisters of direct objects, see §5.5.2). The elided matrix verb in (5.26) is 'cut'.

(5.26)

[[***Bungkalmarrari***	***wuyiinkir,*** FUNC,PROG]
puŋkal-mara+ki-ɻiŋ-ø	wu:-i-c-n+ki-ɻiŋ-ø
knee-µUTIL-‹µLOC-µALL›- T	put-‹µMID-J›-µN-‹µLOC-µALL›-T
knee-FUNC-‹DIRA›	put-‹MID›-PROG-‹DIRA›
jirndir	*wankawankar.* DIRT,DIRA]
ciɳʈi+ki-ɻiŋ-ø	wanka~wanka+ki-ɻiŋ-ø
leaves-‹µLOC-µALL›- T	‹branch-branch›-‹µLOC-µALL›-T
leaves-‹DIRA›	‹branches›-‹DIRA›

'(They're cutting) leaves and branches to put on their knees (for a dance).'
[W1960]

Evans (1995a:161) weighs up two potential analyses for the constructions identified here as instrument purpose adverbial clauses: the first as a clause, and the second as a series of juxtaposed CASE:utilitive DPs and derivationally nominalized verbs. For the latter alternative, the overall 'instrument purpose' meaning ought to arise compositionally from the meanings of the individual CASE-marked nouns and nominalized verbs. Evans observes that the former analysis would accord better with the semantics of the construction,[14] but opts for the latter on the grounds that it avoids imputing multiple functions to nominals marked with µUTIL and verbs marked with µN. A central theme of this book, however, is that polyfunctionality is ubiquitous in Kayardild and so the avoidance of it is little reason to opt for a semantically less advantageous analysis. I therefore adopt a clausal analysis, in which µUTIL realizes TAMA and µN realizes TAMT.

[13] This sentence was recorded by Wurm (1960) and contains a rather long pause after the first *wumburumarr*. Both Evans (1995a) and Round (2009) analyse only the portion after the pause, resulting in the interpretation of the embedded clause as a main clause. Taking into account the full context, the generalization emerges, that instrument purpose clauses are always embedded and always inflect for matrix TAMA.

[14] The difficulty for the juxtapositional alternative is that the desired semantics are not derivable compositionally. Although nominalized verbs in Kayardild can denote instruments (Evans 1995a:458), they must take their middle form to do so. The would-be 'nominalized verbs' in sentences like (5.24)–(5.26) are all active and so cannot contribute the 'instrument' reading required.

The third semantic kind of adverbial embedded VP is the ‘incipient’ clause. Evans (1995:170) analyses this construction as juxtaposed CASE:translative DPs and nominalized verbs. Based on the sample of sentences Evans adduces the analysis is semantically plausible,[15] but my own expanded corpus contains additional senses which cannot be reconciled with the juxtapositional analysis, and so I adopt a clausal analysis. Incipient clauses have a range of functions whose common semantic basis appears to be the denotation of an event which will occur soon after the event in the main clause. From that basis pragmatic implicatures can contribute further nuances, yielding ‘[main clause] until [incipient clause]’, ‘[main clause] while awaiting [incipient clause]’ (both observed by Evans 1995a), as well as ‘[main clause] in order to [incipient clause]’ and ‘[main clause] and then [incipient clause]’. Incipient clauses associate inherently with TAMA: incipient and TAMT:incipient (glossed INCPA and INCPT). Because TAMA:incipient and TAMT:incipient are both realized by morphomic strings which end in a thematic, the words in an incipient clause also inflect for matrix TAMT (and not matrix TAMA as in the adverbial clauses above). In (5.27) the embedded clause contains a verb and a locational object; the matrix TAMT feature inherited is TAMT:actual.

(5.27)

[*Marrjindarna*	*burutha*	*buruthada*	*wurankiya*
marcin-ta=ɳa	puɻu-t̪-a	puɻu-t̪-a=ic-ta	wuɻan+ki-a
message-T=now	‹gather-TH›-T	‹gather-TH›-T=SAME-T	food-μLOC-T
message=now	‹gather›	‹gather›=SAME	food-INS

diyaj,	[***dathinmariija,***	***diyanmariij.*** INCPT,INCPA] ACT,INS]
t̪ia-c-a	t̪at̪in-maɻu-i-c-a	t̪ia-c-n-maɻu-i-c-a
‹eat-J›-T	that-‹μDAT-μMID-J›-T	‹eat-J›-‹μN-μDAT-μMID-J›-T
‹eat›	that-‹INCPA›	eat-‹INCPT›

‘The message (goes out now): they are gathering and gathering the food, and are about to eat it there.’ [Evans 1984-5-07]

In (5.28) the incipient clause is embedded in a sejunct, complementized matrix clause. It inherits and overtly inflects for matrix TAMT:potential and matrix +SEJ.

(5.28)

[*Rikawathuuntha*	*nginyanangkuruwa*
ɻika-wa-t̪+kuu-in̪t̪a-ø	ŋin̪anaŋkuɻu-a
cold-‹μFACT-TH›-μ̋PROP-μOBL-T	why oh why-T
cold-‹FACT›-POT-SEJ	why oh why

rikawathuuntha	*damurruuntha*	*thungaluuntha*
ɻika-wa-t̪+kuu-in̪t̪a-ø	t̪amur+kuu-in̪t̪a-ø	t̪uŋal+kuu-in̪t̪a-ø
cold-‹μFACT-TH›-μ̋PROP-μOBL-T	short-μ̋PROP-μOBL-T	thing-μ̋PROP-μOBL-T
cold-‹FACT›-POT-SEJ	short-FUT-SEJ	thing-FUT-SEJ

[15] One factor is that Evans’ dataset contains middle verbs but no active verbs.

[***karduranmariijuunth.*** INCPT,INCPA] POT,FUT,+SEJ]
kaʈuɻa-t̪-n-maɻu-i-c+kuu-in̪t̪a-ø
‹catch with hands-TH›-‹μN-μDAT-μMID-J›-μ̋PROP-μOBL-T
‹catch with hands›-‹INCPT›-POT-SEJ
'Oh no, I'll get cold in amongst those short things (poisonous twigs thrown into water to stun fish), when I reach in to catch (them).' [R2005-jul21]

Incipient clauses often embed inside matrix clauses in which all content is elided bar the subject, with the resultant meaning 'Subject is about to [incipient clause]'. The presence of the main clause in the non-surface syntax is still evident because its TAMT feature percolates down to the embedded clause. Examples are shown in (5.29) and (5.30) where the matrix TAMT features are the TAMT:directed and TAMT: progressive respectively. The incipient clause in (5.29) contains two head verbs (regarding the appearance of multiple head verbs in Kayardild clauses more generally see §5.5.1), and the clause in (5.30) contains a verb and direct object.

(5.29) [*Warrkuwa* [***thulanmariijiri***
warku-a t̪ula-t̪-n-maɻu-i-c+ki-ɻiŋ-ø
sun-T ‹descend-J›-‹μN-μDAT-μMID-J›-‹μLOC-μALL›-T
sun descend-‹INCPT›-‹DIRT›

bayanmariijir. INCPT,INCPA] DIRT,DIRA]
pat̪-wa-t̪-n-maɻu-i-c+ki-ɻiŋ-ø
west-‹μFACT-TH›-‹μN-μDAT-μMID-J›-‹μLOC-μALL›-T
west-‹FACT›-‹INCPT›-‹DIRT›
'The sun is about to sink into the west.' [W1960]

(5.30) [[***Dangkawalanymariinda*** ***kurrkanmariind.*** INCPT,INCPA] PROG,CONT]
ʈaŋka+palat̪-maɻu-i-c-n-ta kurka-t̪-n-maɻu-i-c-n-ta
man-μPL-‹μDAT-μMID-J›-μN-T ‹take-TH›-‹μN-μDAT-μMID-J›-μN-T
man-PL-‹INCPA›-PROG ‹take›-‹INCPT›-PROG
Discussing Barrindirndi, a swamp-dwelling monster who abducts young men: 'She's (lurking in there) about to abduct the men.' [R2005-jul14a]

We have now examined the three semantic kinds of adverbial embedded VP clauses in Kayardild. Adverbial clauses always inherit TAM features from their matrix clause. Regarding their internal constituents, they are only attested containing verbs and DPs which are complements of V. In anticipation of the discussion below, it is worth noting that my corpus contains only very few adverbial embedded VPs in the passive voice, and this may be significant in terms of what internal constituents have been attested.

5.4.2 Adnominal embedded VP

Adnominal embedded VPs modify or contribute second predicates to subjects and direct objects in the matrix clause, with which the implicit subject of the embedded VP is coreferential. In just one questionable case an embedded VP appears to modify a CASE:proprietive DP, but see §9.3 for discussion and reservations. Adnominal embedded VPs may or may not inherit TAM features from their matrix clauses; this will not be discussed here, but see §5.7 for why this is unexceptional.

It will be convenient to divide the discussion of adnominal embedded VPs into VPs in the active voice and VPs in the passive. We should also note that 'resultative' adnominal embedded VPs (those associated with TAMT:resultative) have what Evans (1995a:476) has characterized as an ergative syntax: clauses headed by intransitive verbs are active but those headed by transitive verbs are passive (even though the verb is not marked with the usual µMID middle/passive suffix), thus it is their logical object which is obligatorily unexpressed and coreferential with a matrix clause argument, while their logical subject may be overt, appearing in a range of special CASE forms.

There are four pairs of TAMA and TAMT features which can associate inherently with the clauses in adnominal VPs. These are listed together with the internal constituents that are attested in those VPs in Table 5.4 (active) and Table 5.5 (passive).

Like the adverbial embedded VPs in §5.4.1, adnominal embedded VPs in the active voice only contain constituents that are located below VP_{α}. Example (5.21) above contains a thematic CASE DP *thungalwulanki*. Example (5.31) contains a locational object *malawarriya*, and (5.32) a motion adverb, *dananngarrb*.

(5.31)	*Niya*	*yakuriwarri,*	***malawarriya***	***warranmarri.***
	ɳi-a	jakuɻi-wari-a	mala-wari-a	wara-c-n-wari-a
	3sg-T	fish-µPRIV-T	sea-µPRIV-T	‹go-J›-‹µN-µPRIV›-T
	3sg	fish-PRIV	sea-NEGAT	go-NONVER

'He has no fish, (that one who) doesn't go to the sea.' [W1960]

TABLE 5.4 TAM values and internal constituents of active, adnominal embedded VPs

	TAMT;TAMA	Attested internal constituents of VP, besides V
a.	thematic & athematic antecedent	V-complement DPs; thematic CASE DPs; AdvP
b.	progressive; continuous	V-complement DPs; thematic CASE DPs; AdvP
c.	nonveridical; negatory	V-complement DPs; thematic CASE DPs
d.	resultative; TAMA:∅	V-complement DPs

(5.32)

Niya	*wayiij,*
ɳi-a	waː-i-c-a
3sg-T	sing-‹µMID-J›-T
3sg	sing-‹MID›

dangkangarrba	***balanngarrba***	***dananngarrb.***
ʈaŋka-ŋarpa-ø	pala-t̪-n-ŋarpa-ø	ʈana-t̪-n-ŋarpa-ø
person-µCONS-T	‹kill-TH›-‹µN-µCONS›-T	‹leave-TH›-‹µN-µCONS›-T
person-ANTA	‹kill›-‹ANTT›	‹leave›-‹ANTT›

'He sings to himself, having killed a man and left.' [R2005-jun29]

Adnominal embedded VPs in the passive voice are attested with a different range of internal DP constituents. Example (5.33) contains a demoted, logical subject *dalururdalurungarrbaya*, which is syntactically encoded as a locational object (on which see §5.5.2). Other examples are (5.48) with a CASE:ablative demoted logical subject *makuwalathinabay* (note the embedded VP in (5.48) is discontinuous in the surface syntax), and (5.49) with a CASE:genitive demoted logical subject *kamarrkarra*.

(5.33)

Dathinkiya	*muthaya*	*dangkaya*	*muthaya*
ʈat̪in+ki-a	mut̪a+ki-a	ʈaŋka+ki-a	mut̪a+ki-a
that-µLOC-T	many-µLOC-T	person-µLOC-T	many-µLOC-T
that-CMP	many-CMP	person-CMP	many-CMP

muthaya	*dangkaya*	*ngakulda*	*kurirrwalathijiya*
mut̪a+ki-a	ʈaŋka+ki-a	ŋa-ku-l-ta	kuɻir-walat̪-ic+ki-a
many-µLOC-T	person-µLOC-T	1-2-pl-T	dead-‹µPL-µSAME›-µLOC-T
many-CMP	person-CMP	1-2-pl(CMP)	dead-‹EVERY›-CMP

dalururdalurungarrbaya	***balaanngarrbay***
ʈal-kuɻu~ʈal-kuɻu-ŋarpa+ki-a	pala-i-c-n-ŋarpa+ki-a
‹crack-µPROP~crack-µPROP›-µCONS-µLOC-T	kill-‹MID-J›-‹N-µCONS›-µLOC-T
‹gun›-ANTA-CMP	kill-‹MID›-‹ANTT›-CMP

'We were there and many people, many people, all dead, killed by the gun.' [E1984-3-1]

The attested internal constituents of adnominal embedded VPs in the passive voice are listed in Table 5.5. Unlike the internal constituents of active adnominal embedded VPs, not all of them are located below VP_{α}. In §5.6 it will be demonstrated that the ablative and genitive CASE DPs in Table 5.5 are daughters of VP_{ε} and thus are situated well above VP_{α} in the non-surface syntax.

With the information now at hand let us formulate some generalizations regarding the internal syntax of embedded VPs. First, in the general case embedded VPs will need to contain structure as high as VP_{ε}, the maximal VP projection, in order to

TABLE 5.5 TAM values and additional internal constituents in passive embedded VPs

	TAMT;TAMA	Attested internal constituents of VP, besides V
a.	thematic & athematic antecedent	(none attested)
b.	progressive; continuous	demoted subject DPs in ablative or genitive CASE
c.	nonveridical; negatory	(none attested)
d.	resultative; TAMA:∅	demoted subject DPs in ablative or genitive CASE[a]

[a] Evans (1995a:477–9) also documents 'demoted subjects' in CASE:origin and CASE:consequential DPs. However given the general function of those CASE values to mark causes or conditions under which something happens, the DPs in question could equally be analysed as being juxtaposed (cf §7.5) and directly modifying the matrix clause argument rather than being constituents of the embedded clause.

accommodate the DPs listed in Table 5.5. This accords well with the inflectional facts relating to TAMA, as the attested TAMA values in embedded VPs include values which, as we will see in §5.6, attach at VP_{β}, VP_{γ}, and VP_{δ}. All of those attachment sites are accounted for if embedded VPs contain structure as high as VP_{ε}. Returning our attention to the range of internal DP constituents permitted in embedded VPs, it can be defined in terms of a disjoint condition which refers to both non-surface syntactic structure and argument structure, as in (5.34).

(5.34) Condition on constituents in embedded VPs
Constituents in embedded VPs must be either or both:

(i) Below VP_{α}
(ii) Demoted logical subjects of passive verbs (including resultative transitives)

The disjoint nature of condition (5.34) comes about as a result of history. It permits all and only those constituents which are either (i) logical subjects or logical objects of verbs, including direct and locational objects (on which, see §5.5.2), or (ii) constituents derived historically from verbs, including modern Kayardild's verbs, adverbs, and thematic CASE-marked DPs.

5.4.3 *Main clauses are less constrained than matching embedded VPs*

Several of the pairs of TAMA and TAMT features which associate with embedded VPs, which we may call **embeddable** TAM features, can also associate with main clauses (cf §4.3). To conclude our discussion of embedded VPs, it will be interesting to ask whether main clauses with embeddable TAM features face the same set of constraints on their internal constituents as do embedded clauses. If so, then the main clauses might be considered simple 'insubordinated' clauses—embedded clauses which appear without their matrix clause, other than its subject. A suggestion along these lines may be implicit in Evans' (1995a) discussion of 'non-finite clauses' (corresponding roughly to my clauses with embeddable TAM), which mentions no differences in the internal constituency of similarly inflected embedded versus main clauses, despite otherwise covering them in depth.

In fact main clauses with embeddable TAM features exhibit a significantly expanded range of internal DP constituents relative to their corresponding embedded clauses. Just like all other main clauses they are constrained, at least in the general case,[16] by neither of the subconditions in (5.34). To provide a sample, (5.35) is a main clause with embeddable TAMA:negatory and TAMT:nonveridical which contains an ablative compass locational DP *riinmarriya*, which is a daughter of VP_δ (§5.6.2) and thus above VP_α yet not a demoted logical subject (and thus in violation of condition 5.34). Sentence (5.36) is a main clause with embeddable TAMA:directed and TAMT:directed which contains a CASE:proprietive instrument DP and a CASE:proprietive 'subject matter' DP both of which sit above VP_α (§5.6.2) and also violate condition (5.34).

(5.35)	*Kurirra,*	***riinmarriya***	*thaanmarri.*
	kuɻir-a	ɻi-in-wari-a	t̪aː-t̪-n-wari-a
	dead-T	east-µABLC-µPRIV-T	‹return-J›-‹µN-µPRIV›-T
	Dead	east-ABLC-NEGAT	return-NONVER

'They were dead, and did not return from the east.' [T1963]

(5.36)	*Birra*	*ranthuthir,*	***wumburungkurur*,**
	pi-r-a	ɻa-n̪t̪u-t̪+ki-ɻiŋ-ø	wumpuɻuŋ+kuɻu+ki-ɻiŋ-ø
	3-du-T	spear-‹µRCP-TH›-‹µLOC-µALL›-T	spear-µPROP-‹µLOC-µALL›-T
	3-du	spear-‹RCP›-‹DIRT›	spear-PROP-‹DIRA›

dathinkuruwa	***makuwuru.***
t̪at̪in+kuɻu-a	maku+kuɻu-a
that-µ̋PROP-T	woman-µ̋PROP-T
that-PROP	woman-PROP

'They are fighting one another with spears over that woman.' [W1960]

5.5 The clause below VP_α

The lowest part of the clause, below VP_α, is shown Figure 5.2. This region contains the head verb (or verbs) of the clause, its direct object and S″ clausal complements, and adverb phrases, as well as what I will term 'locational object' DPs and second predicates on the object. These constituents lie below all of the nodes to which +COMP, + SEJ, +NEG, TAMT, and TAMA attach and they therefore inherit them all.

[16] Many specific combinations of clausal TAM and internal DP types are absent from my corpus. It is conceivable that a much larger corpus might prove some such gaps to be non-accidental.

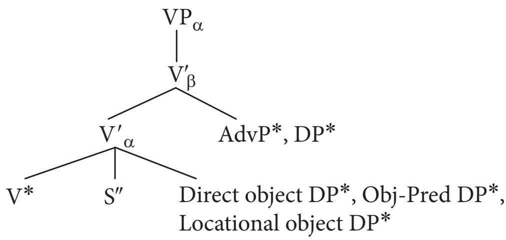


FIGURE 5.2 Non-surface clause structure below VP_α

5.5.1 Clauses with multiple verb heads

There is good reason to analyse the Kayardild clause as accommodating multiple head verbs, conditional upon their having non-contradictory argument structures (Evans 1995a:302–3).[17] Specifically this demands (i) that the subjects of the multiple head verbs all be the same, encoded (if overt) as the subject of the clause, and (ii) that the objects of the transitive head verbs be the same, encoded (if overt) as the direct object of the clause. Transitive and intransitive head verbs may mix freely so long as their subjects are shared. Sentence (5.37) contains two transitive head verbs whose subjects and object are both shared. Example (5.38) contains a transitive and an intransitive head verb whose subject is shared.

(5.37)	*Bikibiki*	*darrbuuja*	*kalatha*	*yarbuthi.*
	pikipiki-a	ʈarpuː-c-a	kala-t̪-a	jaɻput̪+ki-a
	pig-T	‹drag-J›-T	‹cut-TH›-T	animal-μLOC-T
	pig	‹drag›	‹cut›	‹animal›-INS

‘The pig dragged the dog along, goring it’ [E302.ex.8-20]

(5.38)	*Durumath,*	*dalija*	*wunda*	*ngakuluwanjiya*	*barrunthay.*
	ʈuɻuma-t̪-a	ʈali-c-a	wun-ta	ŋa-ku-lu+paɲ+ki-a	parun̪t̪a+ki-a
	‹deceive-J›-T	‹arrive-J›-T	wind-T	1-2-pl-μPOSS-μLOC-T	yesterday-μLOC-T
	‹deceive›	‹arrive›	wind	1-2-pl-ø-INS	yesterday-INS

‘Yesterday the wind tricked us as it arrived.’ [R2006-sep25]

The requirement on shared arguments does not extend to body parts encoded as ‘body part as locus of effect’ second predicates, and this is one reason for regarding such body part DPs as different from subjects or objects *per se*. Example (5.29) shows a clause with multiple intransitive head verbs and a subject body part second predicate DP, and (5.40) below contains in its second clause two transitive head verbs and an object body part second predicate.

[17] Evans (1995a:302–12) groups these V heads, together with what I class as Adv heads, into a ‘verb complex’, a constituent which I do not posit here.

(5.39)	*Bardakantha*	*ngijuwa*	*wuyiijuuntha*	*warrajuunth.*
	paʈaka-in̪t̪a-ø	ŋicu-pa-ø	wuː-i-c-kuu-in̪t̪a-ø	wara-c-kuu-in̪t̪a-ø
	belly-µOBL-T	1SG-µCOMP-T	put-‹µMID-J›-µ̋PROP-µOBL-T	‹go-J›-µ̋PROP-µOBL-T
	belly-SEJ	1SG-SEJ	put-‹MID›-POT-SEJ	‹go›-POT-SEJ

‘I’ll go and feed myself.’ [R2006-jul11]

The verbs in (5.39) share their subject *ngijuwa* ‘I’, but only *wuyiijuuntha* ‘put into self’ combines with the subject second predicate *bardakantha* ‘belly’ to predicate ‘put into self belly-wise’, that is, ‘feed self’. The verb *warrajuuntha* does not combine with *bardakantha* to predicate ‘go belly-wise’, rather the predicate is simply ‘go’. In the second clause of (5.40) the verbs share their direct object *niwanjiya* ‘him’ but only the verb *buuja* combines with the object second predicate *mariya* ‘hand’, to predicate ‘pull him hand-wise’, that is, ‘lead him by the hand’. If the verb *thaarij* had combined with second predicate *mariya* the resultant interpretation would be the more gruesome ‘brought back his hand’.

(5.40)	*Dathina*	*dangkaa*	*kabath,*	*kunawunay,*
	ʈat̪ina	ʈaɲka-a	kapa-t̪-a	kuna+kuna+ki-a
	that.T	person-T	‹find-TH›-T	‹child$_{NL}$-child$_{NL}$›-T
	That	person	‹find›	‹child›

mariya	*buuja*	*niwanjiya*	*thaarij.*
maɻ+ki-a	puː-c-a	ɳi+paɲ+ki-a	t̪aːɻi-c-a
hand-µLOC-T	‹pull-J›-T	3SG-µPOSS-µLOC-T	‹bring back-J›-T
hand-INS	‹pull›	3SG-ø-INS	‹bring back›

‘That person found the child and is bringing him back, leading him by the hand.’ [W1960]

This indicates that the rules on combining multiple head verbs in a single clause treat subjects and objects differently to their respective second predicates. This fact comes in addition to the observation in §5.1.3, that subjects and their secondary predicates can be promoted to the focus DP position independently of one another. Accordingly I assume that the semantic and argument structure components of Kayardild grammar represent subjects and objects distinctly from their second predicates. However, in terms of inflection second predicates display identical behaviour to subjects and objects, and for that reason I place them in equivalent positions in the non-surface syntax, given that the purpose of the non-surface syntax in this study is solely to account for generalizations in the inflectional system (cf §4.5.2).

5.5.2 DPs promotable to higher positions

Inflectional evidence reveals the existence in Kayardild of three syntactically privileged types of DP, all of which are low in the clause (below VP_{α}) and all of which

(i) can be promoted to focus and topic DPs positions; (ii) can be promoted to subject or subject second predicate in the passive counterparts of active clauses; and (iii) are free to occur in active embedded VPs. As one would expect, one of these DP types is the direct object. Another is the object second predicate. The third class of privileged DP is decidedly less expected: it is a class of DPs with (as one realizational option) locative CASE. Evidence for these claims will be presented here from passivization, focalization, and topicalization. Particular attention is paid to 'locational objects' since both their existence and their nature is typological rather idiosyncratic.

As Evans (1995a:348–52) documents, both direct objects and locations can be promoted to subject when their clause is passivized, making passivization the first area in which direct objects and locations pattern alike. A promoted locative appears in (5.41).

(5.41) *Jathaya* *dulki* *kamburij,*
caṯa+ki-a ʈulk+ki-a kampuɻi-c-a
other-µLOC-T place-µLOC-T ‹talk-J›-T
other-INS place-INS ‹talk›

kamburiinangku ***dathina*** ***dulk.***
kampuɻi-i-c-ɳaŋ+kuu-ø ʈaṯina ʈulk-a
talk-‹µMID-J›-µNEG-µ̋PROP-T that.T place-T
talk-‹MID›-NEG-POT that place
'(They) spoke in another place. That place mustn't be spoken in.' [E352.ex.9-147]

In §5.1.3 we saw that focalization applies to subjects and to subject second predicates, and also to direct objects and location-denoting DPs.

In §5.1.2 we saw that topicalization applies to direct objects, their secondary predicates and to DPs denoting locations (the latter in CASE:locative). Curiously, topicalization also applies to 'instruments' in passive clauses, or put another way, to non-human demoted logical subjects. Why non-human demoted subjects, of all DP types, should be susceptible to topicalization requires some comment. The reasons turn out to be coherent.

Evans (1995a:351) documents non-human demoted subjects, both animate and inanimate, inflecting like locations. In the examples provided by Evans the demoted subject DPs are inflectionally equivalent to locations encoded as CASE:locative DPs below VP$_\beta$ (on which see Appendix B, §B.1.2), the key fact being that they inflect for any TAMA value. So: both literal locations and non-human demoted subjects can be encoded as CASE:locative daughters of VP$_\beta$. Pursuing this further, an alternative encoding is available for literal location DPs, as CASE:∅ daughters of VP$_\gamma$ (on which see Appendix B, §B.4.1). In such instances the location DPs avoid inflection for TAMA values that attach to VP$_\beta$ and show no inflection for CASE. In (5.42) we find exactly the same encoding of a demoted inanimate subject *narraa* 'knife', which appears as a CASE:Ø daughter of VP_γ, inflected neither for TAMA:instantiated (which attaches to VP_β) nor CASE.

(5.42) *Bana* *junkuwa* *kalaaj,* ***narraa.***
pana cunku-a kala-i-c-a ɳara-a
and straight-T cut-‹μMID-J›-T knife-T
and straight cut-‹MID› knife
'And it's cut straight through by the knife.' [R2005-jul08]

The emerging pattern is that non-human demoted subjects exhibit precisely the range of (morpho)syntactic realizations exhibited by literal locations, in terms of CASE, the mother VP node below which the DP sits, and it susceptibility to topicalization.[18,19] My interpretation is that non-human demoted subjects are representationally equivalent to location-denoting DPs at some level. If that is so, then topicalization is just like focalization and promotion to subject in passive clauses, in that it operates on direct objects, their second predicates, and on locational DPs. The one question remaining is how independent these promotions-of-DP are from one another.

There is no evidence to suggest that object second predicates ever fail to be promoted to subject second predicates when the direct object is promoted to subject during passivization. (I have no evidence which speaks to whether object secondary predicates will automatically be promoted to topic or focus when the direct object is.)

On the other hand locational DPs and direct object DPs undergo promotion independently. In (5.43) the initial, CASE:locative locational DP has been topicalized and hence only inflects for CASE, while the direct object shown in bold remains *in situ* and consequently inflects for TAMA:future and +SEJ.

(5.43) *Dankiya* *rikaya* *dulki,* *jungarray,* *malantha*
ʈan+ki-a ɻika+ki-a ʈulk+ki-a cuŋara+ki-a mala-in̪t̪a-ø
this-μLOC-T cold-μLOC-T place-μLOC-T big-μLOC-T sea-μOBL-T
this-LOC cold-LOC place-LOC big-LOC sea-SEJ

wanjiinyarrantha ***ngakuluwanjuunth!***
waɲci:-c+ɲara-in̪t̪a-ø ŋa-ku-lu+paɲ+kuu-in̪t̪a-ø
‹ascend-J›-μAPPR-μOBL-T 1-2-pl-μPOSS- μ̋PROP-μOBL-T
‹ascend›-APPR-SEJ 1-2-pl-ø-FUT-SEJ
'(Even) in this cold place up high the sea might climb up to us.' [W1960]

In (5.44) the logical object has been promoted to passive subject but the location DP in bold remains *in situ* below VP_α and so inflects for TAMA:instantiated.

18 I do not have any examples of focalization in passive clauses.

19 The fact that non-human demoted subjects can be topicalized does not appear to follow from their semantic role, given that human demoted subjects cannot be topicalized. (Human demoted subjects inflect for CASE:ablative or CASE:oblique, CASE values which are not used to mark literal locations.)

(5.44) *Dangkaa* *daraaja* ***dathinki.***
ʈaŋka-a ʈaɻa-i-c-a ʈat̪in+ki-a
man-T break-‹μMID-J›-T there-μLOC-T
man break-MID there-INS
'Men are circumcised there.' [R2005-jul21]

5.5.3 Adverbs

Adverbs come in several semantic types (Evans 1995a:302–12), such as manner adverbs (e.g. *kuruluth-* 'do intensely'), aspectual adverbs (eg. *karrngij-* 'keep doing') and the quantificational adverb *bakiij-* 'all do; do to all'. A small class of **motion adverbs**[20] exhibit distinctive surface syntactic behaviour and are discussed further in §9.1.1.

Unlike the multiple head verbs in §5.5.1 adverbs do not contribute semantic roles to subjects and objects, and on that semantic basis they are analysed here as occupying AdvP constituents below V'_β rather than being an additional kind of V head.[21] Adverbs sit low in the clause and thus inherit the same features as V heads and inflect identically to them. It can be noted in passing that adverbs do not need to agree with head verbs in terms of middle voice marking or reciprocal marking, though *kuruluth-* 'do intensely' may appear reciprocalized as *kuruluthuth-* 'do intensely to one another', as in (5.8) above.

5.6 VP nodes and the attachment of TAMA

We shift now to the topic of TAMA features and the articulated set of four VP nodes from VP_β to VP_ε. TAMA feature values attach to VP nodes which in turn dominate DP adjuncts and other VP nodes. Different values of TAMA attach to different nodes and hence have different, and embedded, domains. In the current section, §5.6.1 introduces the basic relationships of TAMA values to one another, in terms of the embedding of their domains and its analysis in terms of hierarchical non-surface syntax, §5.6.2 summarizes the empirical data which stands behind these claims, and §5.6.3 reviews the reasons why a syntactic analysis of these facts is preferable to an alternative, 'diacritic' analysis. In §§5.7–5.9 attention turns to three individual topics related to TAMA, respectively matrix TAMA in embedded clauses, TAMA in verbless clauses, and TAMA in relation to VP-internal topic DPs.

5.6.1 The domains of individual TAMA values

Different TAMA values may have different domains, and those domains are hierarchically embedded within one another. Table 5.6 shows the embedding relationships

[20] These are Evans' 'motion verbs' (1995a:308–11).
[21] Whether this is ultimately the best syntactic analysis of Kayardild adverbs, or whether a serialized head V analysis is preferable cannot be determined from the inflectional data itself, and consequently a definitive answer to the question lies beyond the scope of this study.

Table 5.6 Embedding of Kayardild feature domains

D(+COMP) ⊃ D(+SEJ) ⊃ D(TAMA:x) ⊃ D(TAMA:y) ⊃ D(TAMA:z),
where:

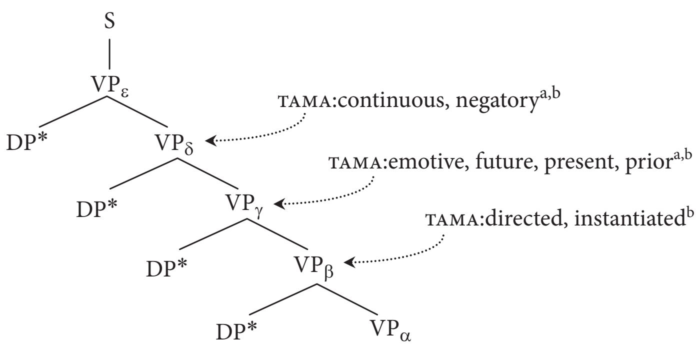
x = continuous, negatory[a,b]
y = emotive, future, present, prior[a,b]
z = directed, instantiated[b]

[a] possibly also athematic precondition.
[b] possibly also athematic antecedent, functional.

between the various domains of TAMA values, and of +SEJ and +COMP. (The domains of the antecedent, precondition, and functional TAMA values are underdetermined by the currently available data).

To account for this the values of TAMA are analysed each as attaching to one of three non-surface syntactic nodes, hierarchically arranged with respect to one another, and with respect to S, as shown in Figure 5.3. The DP daughters of the VP_{ε} node are those which associate with no value of TAMA, even though they are neither subjects, subject second predicates, topic DPs, nor focus DPs.

The observation that TAMA domains are embedded within one another is not new in the description of Kayardild, though many details are. Evans (1995a) makes a fundamental distinction between ASSOCIATING CASE, which corresponds to TAMA:continuous and has the equal-widest confirmed domain of the TAMA values, versus MODAL CASE which corresponds to most other TAMA values and has a narrower domain. Evans also observes that some DP types which generally inflect



[a]possibly also athematic precondition here
[b]possibly also athematic antecedent, functional here
(precise nodes of attachment are underdetermined by the data)

Figure 5.3 VP nodes and the attachment of TAMA values for MODAL CASE fail to do so for TAMA:instantiated.[22] That observation is refined here in two respects. First, TAMA:instantiated and TAMA:directed pattern together: any DP which escapes inflection for TAMA:instantiated also escapes inflection for TAMA: directed. Second, Evans' observation, cast in terms of his INSTANTIATED MODALITY is valid only in uncomplementized clauses. In complementized clauses, what Evans identifies as INSTANTIATED MODALITY patterns with the majority of TAMA values, such as emotive, future, prior, and so forth, and takes a wider domain.[23] To take account of this the analysis presented here splits Evans' INSTANTIATED MODALITY into TAMA: instantiated in uncomplementized clauses, and TAMA:present in complementized clauses.[24]

5.6.2 The VP mother nodes of DP adjuncts

Appendix B presents a substantial volume of new data, and newly collated existing data, attesting the patterns of TAMA inflection for many different types of DP. The data support the analysis that any given DP type may follow one of only four patterns of TAMA inflection: (i) it may inflect for no TAMA values; (ii) it may inflect only for TAMA values that attach to VP_δ; (iii) it may inflect only for TAMA values that attach to VP_δ or VP_γ; or (iv) it may inflect for all values—that is, for values which attach to VP_δ, VP_γ, or VP_β. DPs of type (i) are located above all of the nodes to which TAMA features attach, and so cannot inherit those features via percolation; they include topic and focus DP daughters of S'' and S'_β, subjects and subject second predicate daughters of S'_α, and adjunct DP daughters of VP_ε. DPs of type (ii) are adjunct daughters of VP_δ, and inherit via percolation only those TAMA features which attach to VP_δ. DPs of type (iii) are adjunct daughters of VP_γ, and inherit via percolation TAMA features which attach to either VP_δ or VP_γ. DPs of type (iv) inherit all TAMA features and thus must be located somewhere below VP_β; they include complement DPs of V, adjunct DP daughters of VP_β, and the DP daughters of V'_β which contain adverbial embedded clauses.

We may next ask, what properties of a DP are correlated with the mother node beneath which the DP appears in the non-surface syntax? In the general case, the decisive property is the DP's semantic or grammatical role in the clause. Occasionally though the lexical class of the head N of the NP overrides this. Moreover, because a DP's CASE value is correlated to a large extent with its semantic/grammatical role, TAMA behaviour is often fully predictable from a DP's CASE value. Table 5.7 summarizes

[22] These observations are made with respect to individual DP types throughout Evans (1995a). A general note and accompanying table appear at one point (1995a:110), but they under-represent the true variety of DP types which are recognized elsewhere in Evans (1995a) as participating in this pattern.

[23] Evans (1995a:496) remarks upon this with respect to a subset of the affected DPs.

[24] This division of Evans' (1995a) INSTANTIATED MODALITY into TAMA:instantiated and TAMA:present is not without its semantic basis: TAMA:instantiated (in uncomplementized clauses) has a broader, non-future meaning, while TAMA:present (in complementized clauses) can have a narrower, present tense meaning (Evans 1995a:511–12).

the inflectional behaviours of DPs which one would typically regard as corresponding to 'semantic arguments' in a clause. 'Adverbial' DPs appear in Table 5.8. Some adverbial DPs exhibit variable behaviour and are listed twice, and a question mark '(?)' in Table 5.8 indicates that the relevant data are unavailable. The reader is referred to Appendix B for the full data sets on which the summaries in Tables 5.7 and 5.8 are based, and for minor comments.

A glance at the placement of various types of DP in Tables 5.7 and 5.8 reveals a significant degree of idiosyncrasy. The task of distilling DP types into coherent groups whose inflectional behaviour could then be predicted *en bloc* is challenging, and will not be attempted here.

5.6.3 Arguments for a syntactic analysis

Although the precise pattern of TAMA inflection that applies for a given DP type can be idiosyncratic, the patterns are highly constrained, with just four possibilities

TABLE 5.7 TAMA inflection of 'argument-like' DPs

DP CASE and semantic/grammatical role	Inflection for TAMA values associated with			Parent node of
	VP_β	VP_γ	VP_δ	DP
CASE:∅ direct objects & their second predicates CASE:locative locations, non-human demoted subjects & second object DPs	✓	✓	✓	V'
CASE:instrumental DPs CASE:genitive circumessives CASE:proprietive instruments CASE:utilitive purposes & targeted times	✓	✓	✓	VP_β
CASE:∅ VP-internal topic DPs CASE:∅ locations, non-human demoted subjects CASE:allative DPs the reflexive pronoun *marin-*	—	✓	✓	VP_γ
CASE:proprietive intentional objects & destinations; & transferred objects CASE:proprietive instruments CASE:proprietive 'subject matter' DPs	—	—	✓	VP_δ
CASE:ablative DPs CASE:genitive demoted inanimate subjects CASE:utilitive durations	—	—	—	VP_ε
CASE:∅ subjects & their second predicates	—	—	—	S'_α
CASE:∅ & CASE:locative focus DPs	—	—	—	S'_β
CASE:∅ & CASE:locative VP-external topic DPs	—	—	—	S''

TABLE 5.8 TAMA inflection of 'adverbial-like' DPs

head N of NP in DP	Inflection for TAMA values associated with			Parent node of
	VP_β	VP_γ	VP_δ	DP
CASE:∅ demonstrative locations *jina- darr-* or *jinardarr-* 'what time' *darr-* 'occasion' *barruntha-* 'yesterday' *yanij-* 'first' *kada-* 'again'	✓	✓	✓	VP_β
balmbi- 'tomorrow'	(?)	✓	✓	VP_β or VP_γ
basic stem compass locational allative stem compass locational ablative stem compass locational as predicate CASE:locative *barruntha-* 'yesterday' *jina-* 'where' *jijina-* 'in what direction' *yan-* 'now, soon'	—	✓	✓	VP_γ
ablative stem compass locational	—	—	✓	VP_δ
counted occasions durations measured in units *jijina-* 'in what direction' *yan-* 'now, soon'	—	—	(?)	VP_δ or VP_ε
kada- 'again'	—	—	—	VP_ε

available. This section details why a syntactic analysis of the facts of Kayardild TAMA inflection is preferable to an alternative which at first glance appears plausible and perhaps even simpler, and which can be referred to as a 'diacritic' analysis. Under the diacritic analysis each DP type is associated not with a syntactic mother node but with a diacritic which marks it as a member of one of four classes, corresponding to the four possibilities for TAMA inflection. The analyses measure up against one another as follows.

Both analyses permit DP types to associate idiosyncratically with the available patterns of TAMA inflection, and both analyses contain a reasonable mechanism for constraining the number of attested patterns to just four types. However, under a syntactic analysis it also follows that the four patterns relate to one another in an embedded fashion: if pattern X involves more TAMA values than pattern Y, then it will involve all the values of pattern Y, plus one or more additional value. By employing a syntactic analysis an implicit claim is made that the embedding of domains is a fundamental structural property of the Kayardild inflectional system. This is not the case under a diacritic analysis. To be sure, a diacritic analysis can reproduce embedding, but it will either treat that embedding as accidental, or its non-accidental status will need to be stipulated. Moreover, once we consider the nature of TAMA inflection within embedded VPs it will become clear that embedding really is fundamental to the Kayardild inflectional system. The diacritic analysis not only fails to express that fact but struggles even to describe the data.

The details of TAMA inflection in embedded VPs are expanded upon in §5.7 next, but can be summarized now. Unsurprisingly from the point of view of the syntactic analysis, we find that embedded VPs inherit TAM features from VP nodes above them, and that all DPs in those embedded VPs inflect for such features—this includes DPs which normally (i.e. in a matrix clause) do not inflect for TAMA features because they are syntactically higher than the node from which those features percolate. These facts are captured awkwardly at best under a diacritic analysis: we must independently stipulate that DPs of any class act as if they were in a different class when inside an embedded VP. In addition, many DPs in embedded VPs inflect for not one but two TAMA features (one originating from a node inside the embedded VP, and one from a node in the matrix clause). On the diacritic analysis, these DPs would have to be simultaneous members of two classes—two hierarchically ordered classes—in which case, the very 'classhood' of a DP begins to behave as if it were a feature percolating down a syntactic tree.

In short, a syntactic analysis of the distribution of TAMA inflection correctly treats domain embedding as something fundamental to the organization of Kayardild morphosyntax, and it extends without any complications to the most complex data. Neither of these virtues is shared by the diacritic analysis.

5.7 Matrix clause TAMA in embedded VPs

This section sets out the evidence referred to above, that embedded VP nodes inherit TAMA features in a normal way, as do all of the constituents within them.

During this section we will encounter some of the most complicated morphology in Kayardild, and it will be helpful to bear in mind three key properties of Kayardild inflection: (i) because morphosyntactic feature values attach to a node **n** and then percolate down to all subordinate nodes, a word at terminal node **z** will inflect (all else equal) for all feature values which attach to all nodes that are superordinate to **z**; (ii) inflectional suffixes generally[25] appear in a linear order reflecting the syntactic height of a feature value's node of attachment: the closer the node of attachment is to the terminal **z**, the closer to the lexical stem its corresponding suffix appears; (iii) each clause associates with a set $\mathbf{T}_C$ of values for the features TAMA, TAMT and (sometimes) +NEG, of which a word can inflect either for TAMT/NEG or for TAMA but not both; (iv) a word is able to inflect for TAMT/NEG if the stem to which the suffix attaches ends morphomically in a thematic (glossed TH or J), and otherwise it can inflect for

[25] This will be true in all examples in this section; see §2.6.4 for the exceptionality of μOBL.

TABLE 5.9 Embedded VP types and their matrix DPs

Embedded VP type and function	Matrix DP	Mother node of DP
Adnominal subject relative clauses	Juxtaposed subject DP	S'_{α}
Adnominal subject secondary predicates	Subj-pred DP	S'_{α}
Adnominal direct object relative clauses	Juxtaposed object DP	V'_{α}
Adnominal direct object secondary predicates	Obj-pred DP	V'_{α}
Adverbial motion purpose, instrument purpose, and incipient clauses	DP	V'_{β}

TAMA. Once we examine words in embedded clauses, we find that the antagonism between TAMT/NEG and TAMA is constrained to features associated with the same clause; features from different clauses are never antagonistic. As a consequence deeply embedded words which inherit features from two clauses can and will inflect for TAM features from both.

All embedded VPs in Kayardild are analysed as sitting within a DP; the reasons for this will be accumulated in Chapters 6–8. The syntactic locations of those DPs within their matrix clause are listed in Table 5.9.

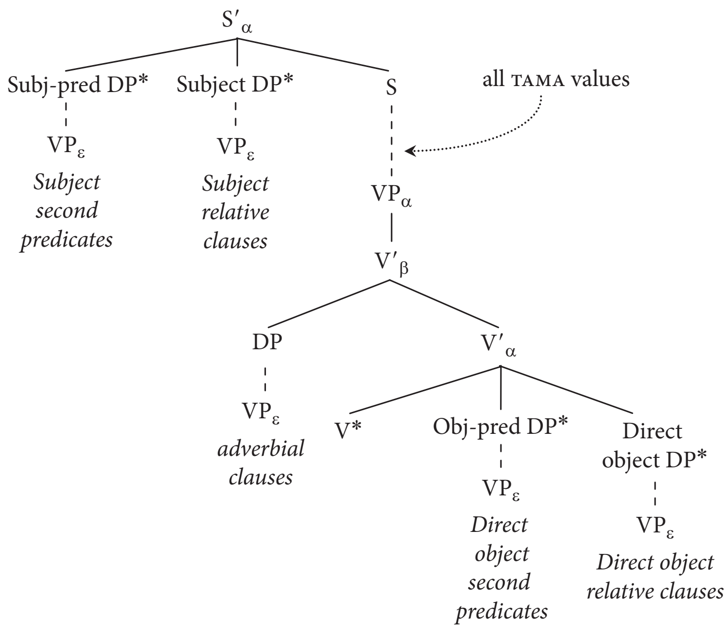


FIGURE 5.4 Location of embedded VPs and attachment sites of TAMA

The positions in Table 5.9 are shown in Figure 5.4. In Figure 5.4 and in other syntactic diagrams in this section dashed lines indicate sections of structure which have been abbreviated by skipping intermediate nodes. Without exception, the DPs which contain embedded VPs in Kayardild are located either above, or below, all of the nodes to which TAMA values attach.

We will now consider subordinate VPs embedded at various syntactic positions in the matrix clause. In particular we are interested in the position of the embedded VP relative to the node in the matrix clause to which the matrix TAMA feature attaches. In (5.45) the embedded VP has the function of a depictive second predicate on the subject and is contained within a DP daughter of S. The TAM values of the matrix clause are TAMA:future and TAMT:potential. The inherent TAM values of the embedded clause are TAMA:antecedent and TAMT:antecedent.

(5.45) [*Ngada* [***kurrinngarrba*** ***wuranngarrb*** $_{\text{ANTA, ANTT}}$],
ŋat̪-ta kuri-c-n-ŋarpa-ø wuɻan-ŋarpa-ø
1sg-T ‹see-J›-‹μN-μCONS›-T food-μCONS-T
1sg ‹see›-‹ANTT› food-ANTA

ngumbanju *wuuju* $_{\text{FUT, POT}}$] .
ŋuŋ+paɲ+kuu-ø wuː-c+kuu-ø
2sg-μPOSS-μ̋PROP-T ‹give-J›-μ̋PROP-T
2sg-ø-FUT ‹give›-POT
'Having seen the food I will give it to you.' [W1960]

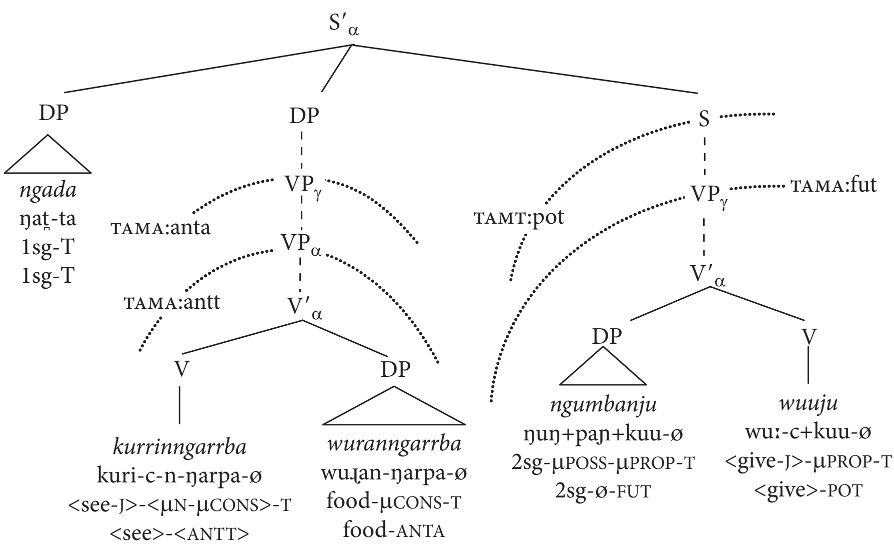


FIGURE 5.5 Syntactic structure and feature attachment for example (5.45)

In this instance nothing in the embedded VP inflects for matrix TAMA even though, for example, the DP within the embedded clause is a direct object, a DP type which always inflects for the TAMA value of its own clause. The reason for this can be seen in Figure 5.5, which reproduces the relevant aspects of the non-surface syntactic structure of (5.45). In addition to a representation of the syntactic tree, Figure 5.5 contains four dotted arcs, each of which pass through a single node and visually separate the clause above that node from the clause below it. Each arc is labelled with values of TAMT/NEG or TAMA and the node through which the arc passes is the node to which those features attach; everything below that node will inherit them by percolation.[26] So, the TAMA value of the matrix clause is TAMA:future. It does not percolate into the lower clause, because the lower clause attaches higher up than the node to which TAMA:future attaches. The TAMA value of the lower clause is TAMA:antecedent. All up, words which are low enough in the matrix clause inflect for TAMA:future or TAMT: potential (depending as always on the morphomic shape of the stem), while words in the embedded VP clause inflect for TAMA:antecedent and TAMT:antecedent.

Turning to our next scenario, the embedded VP in (5.46) functions as a relative clause inside a direct object DP which is a complement of V. Both the matrix and embedded TAMA and TAMT values are the same as in (5.45) above, but this time every word in the embedded clause inflects for the matrix TAMA value, TAMA:future.

(5.46)	[*Kariyathu*	*jingkarmaruthu,*	[***diyanngarrbawu***
	kaɻia-t̪+kuu-ø	ciŋkaɻ-maɻu-t̪+kuu-ø	ʈia-c-n-ŋarpa+kuu-ø
	‹conceal-TH›-μ̋PROP-T	scrub-‹μDAT-TH›-μ̋PROP-T	‹eat-J›-‹N-μCONS›-μ̋PROP-T
	‹conceal›-POT	scrub-‹DAT›-POT	‹eat›-‹ANTT›-FUT

janangkurringarrbawu ANTA, ANTT]	*Murdumurduwaanju* FUT, POT]
canaŋkuri-ŋarpa+kuu-ø	muʈumuʈu-waːɲ+kuu-ø
goat-μCONS-μ̋PROP-T	(place name)-μORIG-μ̋PROP-T
goat-ANTA-FUT	(place name)-ORIG-FUT

'He will conceal in the scrub (the ones) from Murdumurdu who have eaten the goat.' [E1987-9-1]

The relevant non-surface syntactic structure in (5.46) is shown in Figure 5.6 (for simplicity, the word *jingkarmaruthu* is omitted). Because the embedded VP is located low enough within the matrix clause this time, it inherits the TAMA: future feature from the matrix clause. Words in the embedded VP clause inflect first for TAMA:antecedent or TAMT:antecedent (which attach closer to the word's terminal node), and after that for TAMA:future. Notionally, it should be possible for words in the lower clause to inflect also for TAMT:potential which is inherited from the matrix

[26] For the purposes of the discussion, I will assume that TAMA:antecedent attaches to VP_{β}, though it may actually attach to $VP\gamma$ (§5.6.1). Nothing hinges on this assumption though.

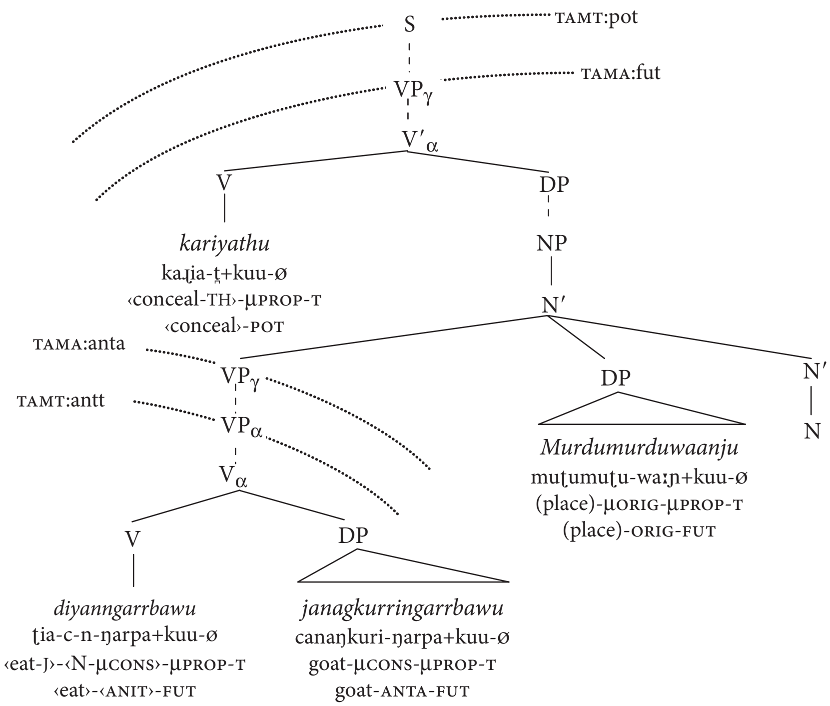


FIGURE 5.6 Syntactic structure and feature attachment for example (5.46)

clause, but this does not happen: only stems ending in a thematic could inflect for a matrix TAMT/NEG value, but all stems in the lower clause will already be inflected for their lower clause $\mathbf{T}_C$ features, whose realizations do not end in TH or J.

As mentioned in §5.4, adverbial embedded VPs always lie within a DP daughter of V'_β, making them low enough to inherit any matrix TAM feature, for which they inflect accordingly.

So far in this section the examples we have seen, although consistent with the 'syntactic' analysis of TAMA inflection, are also more or less consistent with a 'diacritic' analysis. The only DPs inside embedded VPs which we have seen inflecting for matrix TAMA features are direct objects, and direct objects always inflect for TAMA anyway. Perhaps TAMA inflection is just 'greedy': with the exception of DPs in subject second predicates, any DP which usually inflects for local TAMA features will inflect for all TAMA features. What would be surprising under such an account is a DP type which never inflects for its local TAMA value, but which, when placed in an embedded VP, does inflect for a matrix TAMA value. This is in fact what happens.

Consider DPs inflected for CASE:ablative, which take VP_δ or VP_ε as their mother node, see §5.6.2.[27] In (5.47) *dangkana* 'man-ABL' escapes inflection for TAMA:instantiated, which attaches lower down, at VP_β.

(5.47)	[*Bijarrba*	*rayiija*	***dangkana*** INS,ACT].
	picarpa-ø	ɻaː-i-c-a	ʈaŋka+ki-naa-ø
	dugong-T	spear-‹μMID-J›-T	man-‹μLOC-μ̋ABL›-T
	dugong	spear-‹MID›	man-‹ABL›
	'The dugong is/was speared by the man.' [E2.ex.1-6]		

In (5.48) a directly comparable DP occurs within a (surface-discontinuous) embedded, direct object relative VP clause, which sits within a DP complement of V. As before the CASE:ablative DP is in too high a position within its local clause to inflect for the local TAMA value. However, because the embedded VP itself is low enough within the matrix clause, that same DP inherits the matrix TAMA feature, TAMA:instantiated.[28]

[27] At this point we consider DPs whose mother node is a VP node, and ignore DPs embedded within other DPs—for why DPs embedded in DPs are different, see §7.5.

[28] Contrary to the evidence adduced in this section, Evans (1995a) claims at one point that DPs 'which escape modal case in main clauses . . . also escape it in subordinate clauses despite the fact that the modal case originates in a higher clause' (1995a:113). As evidence, the sentence reproduced in (a) is provided, the analysis being that the final word of the embedded clause, *rarungkuunth*, fails to inflect for matrix TAMA:instantiated (if it did so, it would appear as *rarungkuruwurrk*)—this, even though the embedded verb does inflect for TAMA:instantiated (showing that the embedded clause inherits TAMA:instantiated). Evans' analysis is shown in (a), and a reanalysis in (b).

(a) Syntactic analysis after Evans (1995a:113)

[*Ngada*	*barrunthaya*	*kurrija*	*dangkayarrngki*
ŋat̪-ta	parun̪t̪a-ki-a	kuri-c-a	ʈaŋka-kiarŋ-ki-a
1sg-T	yesterday-μLOC-T	‹see-J›-T	man-μDU-μLOC-T
1sg	yesterday-INS	‹see›	man-DU-INS

[*warran**ki***	*rarungkuu**nth*** CONT,PROG] INS,ACT]
wara-c-n-ki-a	ɻa-ɻuŋ-kuuː-in̪t̪a-ø
‹go-J›-μN-μLOC-T	south-μALLC-μPROP-μOBL-T
‹go›-PROG-**INS**	south-ALLC-PROP-**CONT**

'Yesterday I saw the two men going to the south.' [E113.ex.3-45]

In (b) the final word is reinterpreted as sitting in its own subordinate, complementized clause (i.e., S″, not VP)—the μOBL morphome realizes not TAMA:continuous (glossed CONT) but +SEJ. Because embedded S″ never inherits TAMA from a matrix clause (§5.3) there is no source for a TAMA:instantiated feature on *rarungkuunth*, and that is why we fail to see it there.

(b) Reanalysis of (a)

[*Ngada*	*barrunthaya*	*kurrija*	*dangkayarrngki*
1sg	yesterday-INS	see-J.ACT	man-DU-INS

[*warranki* CONT,PROG]	[*rarungkuu**nth*** FUT,POT, COMP] INS,ACT]
go-PROG-INS	south-ALLC-PROP-**SEJ**

Lit: 'Yesterday I saw the two men walking, who were going to the south.'

(5.48) [*Biluwanjiya* *barrkij,* [***makuwalathinabay*** COMP,PROG]
pi-lu+paɲ+ki-a parki-c-a maku+palaṯ+ki-napa+ki-a
3-pl-µPOSS-µLOC-T ‹cut-J›-T woman-µPL-‹µLOC-µABL›-µLOC-T
3-pl-ø-INS ‹cut› woman-PL-‹ABL›-INS

kurdaya [***wakiriinki.*** COMP,PROG] INS,ACT].
kuṯa+ki-a wakiɹi-i-c-n+ki-a
coolamon-µLOC-T carry under arm-‹µMID-J›-µN-µLOC-T
coolamon-INS carry under arm-‹MID›-PROG-INS
'They are cutting them, coolamons, to be carried by the women.' [W1960]

The relevant non-surface syntactic structure of (5.48) is shown in Figure 5.7.

In sum, the distribution of TAMA inflections in embedded clause structures follows regularly from the attachment and percolation of feature values. Depending on the syntax the outcome for DPs in embedded VPs can be to inflect for (i) local TAMA only as in (5.45)/Figure 5.5; (ii) local and matrix TAMA as in (5.46)/Figure 5.6; (iii) matrix TAMA only as in (5.48)/Figure 5.7; and (iv) for neither local nor matrix TAMA, as in example (5.49):

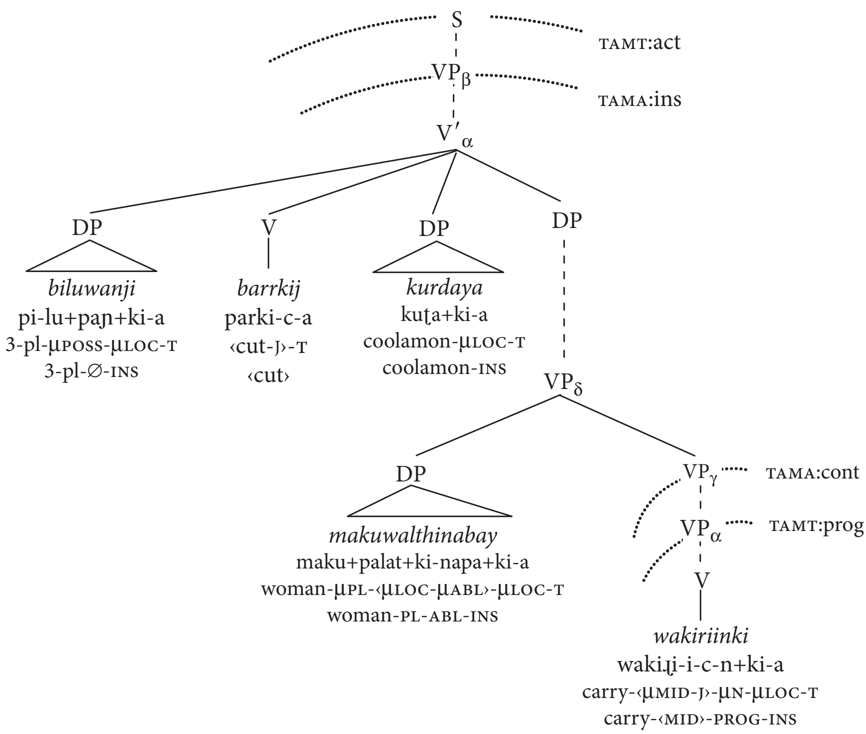


FIGURE 5.7 Syntactic structure and feature attachment for example (5.48)

(5.49)

Jangkawu	*darru*	[$_{DP}$[$_{VP}$***kamarrkarra***	*balaand.*]]
caŋka+kuu-ø	ʈar+kuu-ø	kamar-karaɲ-ø	pala-i-c-n-ta
other-μ̋PROP-T	occasion-μ̋PROP-T	stone-μGEN-T	hit-‹μMID-J›-μN-T
other-FUT	occasion-FUT	stone-GEN	hit-‹MID›-PROG

‘Another time (your head)’ll get broken on a stone.’ [E473.ex.11-31], Lit. ‘You, being hit by a stone, will be on another occasion.’

In (5.49) the embedded VP is a subject second predicate, within a DP daughter of S'_{α} and so is too high in the syntactic tree to inherit matrix TAMA:future which attaches to VP_{γ}. In addition, the demoted inanimate subject of the passive embedded clause, *kamarrkarra*, is the daughter of VP_{ε} so is too high to receive its local TAMA feature, TAMA:continuous, which attaches to VP_{δ}.[29]

To close this section, we turn to a claim in Evans (1995a:484–5), that embedded VPs may contain subject second predicate DPs even though they never contain subjects. If true, this would be syntactically rather interesting, given that evidence from main clauses suggests that subjects and subject second predicate DPs are sisters. In assessing Evans’ claim it will be important to keep in mind the distinction between second predicates which are normal DPs (and which are our main point of interest) and clausal second predicates which are VP_{ε} constituents embedded in an otherwise-empty DP. The question is whether embedded VPs (which might or might not be clausal second predicates) can contain within them subject second predicate DPs. Equipped with the understanding of TAMA inflection developed above, it will be possible to formulate an argument that embedded VPs in fact cannot contain subject second predicates. We begin with (5.50) which is provided in Evans (1995a:484–5) as evidence for the existence of nominal subject second predicates inside embedded VPs.

(5.50)

Ngada	*kurrija*	*niwanji,*	***jaya***	***dukurdukuya***
ŋaʈ̪-ta	kuri-c-a	ŋ̪i+paɲ+ki-a	ca+ki-a	ʈukuʈuku+ki-a
1sg-T	‹see-J›-T	3sg-μPOSS-μLOC-T	foot-μLOC-T	dry-μLOC-T
1sg	‹see›	3sg-ø-INS	foot-INS	dry-INS

wanjiinkiya	***mirray.***
waɲciː-c-n+ki-a	mira+ki-a
‹ascend-J›-μN-μLOC-T	good-μLOC-T
‹ascend›-PROG-INS	good-INS

‘I saw him going up (the hot sand) on his wet feet, in comfort’ [Wurm 1960; E485.ex.11-79]

[29] Evans (1995a:473) analyses the sentence in (5.49) as mono-clausal, with the consequence which he notes, that TAMA:future appears to pair quite uncharacteristically with TAMT:progressive in a single clause. Under the analysis provide here, which places the last two words in an embedded clause, the sentence obeys the normal co-occurrence restrictions on TAMT and TAMA values.

In (5.50) the verb *wanjiinkiya* is the head of an embedded, adnominal VP that functions as a clausal second predicate on the matrix object. The TAMT feature associated with that embedded VP is TAMT:progressive and its TAMA value (which doesn't appear overtly on any words) would be TAMA:continuous. The implicit subject of the embedded VP is coreferential with the matrix object (which is the matrix argument for which the VP supplies a second predicate). The nominals *jaya dukurdukuya* 'with wet feet' and *mirray* 'in comfort' are second predicate DPs which pertain to the semantic argument that is both the matrix object and the implicit embedded subject. Both *jaya dukurdukuya* and *mirray* inflect for matrix TAMA: instantiated and neither inflect for embedded TAMA:continuous. The syntactic question then is whether *jaya dukurdukuya* and *mirray* are object second predicates in the matrix clause or subject second predicates in the embedded VP. Either syntactic analysis will derive the correct semantics because the matrix object and implicit embedded subject are coreferential.

Evans (1995a:484–5) states that *jaya dukurdukuya* and *mirray* in (5.50) are subject second predicates in the embedded VP but does not provide arguments. As a first step, let us confirm that so long as our focus is on adnominal embedded VPs such as in (5.50) the facts of inflection will fail to offer an answer to the syntactic question of whether such second predicate DPs are inside or outside of the embedded VP.

Both *jaya dukurdukuya* 'with wet feet' and *mirray* inflect for matrix TAMA and not for embedded TAMA. Consequently if they really are subject second predicates in the embedded VP they must occupy a syntactic position higher than where embedded TAMA attaches, equivalent to what is shown in Figure 5.8 as $^{*}\mathrm{DP}_{2P:\downarrow S\equiv\uparrow O}$ (where the subscript $2P{:}\downarrow S\equiv\uparrow O$ stands for a second predicate '2P' on an implicit embedded subject '↓S' which is coreferential '≡' with the matrix object '↑O'). Figure 5.8 also gives the location within the matrix clause of a second predicate DP on a matrix object (shown as $\mathrm{DP}_{2P:\uparrow O}$) among several other things. The important point now is that due to their positions in the syntax, a putative $^{*}\mathrm{DP}_{2P:\downarrow S\equiv\uparrow O}$ and a $\mathrm{DP}_{2P:\uparrow O}$ will always inflect identically. Consequently the facts of inflection will never require us to analyse DPs like *jaya dukurdukuya* and *mirray* in (5.50) as Evans' $^{*}\mathrm{DP}_{2P:\downarrow S\equiv\uparrow O}$; rather we could suffice with $\mathrm{DP}_{2P:\uparrow O}$, that is, a normal object second predicate DP in the matrix clause.

In a similar fashion, nothing will compel us to recognize subject second predicate DPs in embedded VPs at the top of the matrix clause. In Figure 5.8 $^{*}\mathrm{DP}_{2P:\downarrow S\equiv\uparrow S}$ would be Evans' putative subject second predicate DP, located inside an embedded VP which itself supplies a clausal second predicate for the matrix subject. Putative $^{*}\mathrm{DP}_{2P:\downarrow S\equiv\uparrow S}$ will always remain uninflected for both matrix TAMA and embedded VP TAMA and thus it will always be inflectionally indistinct from a subject second predicate DP in the main clause, shown as $\mathrm{DP}_{2P:\uparrow O}$. Thus we see that in both kinds of adnominal embedded VP (labelled $\mathrm{VP}_{\varepsilon\text{-ADNOM}}$ in Figure 5.8) nothing prevents us from analysing putative subject second predicate DPs inside embedded VPs as

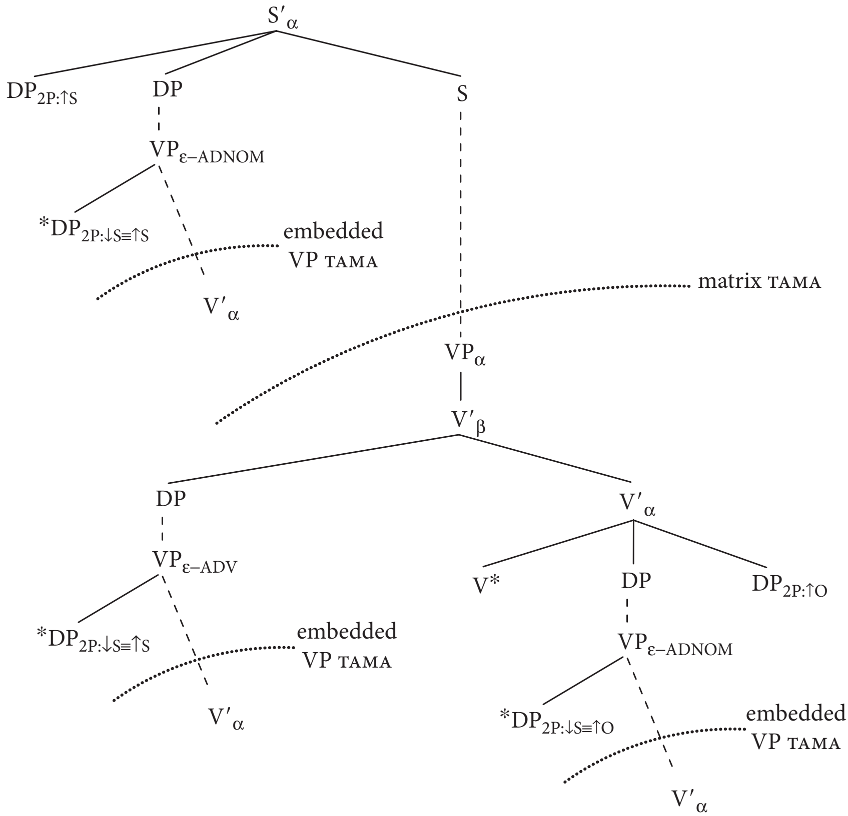


FIGURE 5.8 Locations of true and putative nominal second predicate DPs

matrix clause second predicates. The argument from parsimony would be that since matrix second predicate DPs are required anyhow, Evans' subject second predicate DPs in embedded VPs are superfluous and so should not be posited. There also exists an empirical argument for that stance. To find it we must turn away from adnominal embedded VPs ($VP_{\varepsilon\text{-ADNOM}}$) to adverbial embedded VPs, labelled $VP_{\varepsilon\text{-ADV}}$ in Figure 5.8.

Adverbial embedded VPs are informative because they sit low enough in the matrix clause to inherit matrix TAMA yet their implicit subjects are coreferential with the matrix subject (§5.4.1). Thus a putative subject second predicate DP inside $VP_{\varepsilon\text{-ADV}}$ would inherit and inflect for matrix TAMA; meanwhile it would supply a second predicate for a semantic argument which is equal to the matrix subject. In order to get the same semantic effect via a second predicate in the matrix clause, we would need a matrix subject second predicate DP which due to its height in the syntactic tree would not inherit matrix TAMA. This is crucial: our two, semantically equivalent, second predicate DPs will be inflectionally distinct. The putative subject second predicate DP inside $VP_{\varepsilon\text{-ADV}}$ will inflect for matrix TAMA while the matrix subject second predicate DP will not. Sentences which decide the matter are thus those of the kind in (5.51).

(5.51) *Warrajuuntha* *ngijuwa* ***bardakantha***
wara-c-kuu-in̪t̪a-ø ŋicu-pa-ø paʈaka-in̪t̪a-ø
‹go-J›-μ̋PROP-μOBL-T 1sg-μCOMP-T belly-μOBL-T
‹go›-POT-SEJ 1sg-SEJ belly-SEJ

wuyiijiringkuunth.
wuː-i-c-ki-ɻiŋ-kuu-in̪t̪a-ø
put-‹μMID-J›-‹μLOC-μALL›-μ̋PROP-μOBL-T
put-‹MID›-‹DIRT›-FUT-SEJ
'I will go to put (food) in my belly.' [R2005-jul21]

In (5.51) the verb *wuyiijiringkuunth* is the head of an embedded, adverbial 'motion purpose' VP which is in the position shown as $VP_{\varepsilon\text{-ADV}}$ in Figure 5.8. That VP inherits matrix TAMA:future as well as matrix +SEJ, both of which we see on its head verb *wuyiijiringkuunth*. The second predicate DP *bardakantha* is a 'body part as locus of effect' predicate meaning 'belly'. It inflects for +SEJ but revealingly it has not inherited and inflected for TAMA:future,[30] indicating that it must sit high in the matrix clause, and cannot possibly be inside the embedded VP. What is particularly interesting is that semantically the second predicate DP *bardakantha* contributes to the sense of the embedded clause, and not the matrix clause: the motion purpose event is 'put (food) *in my belly*' and not merely 'put (food) (on myself)', and the main clause event is 'I will go' and not '*my belly* will go'; nevertheless, the nominal second predicate *bardakantha* sits in the matrix clause. I surmise that embedded VPs never contain subject second predicates (at positions $^*DP_{2P:\downarrow S=\uparrow O}$ and $^*DP_{2P:\downarrow S=\uparrow S}$ in Figure 5.8) just as they never contain subjects. This is true even when the semantics of the embedded VP would seem to require a subject second predicate. Instead, such predicates are always located syntactically in the matrix clause (in positions $DP_{2P:\uparrow O}$ and $DP_{2P:\uparrow S}$). Such an analysis is consistent with all of the data, and fortifies the view developed above in §5.4, that the range of DPs permitted in embedded VPs is highly restricted.

30 There is nothing which would prevent TAMA:future being overtly realized on *bardakantha* if the word were indeed associated with the feature.

5.8 tama and predicate DPs in verbless clauses

Clauses which lack a verb and whose main predicate is a DP constituent exhibit non-surface syntactic structures just like those we have encountered above. As in other clauses tama features attach to their usual VP nodes and percolate down from there. Whether or not a predicate DP inherits and inflects for tama follows from its position in the non-surface syntax. The purpose of this section is not to provide a comprehensive description of non-verbal predicate types, but to illustrate these basic morphosyntactic facts. We begin with locational DP predicates.

As shown by Evans (1995a:315–16) and illustrated in (5.52) and (5.53), predicate DPs that specify the location of the subject can inflect for tama. In the terminology of Nordlinger and Sadler (2004) this is **propositional** nominal tam, and not **independent** nominal tam. That is, the temporal meaning conveyed by tama relates as always to the event denoted by the clause, and not to the entity referred to by the predicate DP, in which case (5.52) means 'Maybe they will stay in this camp', and never 'Maybe they are staying in this camp-to-be'.

(5.52)	*Marrbi*	***danku***	***nathawu.***
	marpi-a	ʈan+kuu-ø	ɳat̪a+kuu-ø
	maybe-t	this-µ́prop-t	camp-µ́prop-t
	maybe	this-fut	camp-fut

'Maybe (they'll stay) in this camp.' [E315.ex.9-10]

(5.53)	*Dathina*	*yarbud,*	***marrwari***	***mindari***
	ʈat̪ina	jaɻput̪-ta	marwa+ki-ɻiŋ-ø	minta+ki-ɻiŋ-ø
	that.t	snake-t	nearby-‹µloc-µall›-t	base-‹µloc-µall›-t
	that	snake	nearby-‹dira›	base-‹dira›

kamarrir,[31]	*jaanmariijir.*
kamar+ki-ɻiŋ-ø	caː-c-n-maɻu-i-c+ki-ɻiŋ-ø
rock-‹µloc-µall›-t	‹enter-j›-‹µn-dat-µmid-j›-‹µloc-µall›-t
rock-‹dira›	‹enter›-‹incpt›-‹dirt›

'That snake is near the base of the rock, about to go under it.' [W1960]

In (5.52) and (5.53), the N heads of NP in the predicate DP are unremarkable nouns: 'camp' in (5.52) and 'rock' in (5.53), and the DPs inflect for tama:future and tama:directed, which attach to VP_γ and VP_β respectively. On the basis of this evidence,

[31] Evans (1995a:316.ex.9–12) documents a similar DP predicate marked with µloc-µall, and interprets it as being inflected for case:allative. In (5.53) at least, the appearance of the incipient adverbial clause *jaanmariijir*, inflected with matrix tamt:directed which always co-occurs with tama:directed (§4.3.3), suggests that µloc-µall marks not case:allative but tama:directed.

we can surmise that locational predicate DPs with plain nominal heads of NP take VP_{β} as their mother node.

When the head of NP in a locational predicate DP has an inherently locational meaning the situation is different. Kayardild has several classes of inherently locational nominals, including relational types such as *marrwa-* 'nearby; near to', *walmu-* 'up high; on top of', and several paradigms based on terms for the four cardinal compass points (Evans 1995a:206–27). When an inherently locational nominal heads the NP in a predicate DP, the DP does not inflect for TAMA:instantiated (which attaches to VP_{β}), as shown in (5.54), though it does inflect for TAMA:present (which attaches to VP_{γ}) as shown in (5.55). From sentences such as these it can be concluded that predicate DPs with an inherently locational N head of NP select VP_{γ} as their mother node.

(5.54)	*Niya*	***balungk.***
	ɳi-a	pat̪-ɻuŋ+ka
	3sg-T	west-μALLC-T
	3sg	west-ALLC
	'He's in the west.' [W1960]	

(5.55)	***Balungkurrka***	*yarbuthinja*	*dirrayarbuthinj.*
	pat̪-ɻuŋ+kurrka-ø	jaɻput̪-in̪t̪a-ø	t̪ira-jaɻput̪-in̪t̪a-ø
	west-μALLC-‹μLOC.μOBL›-T	animal-μOBL-T	‹rain-animal›-μOBL-T
	south-ALLC-‹PRES-SEJ›	animal-SEJ	‹cyclone›-SEJ
	'The cyclone is in the west.' [R2005-aug02a]		

Other predicate DPs do not inflect for TAMA (Evans 1995a:313–20), and thus they must sit higher than VP_{δ}.

5.9 TAMA and VP internal topic DPs

We began the chapter with topicalized DPs in complementized clauses. These were argued to be daughters of S″ based on the fact that they escape all inflection for +SEJ and +COMP. Topic DPs also occur in uncomplementized clauses, but only in clauses whose associated TAMA value is TAMA:instantiated or TAMA:directed. This restriction can be accounted for if we assume that topic DPs in uncomplementized clauses are VP-internal, and specifically that they are daughters of VP_{γ}.

To begin with the empirical facts, Evans (1995a:110, 532) documents topic DPs in uncomplementized, TAMA:instantiated clauses. The existence of topic DPs in uncomplementized, TAMA:directed clauses is a new observation, an example of which is provided in (5.56) where the topic DP appears in bold.[32]

[32] The corresponding untopicalized DP would be *miburiri ngijinjir*, inflected for TAMA:directed.

(5.56)	***Miburlda***	***ngijind,***	*waduwa*	*jaajir.*
	mipuɻ-ta	ŋicu-iɲ-ta	watu-a	ca:-c+ki-ɻiŋ-ø
	eye-T	1sg-μPOSS-T	smoke-T	‹enter-J›-‹μLOC-μALL›-T
	eye	1sg-POSS	smoke	‹enter›-‹DIRT›
	'The smoke is getting in my eyes.' [W1960]			

The feature values TAMA:instantiated and TAMA:directed both attach to VP$_\beta$, and so a topic DP which is the daughter of VP$_\gamma$ will escape inflection for them. In doing so, such topic DPs become inflectionally distinct from their untopicalized counterparts, which are complements of V and thus do inflect for TAMA.

The situation is different in clauses with TAMA values other than instantiated or directed. In these clauses, the TAMA feature attaches to VP$_\gamma$ or to VP$_\delta$ and thus a topic DP under VP$_\gamma$ would inflect for TAMA just like its untopicalized counterpart, and the topicalized–untopicalized contrast would be morphologically neutralized. This prediction matches the facts: topic DPs are not distinguishable in uncomplementized clauses with TAMA values other than instantiated or directed. When speakers wish to visibly topicalize a DP in the context of these TAMA values the clause must be complementized (Evans 1995a:532) and the topic DP placed under S$''$.

5.10 Summary

Chapter 5 began with the grounds for postulating four S category nodes and situating topic, focus, and subject DPs as daughters beneath them. The existence of focus DPs is a novel observation. Subtly different domains of the antagonistic features +SEJ and +COMP follow from their respective attachment to S$'_\alpha$ and S$'_\beta$, and provide an account for the inflectional differences between topic DPs versus focus DPs versus other parts of the clause. All complementized clauses associate with a +COMP feature, and sejunct complementized clauses associate also with +SEJ. Certain DPs marked with μLOC were identified as focus DPs in otherwise empty clauses.

Kayardild's two kinds of embedded clauses, S$''$ and VP, were discussed next. Novel observations regarding embedded VPs included the existence of three adverbial VP types, and of constraints that exist on the internal constituents of all embedded VPs, which do not apply in main clauses associated with the same TAM features. The nature of the bottom of the clause was examined next. Conditions on multiple head verbs refer to subjects and objects but not to body part second predicates. Kayardild's 'locational objects' are complements of V which are distinct from direct objects but share many of their syntactic behaviours including promotion to topic, focus, and to passive subject.

The second half of the chapter focused on the region of the non-surface clause built around the VP nodes, especially VP$_\beta$–VP$_\varepsilon$. Depending on the specific value, TAMA features attach to VP$_\beta$, VP$_\gamma$, or VP$_\delta$ and percolate down from there. Depending on their placement relative to these nodes, DPs, including DPs containing embedded VPs, inherit those TAMA features or they do not. The placement of DPs depends by default on the semantic/grammatical role of the DP, although in certain cases it can be overridden and be determined instead by the N head of NP. The articulated VP structure of the non-surface clause is present even in verbless clauses. Within all of these structures, features percolate in a perfectly normal and unconstrained fashion, even into subordinate clauses. Arguments were presented in §5.6.3 for why a syntactic analysis of these facts is superior to a conceivable, 'diacritic' alternative.

6

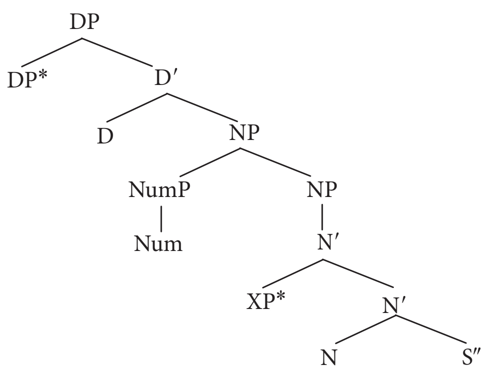
The DP

In its surface syntax the Kayardild determiner phrase is contiguous, with a rigid word order. The analysis of the DP adopted here is comparable to Evans' (1995a) analysis of the NP, shown in Figure 6.1, although it does not include Evans' final, modifier position.

$$\underbrace{\text{Determiner Number Qualifiers}}_{\text{Modifiers}}\quad \text{Head}\quad \text{Modifier}$$

FIGURE 6.1 The Kayardild NP, after Evans (1995a)

The DP structure recognized here is shown in Figure 6.2. Both the D head and the DP in [Spec DP] correspond to Evans' determiner position. The Num head of the NumP adjunct of NP corresponds to Evans' number position, and the XP adjuncts to N′ correspond to Evans' qualifier positions. The N head of NP corresponds to Evans' head position. On S″ complements of N, see §5.3 above.



XP = DP, AP, VP_{ε}

FIGURE 6.2 Structure of the DP

The chapter is organized as follows: §6.1 presents arguments for the existence of the DP as a single constituent; §6.2 examines filled and unfilled structural positions within DP; §6.3 reviews whether N heads ever take DP complements; §6.4 discusses the status of pronouns; §6.5 examines the concord of CASE within DP; §6.6 examines the concord of NUMBER within DP and NP; §6.7 mentions CASE values restricted to certain embedded DP positions; and §6.8 examines the complexities surrounding CASE:locative and its realizations.

6.1 Arguments for the existence of DP

Many Australian languages freely permit the juxtaposition of multiple, coreferential, nominal constituents within the same clause (Blake 1987:92,106; Sadler and Nordlinger 2006a) and this is also true of Kayardild (see Evans 1995a:250–1; and Chapter 7). Given that such multiple, coreferential nominal constituents can be adjacent to one another, one might question the need to posit a DP constituent at all. While the argument that there is no evidence for DP (or NP) can be upheld for some Australian languages (e.g. Kalkutungu, Blake 1979, 1983; Warlpiri, Hale 1981; Jiwarli, Austin 2001), this is not the case for Kayardild, in which clear evidence can be found for DP from the fixed interpretation of nominal words based upon their position within the phrase (Evans 1995a:233–5; see also similar arguments with respect to Gooniyandi in McGregor 1990; and Martuthunira in Dench 1995). Consider the two syntactic collocations in Table 6.1, which are reliably interpreted along the lines indicated. (Crucially here, possessive pronouns like *niwanda* are among the set of polyfunctional nominal stems whose existence was mentioned in §4.5.8.)

The reliability of the interpretations in Table 6.1 stems from the fact that within a DP, determiners are followed by numbers, which are followed by modifiers. The possessive pronoun *niwanda* is a determiner in the first DP of Table 6.1 but a modifier in the second. Likewise, the reliable interpretations in Table 6.2 stem from the fact that modifiers precede a head.

Data as in Tables 6.1–6.2 support the conclusion that nominal words appear within contiguous units, inside of which function is restricted according to relative linear order. That is, a structural unit exists within which nominal words are organized, and that unit is referred to here as the DP. Presumably too, although the language permits the occurrence of adjacent, coreferential DPs, the default interpretation of a string of adjacent nominal words in Kayardild is that they comprise a single DP if their functions admit of that analysis.

Evans' post-head, 'modifier' position is significantly different and so is omitted from the DP under the analysis proposed here. The constituent which occupies this

Table 6.1 Positionally determined interpretation in DP: determiner versus qualifier

Interpretation	Determiner	Number	Qualifier	Head
'his two elder brothers'	*niwanda*	*kiyarrngka*		*thabuju*
[E236]	ɳi+paɲ-ta	kiarŋ+ka		t̪apucu-a
	3sg-µposs-t	two-t		e.Br-t
	3sg-poss	two		elder brother
'two of his elder brothers'		*kiyarrngka*	*niwanda*	*thabuju*
[E236]		kiarŋ+ka	ɳi+paɲ-ta	t̪apucu-a
		two-t	3sg-µposs-t	e.Br-t
		two	3sg-poss	elder brother

Table 6.2 Positionally determined interpretation in DP: qualifier versus head

Interpretation	Determiner	Qualifier	Head
'my totem animal' [E236]	*ngijinda*	*nida*	*wurand*
	ŋicu-iɲ-ta	ɳit̪-ta	wuɻan-ta
	1sg-µposs-t	name-t	animal-t
	1sg-poss	name	animal
'my totem name' [E236]	*ngijinda*	*wuranda*	*nid*
	ŋicu-iɲ-ta	wuɻan-ta	ɳit̪-ta
	1sg-µposs-t	animal-t	name-t
	1sg-poss	animal	name

putative position may function as a determiner, number, or a qualifier.[1] As such the post-head modifier position crucially fails to restrict the function of the nominal word which fills it and thus could equally be analysed as an adjacent, coreferential, juxtaposed DP—the assumption adopted here (see Chapter 7 for more on juxtaposition).

[1] Kayardild thus differs from languages like Gooniyandi (McGregor 1990) and Martuthunira (Dench 1995) in which a single, post-head position in a NP is functionally distinct from other positions, and so can be argued to be part of the NP.

6.2 Filled and unfilled structural positions in DP

DPs regularly contain overt D, Num, and N heads. The following examples illustrate DPs whose other positions are filled: (i) by DPs in [Spec, DP] position; and (ii) by APs, DPs, and VPs in the NP-internal, N′ adjunct position.

The [Spec, DP] position can be filled by DPs which take the genitive CASE as shown in (6.1) or the ablative as in (6.2).[2,3] In examples the constituents of interest appear in bold type, while relevant constituent structure is shown via brackets and subscripted labels at the left edge.

(6.1) Embedded genitive DP as [Spec, DP]

$[_{\text{DP}}[_{\text{DP}}$	***thabujukarra***]	$[_{\text{D}'}[_{\text{NP}}[_{\text{NumP}}$	*kiyarrngka*]	$[_{\text{NP}}$	*maku*]]]]
	t̪apucu-karaɲ-ø		kiarŋ+ka		maku-a
	e.Br-μGEN-T		two-T		wife-T
	e.Br-GEN		two		wife

‘elder brother’s two wives’ [E240]

(6.2) Embedded ablative DP as [Spec, DP]

$[_{\text{DP}}[_{\text{DP}}$	***warngiijina***	***dangkana***]	$[_{\text{D}'}[_{\text{NP}}$	*dulk*]]]
	waɻŋiːc+ki-naa-ø	ʈaŋka+ki-naa-ø		ʈulk+ka
	one-‹μLOC-μ̋ABL›-T	person-‹μLOC-μ̋ABL›-T		country-T
	one-‹ABL›	person-‹ABL›		country

‘one people’s country’ [R2005-aug08]

An AP adjunct to N′ is shown in (6.3). Example (6.4) contains three such APs in a DP inflected for TAMA:instantiated.

(6.3) Embedded AP adjunct to N′

$[_{\text{DP}}[_{\text{NP}}[_{\text{NumP}}$	*kiyarrngka*]	$[_{\text{NP}}[_{\text{N}'}[_{\text{AP}}$	***kunyaa***]	$[_{\text{N}'}[_{\text{N}}$	*kunawun*]]]]]]
	kiarŋ+ka		kuɲa-a		kuna+kuna-ø
	two-T		small-T		‹child$_{\text{NL}}$-child$_{\text{NL}}$›-T
	two		small		‹child›

‘two small children’ [E1984-05-01]

(6.4) Three embedded APs adjuncts to N′

$[_{\text{DP}}[_{\text{NP}}[_{\text{N}'}[_{\text{AP}}$	***mudinkiya***]	$[_{\text{AP}}$	***jungarrbaya***]	$[_{\text{AP}}$	***bardanguya***]
	mutin+ki-a		cuŋarpa+ki-a		paʈaŋu+ki-a
	tied together-μLOC-T		big-μLOC-T		large-μLOC-T
	tied together-INS		big-INS		large-INS

[2] On the semantic difference between genitive and ablative possession, see Evans (1995a:143–4, 51–2).

[3] Evans (1995a:210) reports that certain CASE:origin DPs can function as determiners (i.e. in present terms, as [Spec DP]), but no examples are given and I have not been able to find any in my corpus. Given that a DP without an overt determiner can be interpreted as definite, it is possible that the kind of DP which Evans refers to contains a DP adjunct to N′ inflected for CASE:origin, within a matrix DP which is interpreted as definite.

$[_{N'}[_{N}$	*kurday*]]]]].
	kuʈa+ki-a
	coolamon-µLOC-T
	coolamon-INS

'in the great big, bound coolamon' [R2005-aug02a]

Example (6.5) illustrates a DP adjunct to N′, while (6.6) shows a DP and a VP adjunct to N′ within a DP inflected for TAMA:future.

(6.5) Embedded DP adjunct to N′

$[_{DP}[_{NP}[_{NumP}$	*kiyarrngka*]	$[_{NP}[_{N'}[_{DP}$	***malawaanda***]	$[_{N'}[_{N}$	*yakuriya*]]]]]]
	kiarŋ+ka		mala-waːɲ-ta		jakuɻi-a
	two-T		sea-µORIG-T		fish-T
	two		sea-ORIG		fish

'two marine fish' [E244]

(6.6) Embedded VP_{ε} adjunct to N′

$[_{DP}[_{NP}[_{N'}[_{DP}$	***bathu***][4]	$[_{VP}$	***barjinku***]	$[_{N'}[_{N}$	*warrkuwuru*]]]]]
	paṯ+kuu-ø		paɻci-c-n+kuu-ø		warku+kuɻu-ø
	west-µ̋PROP-T		‹set-J›-µN-µ̋PROP-T		sun-µ̋PROP-T
	west-FUT		‹set›-PROG-FUT		sun-FUT

'(with) the setting sun in the west'

The next set of examples illustrates cases where the head positions D, Num, and N in DP fail to be overtly filled. Examples like (6.7), where neither the D nor the Num position is filled, are common.

(6.7) No overt D or Num

$[_{DP}[_{NP}[_{N'}[_{AP}$ ***Mirraa***]	$[_{N'}[_{N}$ ***dulka***]]]]]	*ngalawa*	*danathurrk.*
mira-a	ʈulk+ka	ŋa-la+pa-ø	ʈana-ṯ+kurka-ø
good-T	country-T	1-pl-µSEJ-T	‹leave-TH›-‹µLOC.µOBL›-T
good	country	1-pl-SEJ	‹leave›-‹IMM-SEJ›

'We left the good country.' [R2005-aug03]

When we turn to the N head of NP, the situation is not entirely parallel. For most positions in DP, if the position goes unfilled, the interpretation is simply that the speaker has chosen not to convey any meaning associated with that position.

[4] Although compass locational nominals like *bath-* can also be used as determiners (Evans 1995a:209–10, 39), the DP *bathu* here is a modifier, describing the sun rather than picking out one among several possible 'sun' referents. (It is not part of the embedded VP; if it were, it would inflect for a TAMA:continuous feature associated with the embedded clause as well as the TAMA:future feature of the matrix clause.)

However, when the N head of NP is not overtly filled, the assumption is that the meaning associated with its position is recoverable from context (cf arguments by McGregor (1990:254–5) with respect to Gooniyandi; and for the importance of this fact in DP apposition see Chapter 7). As Evans states, DPs lacking a filled N head of NP only occur when 'extralinguistic or discourse context makes reference clear' (Evans 1995a:236). The highlighted DPs in (6.8) entirely lack an overt NP, while in (6.9)–(6.11) the NP constituent is represented only by an adjunct to NP or N′.

(6.8) No overt NP; D only

Jathaa	*kamarr,*	*bana*	$[_{DP}[_{D'}$	***jathaa*** $[_{NP}$]]],	*bana*	$[_{DP}[_{D'}$	***jathaa*** $[_{NP}$]]].
cat̪a-a	kamar-a	pana		cat̪a-a	pana		cat̪a-a
other-T	rock-T	and.T		other-T	and.T		other-T
other	rock	and		other	and		other

'Another rock, and another, and another.' [R2005-jun29]

(6.9) NP contains only a NumP adjunct to NP; D also present

$[_{DP}[_{D'}$ ***Danda*** $[_{NP}[_{NumP}$	***kiyarrngk***] $[_{NP}$]]]],	*burldamurra*	*kunawun.*
ʈan-ta	kiarŋ+ka	puɻʈamur-a	kuna+kuna-ø
this-T	two-T	four-T	‹child$_{NL}$-child$_{NL}$›-T
this	two	four	‹child›

'These two (people) had four children.' [R2005-jul05b]

(6.10) NP (and DP) contains only a NumP adjunct to NP

Ngada	*diyaju*	$[_{DP}[_{NP}[_{NumP}$	***warngiju***] $[_{NP}$]]].
ŋat̪-ta	ʈia-c+kuu-ø		waɻŋic+kuu-ø
1sg-T	‹consume-J›-µ̃PROP-T		one-µ̃PROP-T
1sg	‹consume›-POT		one-FUT

'I'll drink one (can)' [E236.ex.6-8]

(6.11) NP (and DP) contains only an AP adjunct to N′

Nyingka	$[_{DP}[_{NP}[_{N'}[_{AP}$	***jungarrba***] $[_{N'}$]]]]	*kurrkath !*
ɲiŋ+ka		cuŋarpa-ø	kurka-t̪-a
2sg-T		big-T	‹take-TH›-T
2sg		big	‹take›

'You take a big one (a sheaf of grass)!' [R2007-may29]

A point to note in passing is that DPs lacking N heads are fully interpretable by the grammatical system as a whole. Not only is their reference resolved by recourse to context, making them referential just like other, comparable DPs with overt N heads, but they also have a semantic/grammatical role. This in turn means that they can be fit into the non-surface syntax just like any other DP, by assuming the default syntactic position that corresponds to their semantic/grammatical role (cf §5.6.2). Thus, the DPs without N heads in (6.8) and (6.9) are subjects and consequently are daughters of S'_α and so escape inflection for TAMA; the DPs without N heads in (6.10) and (6.11) are direct objects and consequently they are complements of V. In (6.10), where the clause is associated with TAMA:future the direct object DP inherits it and inflects for it; in (6.11) where the TAMT:imperative clause associates with no TAMA value, the direct object DP remains uninflected for TAMA.

6.3 Putative DP complements of N

Evidence for the existence of DP complements of N is weak. There is one noun, *wungunduwungundu* 'thief', which would appear on semantic grounds to take a DP complement. The noun *wungunduwungundu* descends historically from a reduplication of the verb form *wunginda*, which was either a nominalization or a TAMT: progressive inflection of *wungij-* 'steal'. Verbs inflected for TAMT:progressive take direct object complements inflected for TAMA:continuous which is realized by μOBL, and the complement of *wungunduwungundu* is also marked with μOBL, as in (6.12).

(6.12)	*Dathina*	*dangkaa*	*wungunduwungundu*	***wuraninj.***
	ʈaʈ̪ina	ʈaŋka-a	wuŋuntu-wuŋuntu-a	wuɻan-in̪ʈ̪a-ø
	that.T	man-T	‹thief$_{NL}$-thief$_{NL}$›-T	food-μOBL-T
	that	man	thief	food-OBL

'That man is a thief of food.' [W1960]

In the synchronic Kayardild inflectional system I take the DP *wuraninj* in (6.12) to be inflected with CASE:oblique, as glossed. The remaining question is how *wuraninj* relates syntactically to *wungunduwungundu*. Based on its inflection it could be a complement of N, but could also be an adjunct to N′. The semantics of the oblique CASE offer no guidance, as the oblique is seldom used in Kayardild and has no coherent meaning across its uses (Evans 1995a:148–9). Moreover, no other entity-denoting nominal takes a semantic complement in the manner of *wungunduwungundu*. Let us therefore turn to the evidence relating to predicate nominals.

Aside from *wungunduwungundu* all of the N-heads which arguably take complements are predicate nominals. Evans (1995a:149) records one instance of *mulurra* 'jealous' with what appears to be a CASE:oblique DP complement, though here the μOBL marking could equally be a realization of +SEJ in an embedded S″ complement clause (§5.3) whose verb is elided.

(6.13)	*Dathina*	*dangkaa*	*mulurra*	***niwaninja***	***makunth.***
	ʈaʈ̪ina	ʈaŋka-a	mulur-a	ɳi+paɲ-in̪ʈ̪a-ø	maku-in̪ʈ̪a-ø
	that.T	man-T	jealous-T	3sg-μPOSS-μOBL-T	woman-μOBL-T
	that	man	jealous	3sg-ø-OBL|SEJ	woman-OBL|SEJ

'That man is jealous of his wife.' [E149.ex.4-51]

The predicative nominals *mungurra* 'know' and *burdumbanyi* 'not know' both co-occur with DPs marked by μLOC, as in (6.14) and (6.15).

(6.14)	*Nyingka*	*mungurru*	***ngijinji.***
	ɲiŋ+ka	muŋuru-a	ŋicu-iɲ+ki-a
	2sg-T	know-T	1sg-μPOSS-μLOC-T
	2sg	know	1sg-ø-INS
	'You know me.' [E231.ex.5-116]		

(6.15)	*Ngada*	*burdumbanyi*	***niwanji.***
	ŋat̪-ta	puʈumpaɲi-a	ŋi+paɲ+ki-a
	1sg-T	not know-T	3sg-μPOSS-μLOC-T
	1sg	not know	3sg-ø-INS
	'I don't know him/her.' [E231.ex.5-118]		

In §5.8 we saw evidence that the full, non-surface syntactic clausal spine is present even in verbless clauses with predicate DPs. I analyse the 'objects' of *mungurru* and *burdumbanyi* as complements of an unfilled V in such a structure. This explains why they inflect for what appears to be TAMT:instantiated in (6.14) and (6.15), and why they can be topicalized and thus escape such marking in (6.16) and (6.17):

(6.16)	***Niwanda***	***kajakaja***	*ngada*	*mungurru.*
	ŋi+paɲ-ta	kaca-kaca-ø	ŋat̪-ta	muŋuru-a
	3sg-μPOSS-T	‹father$_{NL}$-father$_{NL}$›-T	1sg-T	know-T
	3sg-POSS	‹father›	1sg	know
	'I know his father.' [R2005-jun29]			

(6.17)	*Nyingka*	*burdumbanyi*	***muthaa***	***dulk.***
	ɲiŋ+ka	puʈumpaɲi-a	mut̪a-a	ʈulk+ka
	2sg-T	not know-T	many-T	place-T
	2sg	not know	many	place
	'There are many places you don't know.' [E1984-5-07]			

Evans (1995a:320) reports other CASE-marked complements of N but the DPs in question can also be analysed either as normal DP adjuncts to VP nodes, such as the CASE:proprietive 'subject matter' DP in (6.18), or as DP second predicates on the subject, such as the CASE:associative 'accompaniment' DP in (6.19).

(6.18)	*Mulurra*	*dathina*	*dangkaa*	***niwanju***	***makuwuru.***
	mulur-a	ʈat̪ina	ʈaŋka-a	ŋi+paɲ+kuu-ø	maku+kuu-ø
	jealous-T	that.T	man-T	3sg-μPOSS-μ́PROP-T	woman-μ́PROP-T
	jealous	that	man	3sg-ø-PROP	woman-PROP
	'That man is jealous over/suspicious of his wife' [E320.ex.9-30]				

(6.19)

Dathina	*wurumanda*	*birrbirrbiya*	***ngukurnurru.***
ʈat̪ina	wuɻuman-ta	pirpirpi-a	ŋuku-ɳuru-a
that.T	billy-T	full-T	water-μASSOC-T
that	billy	full	water-ASSOC

'That billy-can is full of water.' [E320.ex.9-35], interpretation: lit. 'That billy is full, having water in it.'

Commenting on the kinds of 'objects' which we have just considered, Evans (1995a:319, fn5) observes that, '[s]emantically, and in their choice of case, these resemble direct objects. But none of the usual syntactic tests for objecthood—behaviour in imperatives, or ability to feed the passive or reciprocal—are possible.' One test which can be applied is topicalization, and as we saw in (6.16) and (6.17), the DPs concerned do act like normal, clause-level direct objects. In sum, aside from the unique case of *wungundu-wungundu* it appears that nouns in Kayardild do not take DP complements; moreover the inflection of the 'complement' of *wungunduwungundu* is consistent with it being located elsewhere in its matrix DP, for example as an adjunct to N′. There is no positive evidence that Kayardild N can take a complement DP.

6.4 Personal pronouns

Personal pronouns are analysed here as nominal words which can function as D, N, or A heads. As a D head, a possessive or a plain personal pronoun functions as a determiner, as illustrated in (6.20a,b).

(6.20) Possessive pronoun as D

a. $[_{DP}[_{D'}$ ***niwanda***	$[_{NP}$ *dulk*]]]		b. $[_{DP}[_{D'}$ ***niya***	$[_{NP}$ *dangkaa*]]]	
ɳi+paɲ-ta	ʈulk+ka		ɳi-a	ʈaŋka-a	
3sg-μPOSS-T	country-T		3sg-T	man-T	
3sg-POSS	country		3sg	man	
'his/her country'			'that man'		

As an A head a possessive pronoun projects an AP adjunct to N′ which functions as a modifier of N as in (6.21).

(6.21) Possessive pronoun as A

$[_{DP}[_{NP}[_{NumP}$ *kiyarrngka*]	$[_{NP}[_{N'}[_{AP}$ ***niwanda***]	$[_{N'}$ *thabuju*]]]]]	
kiarŋ+ka	ɳi+paɲ-ta	t̪apucu-a	
two-T	3sg-μPOSS-T	e.Br-T	
two	3sg-POSS	elder brother	

'two of his elder brothers' [E236]

Personal pronouns are arranged into paradigms distinguishing person, number, and possession and one might at first suppose that these are each morphosyntactic features, in the technical sense used in this book. However, pronominal features play no role in the syntax: there are no syntactic constructions that subcategorize for pronouns with certain features, and nothing external to the pronoun agrees with those features.[5] Accordingly, pronominal paradigms are analysed here as paradigms of stems and not of morphosyntactically inflected forms. For the forms of pronominal stems, see §3.2.1.

Pronouns of course do inflect for true morphosyntactic features. In (6.22) for example the (lexically) third singular possessive pronoun inflects for NUMBER:dual, CASE:ablative, and TAMA:instantiated.

(6.22)	*niwanjiyarrngkinabaya*	*jibarnayarrngkinabaya*
	ɳ̪i+paɲ+kiarŋ+ki-napa+ki-a	cipaɳ̪a+kiarŋ+ki-napa+ki-a
	3sg-μPOSS-μDU-‹μLOC-μABL›-μLOC-T	MoBr in law-μDU-‹μLOC-μABL›-μLOC-T
	3sg-POSS-DU-‹ABL›-INS	MoBr in law-DU-‹ABL›-INS
	'by his two uncles' [E480.ex.11-64]	

6.5 Concord of CASE in DP

CASE always exhibits concord within DP and accordingly CASE features are analysed as attaching in the non-surface syntax to the DP node. A *prima facie* potential exception to this relates to sets of identically CASE-marked, juxtaposed DPs (including appositive DPs, conjoined DPs, and so forth). In Chapter 7 the hypothesis will be considered that CASE might sometimes attach not to DPs but to a higher, 'juxtapositional phrase' that dominates multiple, juxtaposed DPs in the non-surface syntax. The evidence, however, will lead to its rejection.

6.6 Concord of NUMBER in either DP or NP

Empirical motivation for the NP node inside DP comes from NUMBER inflection. The two NUMBER values, NUM:dual and NUM:plural, exhibit transparent concord either within DP as shown in (6.23)–(6.24) or within NP as shown in (6.25)–(6.26).

(6.23) Concord of NUMBER:dual in DP

Danda	*rayind,*	[$_{DP}$	***ngijinjiyarrngka***	[$_{NP}$	***thabujuyarrngk***]].
ʈan-ta	ɻa-in-ta		ŋicu-iɲ+kiarŋ+ka		t̪apucu+kiarŋ+ka
here-T	south-μABLC-T		1sg-μPOSS-μDU-T		e.Br-μDU-T
here	south-ABLC		1sg-POSS-DU		e.Br-DU

'Here from the south (come) my two elder brothers.' [W1960]

[5] Evans (2003:221) suggests that the selection of (the equivalent of) +SEJ features in complementized clauses could be viewed as 'agreement in person' between the clause as a whole and its subject. For argument against such an interpretation see §9.1.3.

(6.24) Concord of NUMBER:plural in DP

Jinaa	[$_{DP}$	***ngumbanbala***	[$_{NP}$	***karndiwala***]]?
cina-a		ŋuŋ+paɳ+palaa		kaɳʈi+palaa
where-T		2sg-µPOSS-µPL.T		wife-µPL.T
where		2sg-POSS-PL		wife-PL

'Where are your wives?' [E184.ex.1-163]

(6.25) Concord of NUMBER:dual in NP only

[$_{DP}$	*Ngarrwanda*	[$_{NP}$	***kunawunayarrngka***]]	*kurrkaaj.*
	ŋa-r+paɲ-ta		kuna+kuna+kiarŋ+ka	kurka-i-c-a
	1-du-µPOSS-T		‹child$_{NL}$-child$_{NL}$›-µDU-T	take-‹µMID-J›-T
	1-du-POSS		‹child›-DU	take-‹MID›

'Our two children were taken.' [R2005-jul15a]

(6.26) Concord of NUMBER:plural in NP only

[$_{DP}$	*Dathina*	[$_{NP}$	***ngambuwala***]]	*dulmadulmarra*
	ʈat̪ina		ŋampu+palaa	ʈulmar-ʈulmar-a
	that.T		well-µPL.T	‹boss-boss›-T
	that		well-PL	‹bosses›

ngamburatha	*muringuni.*
ŋampuɻa-t̪-a	muɻi-ŋuni+ki-a
‹dig well-TH›-T	shell-µINST-µLOC-T
‹dig well›	shell-INST-INS

'The bosses of country dug those wells with baler shells.' [R2005-jul19a]

In DPs which contain a NumP adjunct to NP, overt inflection for NUMBER is only ever attested within NP, as illustrated in (6.27)–(6.28). The Num head itself will not inflect for NUMBER.[6,7]

(6.27) Concord of NUMBER:dual in NP only, in the presence of NumP

[$_{DP}$[$_{NP}$[$_{NumP}$	*Kiyarrngka*]	[$_{NP}$	***makuyarrngk***]]] .
	kiarŋ+ka		maku+kiarŋ+ka
	two-T		female-µDU-T
	two		female-DU

'There were two girls.' [R2005-jun29]

[6] Evans (1995a:183) makes this observation for NUMBER:plural in combination with the Num head *mutha-* 'many', but not for number in general.

[7] I do not have any examples of NUMBER-inflected NPs within DPs that contain both a Num head and a determiner (eg. 'my two girls-DU').

(6.28) Concord of NUMBER:plural in NP only, in the presence of NumP

[DP[NP[NumP	*Muthaa*]	[NP	***wakathawala***]]]	*kirrwanju*
	mut̪a-a		wakat̪a+palaa	ki-r+paɲ+kuu-ø
	many-T		sister-µPL.T	2-du-µPOSS-µ́PROP-T
	many		sister-PL	2-du-ø-FUT

marmirrayiju.
maɻmirai-c+kuu-ø
‹look after-J›-µ́PROP-T
‹look after›-POT
'Many sisters will look after you.' [R2005-jul15a]

The facts of NUMBER inflection can be analysed in terms of the optional attachment of NUMBER to either DP or NP, in combination with normal assumptions regarding feature percolation and the inviolable constraint stated in (6.29).

(6.29) Num—NUMBER constraint
A Num head may not be associated with a NUMBER feature.

According to this analysis, if a Num head is present in a DP as in (6.27) and (6.28), then the only available attachment site for NUMBER is the lower NP node. If the NUMBER feature attached any higher it would percolate down and become associated with the Num head, in violation of (6.29). If a Num head is not present then either attachment site is available, as reflected in (6.23)–(6.26).

6.7 CASE values only found in predicate or adnominal DPs

DPs may be embedded inside a matrix DP as an adjunct to N'. Following Evans (1995a). I will refer to these embedded DPs as **adnominal**. Two inflectional characteristics of adnominal DPs stand out. First, they inherit the same TAMA features as their matrix DP. Second, they can inflect for certain values of CASE which are only found otherwise on nominal predicate DPs in verbless clauses. Those CASE values are shown in Table 6.3. For reason of space I will restrict comment to the origin and utilitive CASE values.

TABLE 6.3 CASE values associated solely or predominantly with adnominal DPs

CASE value	Uses, other than as nominal predicate, in which it is solely adnominal
Origin	all (see main text also)
Genitive	all except circumessives and demoted subjects of passives
Associative	all
Consequential	all
Utilitive	all (see main text also)

The origin CASE is realized by µORIG and has the phonological realization /waːɲ/. On my analysis its uses all relate to two meanings. The first is geographical or ecological provenance/source as in *mala-waan-da* (sea-µORIG-T) 'from the sea', *dan-maan-da* (here-µORIG-T) 'from here', *Kungarra-waan-da* (place name-µORIG-T) 'from Kungarra'. The second is the means or circumstances under which something, usually food, is caught or obtained. These DPs can modify either the hunter or the hunted, such as *ngimi-waan-da* (night-µORIG-T) 'caught/hunting at night', *jirndi-waan-da* (twig-µORIG-T) 'caught/fishing with the use of poisonous twigs', *dingki-waan-da* (dinghy-µORIG-T) 'caught/hunting from a dinghy'. Evans (1995a:478) also documents the origin CASE denoting demoted subjects of resultative clauses but since the relevant examples are clauses refering to catching and hunting, the CASE:origin DPs could also be construed as fulfilling its normal, means/circumstance use.[8]

The utilitive case can be used to denote temporal durations as in (6.30) or to denote entities or times for which something will be used. All bar three examples in my corpus are straightforwardly adnominal. Syntactically, they are embedded in either a subject or direct object DP and they inflect for TAMA accordingly.

(6.30)	*Waduntha*	*wirdinda*	***warnginymarra***	*warrkumarr.*
	watu-in̪t̪a-ø	wiʈi-c-n-ta	waɻŋic-mara-ø	warku-mara-ø
	smoke-µOBL-T	‹stay-J›-µN-T	one-µUTIL-T	day-µUTIL-T
	smoke-CONT	‹stay›-PROG	one-UTIL	day-UTIL
	'(The fish) sit in the smoke for one day.' [R2005-jul08]			

Example (6.31) is one of the problematic cases. In (6.31) *ngimimarray* cannot be an adnominal modifier of the subject, as it inflects for TAMA:instantiated which the subject does not inherit, and it cannot be a modifier of the direct object, because the clause is intransitive and thus has no direct object. I have no account for (6.31) other than to observe that *ngimimarray* might be a disfluency, intended for a second clause which the speaker did not complete (such disfluencies do occur occasionally in Wurm's corpus).

(6.31)	*Birangkarra*	*bilda*	*mardalaaj, . . .*	***ngimimarray, . . .***
	piɻaŋkara-ø	pi-l-ta	maʈala-i-c.a	ŋimi-mara+ki-a
	long time-µOBL-T	3-pl-T	paint-‹µMID-J›-T	night-µUTIL-µLOC-T
	long time-CONT	3-pl	paint-MID	night-UTIL-INS

[8] The one example where an interpretation along these lines is not immediately plausible is sentence (a). Here I suggest that the construal is of the initiates being 'caught' by the sound of dancing (*thura-*) hence being described as *thurawaand*. The DP *thurawaand* is juxtaposed to *bilda* (on which see §7.5).

(a)	*Bilda*	*dunburuthirrinda*	*thurawaand.*
	3-pl-T	‹deaf-µFACT-TH›-µRES-T	sound of dancing-µORIG-T
	3-pl	‹deafen›-RES	sound of dancing-ORIG

Suggested interpretation: 'They were deafened, caught by the thunder of dancing.' [E158.ex.4-89 'They (the initiates) were deafened by the noise.']

jungarrawu	*wirrkanku*	*kurriju*	*bakiiju.*
cuŋarpa+kuu-ø	wirkan+kuu-ø	kuri-c+kuu-ø	pakiː-c+kuu-ø
big-μ̋PROP-T	dance-μ̋PROP-T	‹look-J›-μ̋PROP-T	‹all-J›-μ̋PROP-T
big-FUT	dance-FUT	‹look›-POT	‹all›-POT

‘They painted themselves up over a long period (?for the night), (and later) everyone will watch the big dance.’ [W1960; this sentence up to *ngimimarray* also appears as E162.ex.4-104]

Example (6.32), and a second sentence in Evans (1995a:362,ex.9-178) whose structure is parallel, perhaps contains a non-adnominal CASE:utilitive DP, or perhaps the word *kuwanmarrana* is an instrument purpose adverbial clause from which the head verb has been elided. This is plausible given that the semantics of the main clause is one of obtaining an instrument (cf §5.4.1).

(6.32)	*Nyingka*	*nginurruwa*	*dalijarr,*	***kuwanmarrana ?***
	ɲiŋ+ka	ŋic-ɳuru-a	ʈali-c-ŋara-ø	kuwaɲ-mara+ki-naa-ø
	2SG-T	wood-μASSOC-T	‹come-J›-μ̋CONS-T	fire stick-μUTIL-‹μLOC-μ̋ABL›-T
	2SG	wood-ASSOC	‹come›-PST	fire stick-UTIL-‹PRIOR›

‘Have you brought wood for firesticks?’ [W1960; E160.ex.4-98], perhaps construed as ‘Have you brought wood, to (be) firesticks?’

In the Kayardild corpus there are no examples in which a DP inflected for a strictly adnominal CASE contains a further embedded DP, which is suggestive of there being a limit on the depth of DP embedding in Kayardild, a matter which is taken up in §9.3.

6.8 DPs with locative CASE

In most syntactic contexts, due to a conspiracy of two factors, DPs with locative CASE turn out to be inflectionally indistinguishable from DPs with CASE:∅.[9] The first of the two factors relates to the linear ordering of suffixes. CASE features attach to DP nodes, and usually to DP nodes subordinate to VP. This places those DPs below the nodes to which TAMA, TAMT, +NEG, +SEJ, and +COMP attach, and because syntactically lower-attaching features are realized closer to a word’s lexical stem (§4.5.6), CASE suffixes are usually followed linearly by some other suffix. This is where the the second factor, related to morphotactics, comes into play. CASE:locative is realized, if possible, by the morphome μLOC, but μLOC is severely restricted in its permissible morphotactic

[9] There are several DP types reported by Evans (1995a:334–8) as taking CASE:locative, for which I have been unable to locate any evidence that they do not merely take CASE:∅. These are: (i) ‘locative of time’ DPs (1995a:140), cf the more complex situation summarized in §5.6.2 (ii) ‘ambient cause’ DPs (1995a:140, where the semantics of ex.4-22 suggests μLOC should be analysed as +CMP on a focus DP); (iii) ‘manner’ DPs (1995a:141); (iv) contrastive DPs (1995a:141); and (v) DPs of ‘adversely affected’ arguments (1995a:141).

environments (on which more below). If the realization of CASE:locative by μLOC would violate those restrictions then the μLOC, and hence CASE:locative, simply goes unrealized. The upshot is that CASE:locative and CASE:∅ inflections often become morphomically, and therefore phonologically, identical.

Returning to morphotactics: μLOC can only appear directly before μABL, μALL, μOBL, or T (§2.6.4). In addition, μABL and μALL never appear at the beginning of morphomic strings that realize inflectional features, and therefore any μLOC which realizes CASE:locative will need to appear directly before μOBL or T. Before T, μLOC is realized phonologically as /+ki/. The morphomic string μLOC-μOBL (glossed μLOC.μOBL) is realized by the suppletive, cumulative morph /+kurka/. Thus the only possible overt realization of CASE:locative is within the word-final strings μLOC-T or μLOC.μOBL-T, illustrated in (6.33a,b). Realizations such as those in (6.33c,d) for example cannot and do not occur.

(6.33)	a.	*malaya*	b.	*malawurrka*
		mala+ki-a		mala+kurrk-a
		sea-μLOC-T		sea-μLOC.μOBL-T
	c.	*sea-μLOC-μPROP-T	d.	*sea-μLOC-μLOC-T

Beyond this there is one more factor which serves to make overtly identifiable CASE:locative DPs rare. In most circumstances where CASE:locative can be used in Kayardild it is also possible to use CASE:∅. To appreciate this we need to examine morphosyntactic contexts in which TAMA and SEJUNCT[10] both either have ∅ values, or have values that are realized by μOBL.

Imperative clauses have ∅ values for both TAMA and SEJUNCT. As illustrated in (6.34) imperative pronominal direct objects appear with either CASE:locative or CASE:∅ (Evans 1995a:109).

(6.34)	a.	*Danatha*	***ngijinji!***	b.	*Danatha*	***ngad!***
		ʈana-t̪-a	ŋicu-iɲ+ki-a		ʈana-t̪-a	ŋat̪-ta
		‹leave-TH›-T	1sg-μPOSS-μLOC-T		‹leave-TH›-T	1sg-T
		‹leave›	1sg-ø-LOC		‹leave›	1sg
		'Leave me!' [E109.ex.3-35]				

Resultative clauses also take TAMA:∅. DPs denoting locations can take CASE:locative (6.35)–(6.36) or CASE:∅ (6.37) in imperative and resultative clauses.[11]

[10] TAMT and NEGATION are irrelevant here, since the realization of CASE:locative does not end in thematic TH or J; and +COMP is never realized by μOBL.

[11] CASE:∅ location DPs are daughters of VP_{β} (cf Appendix B, §B.4.1); the CASE:locative DPs must be below VP_{α} (Appendix B, §B.1).

(6.35)	*Narrkirija*	*malaa*	***ngarnki!***
	ɳarkiɻi-c-a	mala-a	ŋaɳ+ki-a
	‹bury-J›-T	beer-T	beach-µLOC-T
	‹bury›	beer	beach-LOC

‘Bury the beer on the beach!’ [E744]

(6.36)	***Muthaya***	***ngambirri***	*wirdijirrind.*
	muṯa+ki-a	ŋampir+ki-a	wiʈi-c-iriɲ-ta
	many-µLOC-T	house-µLOC-T	‹stay-J›-µRES-T
	many-LOC	house-LOC	‹stay›-RES

‘They have stayed in many houses.’ [E476.ex-11-49]

(6.37)	*Kilda*	*warrana*	*jirrkuriina*	***wambalda***	*wanjiin!*
	ki-l-ta	wara-c-ɳaŋ-ø	cirkuɻiː-c-ɳaŋ-ø	wampal-ta	waɲciː-c-ɳaŋ-ø
	2-pl-T	‹go-J›-µNEG-T	‹go north-J›-µNEG-T	bush-T	‹ascend-J›-µNEG-T
	2-pl	‹go›-NEG.IMP	‹go north›-NEG.IMP	bush	‹ascend›-NEG.IMP

‘Don’t you (all) go up north into the bush!’ [W1960]

Not all instances of locative CASE vary with Ø however. CASE:locative is obligatory on locative modifiers inside an NP, and on certain arguments of three-place predicates. An example of the former is shown in (6.38).

(6.38)	*Bilarrina*	*dathina*	*ngukuwa*	***wurumanki,***
	pilari-c-ɳaŋ-ø	ʈaṯina	ŋuku-a	wuɻuman+ki-a
	‹spill-J›-µNEG-T	that.T	water-T	billy-µLOC-T
	‹spill›-NEG.IMP	that	water	billy-LOC

‘Don’t spill that water in the billy can,’ [E139.ex.4-17]

Three-place predicates in Kayardild select from six possible case frames (Evans 1995a:334–8) of which case frames 1 and 6 contain a CASE:locative argument. The bold type ‘destination’ DPs in (6.39)–(6.40) occur in Evans’ case frame 1,[12] the ‘theme’ DP in (6.41) is in case frame 6.

(6.39)	***Kaburrbaya***	*wuuja*	*wuranda*	*karnaj!*
	kapurpa+ki-a	wuː-c-a	wuɻan-ta	kaɳa-c-a
	coals-µLOC-T	‹put-J›-T	food-T	‹cook-J›-T
	coals-LOC	‹put›	food	‹cook›

‘Put the food on the coals, cook it!’ [E335.ex.9-87]

[12] At first glance it is tempting to analyse *wuuj-* ‘put’ in (6.39)–(6.40) as a simple transitive verb, glossed as ‘transfer’, which takes a locative adjunct like those illustrated in (6.35)–(6.37), but this would fail to explain why the DPs in (6.39)–(6.40) take CASE:locative obligatorily, compared those in (6.35)–(6.37) for which CASE:locative is optional.

(6.40)

Yakuri	*wuujirrinda*	***kaburrbay.***
jakuɻi-a	wuː-c-iriɲ-ta	kapurpa+ki-a
fish-T	‹put-J›-μRES-T	coals-μLOC-T
fish	‹put›-RES	coals-LOC

'The fish is/was put on the ashes.' [E476.ex.11-47]

(6.41)

Marraaja	*dangkaa*	***kurumbuy!***
maraː-c-a	ʈaŋka-a	kuɻumpu+ki-a
‹show-J›-T	man-T	spear-μLOC-T
‹show›	man	spear-LOC

'Show the man the spear!' [E338.ex.9-101]

What these examples show is that in clauses where we expect the realization of CASE:locative to be morphotactically possible, CASE:locative is indeed realized and thus we need to distinguish CASE:locative from CASE:∅ even though the two values often become morphologically neutralized. Moreover, even though CASE:locative varies freely with CASE:∅ in many contexts there are some in which a DP must be CASE:locative, and thus the two CASE values cannot merely be realizational variants of one another.

In clauses where one or both of TAMA and SEJUNCT are realized by μOBL (and neither by anything else), CASE:locative continues to appear obligatorily on locative modifiers inside an NP, as shown in (6.42). I have no examples of three place predicates in case frames 1 and 6, so cannot comment on them.

(6.42)

Kunawuna	*bilarrinyarra*	*ngukuntha*	***wurumankurrk***
kuna+kuna-ø	pilari-c+ɲara-ø	ŋuku-in̪t̪a-ø	wuɻuman+kurka-ø
‹child$_{NL}$-child$_{NL}$›-T	‹spill-J›-μAPPR-T	water-μOBL-T	billy-‹μLOC.μOBL›-T
‹child›	‹spill›-APPR	water-EMO	billy-‹LOC-EMO›

'The kid might spill the water (that is) in the billy.' [E139.ex.4-18]

In clauses like this, where TAMA and/or SEJUNCT are realized by μOBL, other instances of CASE:locative appear to be rare. A single example is attested, shown in (6.43). In this example the CASE:locative feature appears on a non-human demoted subject.

(6.43)

Kambuda	***narrawurrka***	*kalaand.*
kamputa-ø	ɳara+kurka-ø	kala-i-c-n-ta
pandanus fruit-T	knife-‹μLOC.μOBL›-T	sing-‹μMID-J›-μN-T
pandanus fruit	knife-‹LOC-EMO›	sing-MID-PROG

'Pandanus fruit is cut with a shell-knife.' [E473.ex.11-33]

In my corpus all of the location-denoting DPs appear in CASE:∅ as in (6.44); however because the corpus of relevant clauses is small, it is not possible to gauge whether the lack of CASE:locative equivalents to (6.44) is accidental or due to some grammatical factor.

(6.44)	*Kurthurra*	*daraanyarra*	***ngambunth.***
	kuɻt̪ur-a	ʈaɻa-i-c+ɲara-ø	ŋampu-in̪t̪a-ø
	shin-T	break-‹μMID-J›-μAPPR-T	well-μOBL-T
	shin	break-‹MID›-APPR	well-EMO
	‘You might break your leg in the well.’ [W1960]		

Overall, so long as morphotactic conditions permit, CASE:locative DPs can occur distinct from CASE:∅ DPs. In many such contexts, but not in all of them, CASE:∅ functions as an optional alternative to CASE:locative.

6.9 Summary

The chapter opened in §6.1 with arguments for the existence of the Kayardild DP as a single consituent, and then filled and unfilled positions inside the DP were examined in §6.2. As part of this it was argued that Evans’ (1995a) final, ‘modifier’ position is not part of the Kayardild DP, and in §6.3 I argued that Kayardild N does not take DP complements. In §§6.4–6 I surveyed personal pronouns, the attachment of CASE to the DP node and of NUMBER to DP or NP, regulated in part by a constraint that blocks NUMBER features on Num heads. CASE values that only attach to predicative and embedded DPs were identified in §6.7. Finally §6.8 probed the complex matter of CASE:locative. Evidence shows that despite its realizational neutralization with CASE:∅ under a majority of morphosyntactic conditions, CASE:locative is distinct nonetheless and will appear overtly when favourable circumstances permit.

7

DP juxtaposition

This chapter examines the empirical nature of DP juxtaposition in Kayardild, and provides an analysis of it within the formal account of Kayardild inflection developed so far in preceding chapters. We can begin with a rough working definition of juxtaposition, in (7.1).

(7.1) Juxtaposition (first preliminary definition; to be revised below)
The co-occurrence within the clause of multiple DPs which share the same inflectional features, and some commonality in their semantic/grammatical role.

An initial example of juxtaposition is given in (7.2), in which the juxtaposed DPs are shown in bold type (the polylexemic DP is also bracketed). The two DPs share the same morphosyntactic features, they are coreferential, and both are direct object DPs.

(7.2) [$_{\text{DP}}$	***Muthaya***	***wuranki***]	*bilda*	*dalwanija*	***barrngkay*** .
	muṯa+ki-a	wuɻan+ki-a	pi-l-ta	ṯalwani-c-a	parŋka+ki-a
	much-μLOC-T	food-μLOC-T	3-pl-T	‹dig up-J›-T	lily-μLOC-T
	much-INS	food-INS	3-pl	‹dig up›	lily-INS

'They dug up a lot of food, lily roots.' [E251.ex.6-36]

The chapter is structured as follows. An overview of the functions of juxtaposition is presented in §7.1, leading to a revision of the working definition in (7.1). In §7.2 following a consideration of the relationship of juxtaposition to NUMBER, a second revision is made. The relationship of juxtaposition to passivization, topicalization, and focalization is discussed in §7.3, and then in §7.4 the question is posed, whether the sharing of features across juxtaposed DPs might be due to a single 'juxtapositional phrase' in the non-surface syntax, to which the answer is negative. In §7.5 juxtaposition is employed as a tool for investigating the syntax of DPs with unfilled N heads of NP and in §7.6 the findings of the foregoing sections are applied to the analysis of CASE:privative marking of narrow scope negation. Finally, §7.7 compares juxtaposition with secondary predication.

7.1 Functions of DP juxtaposition

Juxtaposition is used to several functional ends in Kayardild, most of which will be introduced in this section; a small, additional set is discussed in §§7.5–7.6. As an organizational device the examples below are grouped according to the degree of overlap in the reference of the juxtaposed DPs. Captions to the examples indicate the function of juxtaposition being illustrated and provide cross-references to discussion in Evans (1995a).

In (7.3)–(7.4) the juxtaposed DPs each have separate, though coordinated, referents.

(7.3) Conjunction (Evans 1995a:250)

Wumbururnurru,	***wangalnurruwa***	*bild.*
wumpuɻuŋ-ɳuru-a	waŋalk-ɳuru-a	pi-l-ta
spear-µASSOC-T	boomerang-µASSOC-T	3-pl-T
spear-ASSOC	boomerang-ASSOC	3-pl

'They have spears and boomerangs with them.' [W1960; E250.ex.6-34]

(7.4) Disjunction

Ngukumarutha	*darrbuuja*	***malamaruth.***
ŋuku-maɻu-t̪-a	t̪arpuː-c-a	mala-maɻu-t̪-a
freshwater-‹µDAT-TH›-T	‹drag-J›-T	sea-‹µDAT-TH›-T
freshwater-‹DAT›	‹drag›	sea-‹DAT›

'(People) drag (boats) into freshwater or into the sea.' [R2005-jul19b]

In (7.5)–(7.10) there is a partial or full overlap in the reference of the two DPs, by virtue of one being a sub-part of, or the constituent substance of, the other. As in other cases of Kayardild juxtaposition, there is no absolute constraint on the order of juxtaposed DPs, even when the semantic relationship between them is asymmetrical, as in 'A is a part of B'.[1]

(7.5) Part–whole: literal part–whole (Evans 1995a:248)

Dathina	*kunawun,*	*wanjiijiri*	***dabarrir***
t̪at̪ina	kuna+kuna-ø	waɲciː-c+ki-ɻiŋ-ø	t̪apar+ki-ɻiŋ-ø
that.T	‹child$_{NL}$-child$_{NL}$›-T	‹ascend-J›-‹µLOC-µALL›-T	tree-‹µLOC-µALL›-T
that	‹child›	‹ascend›-‹DIRT›	tree-‹DIRA›

[$_{DP}$	***kunyari***	***wankar***] .
	kuɲa+ki-ɻiŋ-ø	wanka+ki-ɻiŋ-ø
	small-‹µLOC-µALL›-T	branch-‹µLOC-µALL›-T
	small-‹DIRA›	branch-‹DIRA›

'That child is climbing a small branch of the tree.' [W1960]

[1] This does not rule out the possibility that tendencies towards some word orders and away from others could exist; cf. §4.5.9.

(7.6) Part–whole: 'inclusory construction'[2] (Evans 1995a:249)

Kajakaja	*ngarra*	*wuuju.*
kaca-kaca-ø	ŋa-r-ta	wuː-c+kuu-ø
‹father$_{NL}$-father$_{NL}$›-T	1-du-T	‹give-J›-µ̋PROP-T
‹father›	1-du	‹give›-POT

'Your father and I will give you (in marriage).' [R2005-jul08] Lit. '(Including) father, we two will give you.'

(7.7) Part–whole: type of individual within a group, bundle, etc. (Evans 1995a:249)

Ngada	*kurrija*	***kawukaya***	***jardiyaliya.***
ŋat̪-ta	kuri-c-a	kawuka+ki-a	caʈiali+ki-a
1sg-T	‹see-J›-T	bundle-µLOC-T	fighting stick-µLOC-T
1sg	‹see›	bundle-INS	fighting stick-INS

'I saw a bundle of fighting sticks.' [E248.fn.6]

(7.8) Part–whole: component substance[3] (Evans 1995a:249)

Kilda	***malbaa***	*burldija*	***birrk!***
ki-l-ta	malpa-a	puɻʈi-c-a	pirk-a
2-pl-T	grass-T	‹roll-J›-T	string-T
2-pl	grass	‹roll›	string

'You all roll some grass string!' [W1960]

Examples (7.9)–(7.10) illustrate extensions of the part–whole use of juxtaposition, to 'parts' which are emissions from, or produced by, the whole.

(7.9) Part–whole: eggs, excretions (Evans 1995a:248)

[$_{DP}$	***Kurrajiwurraji,***	***kuru***],	***bangaa.***
	kuraci+kuraci-a	kuɻu-a	paŋa-a
	‹few$_{NL}$-few$_{NL}$›-T	egg-T	turtle-T
	‹few›	egg	turtle

'There are few turtle eggs.' [W1960]

(7.10) Part–whole: tracks, produced sound, words, voice quality, language, spirit (Evans 1995a:248)

Ngada	*kurrija*	***bangaya***	***barthaya.***
ŋat̪-ta	kuri-c-a	paŋa+ki-a	paɻt̪a+ki-a
1sg-T	‹see-J›-T	turtle-µLOC-T	track-µLOC-T
1sg	‹see›	turtle-INS	track-INS

'I saw a turtle track.' [E248.fn.6]

[2] The 'inclusory construction' in which a subset-denoting DP is apposed to a superset-denoting, nonsingular pronoun is common in Australian languages (Singer 2001).

[3] I have only been able to locate juxtapositions of *malbaa birrka* in combination with the verb *burldij-* 'make by rolling', so example (7.10) might be better translated as 'You all roll some grass into string', in which case the juxtaposition is one of raw material and product. To exemplify the 'component substance' type, Evans (1995a:249) also cites *kamarra dangkaa* (lit. 'stone man') referring to the mythological 'stone man' figure *Kajurku*.

In (7.11)–(7.13) the referents of the two DPs are now identical, although the referent is described differently in each DP.

(7.11) Elaboration (one DP contains all constituents of another DP, plus more)

Kurdaya	*wirdija*	[$_{\text{DP}}$	***mudinkiya***	***jungarrbaya***
kuʈa+ki-a	wiʈi-c-a		mutin+ki-a	cuŋarpa+ki-a
coolamon-μLOC-T	‹stay-J›-T		tied together-μLOC-T	big-μLOC-T
coolamon-INS	‹stay›		tied together-INS	big-INS

bardanguya	***kurday***].
paʈaŋu+ki-a	kuʈa+ki-a
large-μLOC-T	coolamon-μLOC-T
large-INS	coolamon-INS

'(They) stay in the coolamon, in the great big, bound coolamon.' [R2005-aug02a]

(7.12) Alternative characterization (different N head of NP occurs in each DP) (Evans 1995a:250–1)

Warraa	***dathinnguniya***	*diyaja*	***Murarringuni*** .
wara-a	ʈat̪in-ŋuni+ki-a	ʈia-c-a	muɻari-ŋuni+ki-a
far-T	there-μINST-μLOC-T	‹eat-J›-T	(place)-μINST-μLOC-T
far	there-INST-INS	‹eat›	(place)-INST-INS

'(They) ate far away, there, at Murarri.' [E1987-09-01]

(7.13) Generic–specific reference (Evans 1995a:244–7)

Dathina	*jardiwuthinda*	*badija*	***juli***	***wuranki.***
ʈat̪ina	caʈi-wut̪iɲ-ta	pati-c-a	cul+ki-a	wuɻan+ki-a
that.T	group-μPLENTY-T	‹carry-J›-T	bone-μLOC-T	food-μLOC-T
that	group-PLENTY	‹carry›	bone-INS	food-INS

'All those (ants) are carrying a bone.' [E244.ex.6-20]

Example (7.14) illustrates one from a small set of what could be termed 'juxtapositional idioms'. Other examples are *natha- bartha-* 'base camp (lit. camp track)' and *riin- bathin-* 'from every direction (lit. from the east, from the west)'. Departing from the general pattern of juxtaposition, the word order in these idioms is fixed and the two DPs are always adjacent.

(7.14) 'Juxtapositional idiom' (Evans 1995a:297)

Ngada	*kurrinangku*	***kirrku***	***miburu***
ŋat̪-ta	kuri-c-ɳaŋ+kuu-ø	kirk+kuu-ø	mipuɻ+kuu-ø
1SG-T	‹see-J›-μNEG-μ̋PROP-T	‹nose-μ̋PROP-T	eye-μ̋PROP-T›
1SG	‹see›-NEG-POT	‹face-FUT›	

birrwanju.
pi-r+paɲ+kuu-ø
3-du-µPOSS-µ̋PROP-T
3-du-POSS-FUT
'I can't see their faces.' [W1960]

At this point our working definition of juxtaposition can be updated to reflect the fact that we have seen, that juxtaposed DPs are either coreferential (partially or fully)[4] or coordinated, and that they share the same semantic/grammatical role. A revised definition will be shown below, after the status of NUMBER has been considered.

7.2 Juxtaposition and NUMBER

Juxtaposed DPs do not necessarily agree in NUMBER. Examples are shown in (7.15) and (7.16).

(7.15) [DP ***Kiyarrngka*** ***yakuri*** NUM:Ø], [DP ***kunyayarrngka***NUM:DU] *wirdij.*
kiarŋ+ka jakuɻi-a kuɲa+kiarŋ+ka wiʈi-c-a
two-T fish-T small-µDU-T ‹stay-J›-T
two fish small-DU ‹stay›
'There are two small fish (in there).' [W1960]

(7.16) *Kurrija* [DP ***dangkawalada***NUM:PL] [DP ***wirrkanda*** ***dangkaa***NUM:ø]
kuri-c-a ʈaŋka+palat̪-ta wirka-c-n-ta ʈaŋka-a
‹see-J›-T person-µPL-T ‹dance-J›-µN-T person- T
‹see› person-PL ‹dance›-PROG person

[DP ***makuwalada***NUM:PL] *!*
maku+palat̪-ta
woman-µPL-T
woman-PL
'Look the people, the dancing people, the women!' [W1960]

Incorporating the update at the end of §7.1, a revised definition of juxtaposition could be formulated as in (7.17):

[4] Coreference will need to be viewed in a culturally appropriate manner, in which for example a turtle and its egg are related as whole and part. Given that reference is a matter of discourse pragmatics, a degree of cultural specificity such as this is not unexpected.

(7.17) Juxtaposition (second preliminary definition; to be revised below)
The co-occurrence within the clause of multiple DPs which (i) share the same inflectional features other than NUMBER, (ii) are coreferential (partially or fully) or coordinated, and (iii) share the same semantic/grammatical role.

7.3 Grammatical role alternations

Thus far we have seen juxtaposed DPs exhibiting identical inflection and sharing the same semantic/grammatical roles. When juxtaposed DPs undergo alternations in their grammatical role, that is, when they are topicalized, focalized, or promoted to subject in a passive clause, they also act in tandem.

Example (10.34) illustrates the focalization of three juxtaposed DPs [*wankuya*] [*dathinkiya*] [*riinkiya*] 'a shark there coming from the east'. Example (7.18) illustrates the (VP-internal) topicalization of three juxtaposed DPs,[5] and (7.19) shows three juxtaposed DPs all promoted to subject in a passive clause.

(7.18)

Kuliyan !	[$_{DP}$	***Muthaa***	***malbaa***]	*kilda*	*burldiji,*
kulia-t̪-ɳaŋ-∅		mut̪a-a	malpa-a	ki-l-ta	puɻʈi-c+ki-a
‹do plenty-TH›-μNEG-T		much-T	grass-T	2-pl-T	‹roll-J›-μLOC-T
‹do plenty›-NEG.IMP		much	grass	2-pl	‹roll›-IMM

[$_{DP}$	***yakurimarra***]	[$_{DP}$	***ngakuluwanmarr***].
	jakuɻi-mara-∅		ŋa-ku-lu+paɲ-mara-∅
	fish-μUTIL-T		1-2-pl-μPOSS-μUTIL-T
	fish-UTIL		1-2-pl-∅-UTIL

'Don't make too much! You're rolling plenty of grass for us for (catching) fish.' [W1960]

(7.19)

Mirnkinda	*kabaaj,*	[$_{DP}$	***jungarra***	***mirnkind***],
miɳkin-ta	kapa-i-c-a		cuŋara-∅	miɳkin-ta
yam-T	find-‹μMID-J›-T		big-T	yam-T
yam	find-‹MID›		big	yam

[$_{DP}$	***jungarra***	***kandukandu***].
	cuŋara-∅	kantu-kantu-a
	big-T	‹blood-blood›-T
	big	‹light coloured›

'A yam gets found, a big yam, a big, light-coloured one.' [E1982-01-01]

[5] A TAMT:immediate clause such as that in (7.18) is always associated with TAMA:instantiated, which all three DPs would inflect for if they were not topicalized. The DPs *yakurimarra* 'for fish' and *ngakuluwanmarr* 'for us' each have the relatively common structure for juxtaposed DPs, of a CASE-inflected DP (in this instance CASE:utilitive) embedded in another DP (in this instance, a topic DP), on which see further §7.5 below.

7.4 Juxtaposed DPs do not constitute a domain of concord

The existence of sets of DPs that share a similar function and identical morphosyntactic features raises the question of whether there is some top-down principle which ensures that similarly functioning DPs are inflected identically, or instead whether the identity in the inflections is merely an epiphenomenal reflection of the fact that each DP has acquired identical features independently of the others, by virtue of its function. Within the framework being used here, the former view would be operationalized by positing something like a 'juxtapositional phrase' (JP) in the non-surface syntax, which would dominate all DPs with similar function; features would attach directly to the JP node and from there would percolate down to the DPs below, thereby ensuring that they were inflected similarly. The latter view would reject the existence of such a JP.

The question can be settled on empirical grounds. We began the chapter with a prelimary proposal that juxtaposed DPs share features and functions, but it is not the case that DPs always share their morphosyntactic features just because they are co-referential/coordinated and share the same semantic/grammatical role. There are two reasons for this. In §5.6.2 we saw that there exist certain lexical classes of nominals which, if they occupy the head N position in NP, will override the DP's semantic/grammatical role (i) as the determinant of the DP's mother VP node, thereby affecting what TAMA values it can inherit, and (ii) as the determinant of DP's CASE. Also, some semantic/grammatical DP types exhibit variability in which syntactic mother node they take, again affecting the TAMA features they end up inheriting. Thus, if it were true that juxtaposed DPs had uniform features forced upon them by a top-down process, then these idiosyncrasies are precisely what we would expect to be overridden by the force of juxtaposition, whenever two or more DPs are coreferential/coordinated and share the same semantic/grammatical role. But this is not what occurs.

In (7.20) the DPs *danda* and *nathay* are coreferential and share the same semantic/grammatical role, yet their TAMA values differ. The reason is that both *danda* and *nathay* are location DPs which can take as their mother node either VP_β or VP_γ (§5.6.2), and in (7.20) *danda* is a daughter of VP_γ while *nathay* is a daughter of VP_β. Since the TAMA feature in (7.20) is TAMA:instantiated, and attaches to VP_β, *nathay* inherits TAMA, but *danda* does not.[6] No top-down principle has forced the two DPs to acquire the same TAMA feature.

[6] To be clear, the lack of inflection on *danda* in (7.20) is grounded in syntax, not in any idiosyncratic inability of the root /ʈan/ 'here' to inflect, either for the morphosyntactic feature TAMA:instantiated or with the suffix μLOC, as seen in (a):

(a)	*Ngalda*	***dankiya***	*wirdija*	*yulkaand.*	'We're here permanently.'
	1-pl-T	here-μLOC-T	‹stay-J›-T	permanently-T	[W1960
	1-pl	here-INS	‹stay›	permanently	

(7.20) *Ngada* *wirdija* ***danda***, ***nathay***.
ŋat̪-ta wiʈi-c-a ʈan-ta ŋat̪a+ki-a
1sg-T ‹stay-J›-T here-T camp-μLOC-T
1sg ‹stay› here camp-INS
'I stay here in the camp.' [E211.ex.5-45]

In (7.21) *ngumbanjina thabujuna* and *Wilikarr* are coreferential and share the same semantic/grammatical role, yet their CASE values differ. The DP *Wilikarr* is based on a proper noun stem and takes genitive CASE to express possession (in the sense of being the composer of a song). The DP *ngumbanjina thabujuna* is based on pronominal and common noun stems and therefore takes CASE:ablative. Again, no top-down principle has forced the two DPs to acquire the same CASE feature.

(7.21) [DP***Ngumbanjina*** ***thabujuna***], ***Wilikarr***.
ŋuŋ+paɲ+ki-naa-∅ t̪apucu+ki-naa-∅ wili-karaɲ-∅
2sg-μPOSS-‹μLOC-μ̋ABL›-T e.Br-‹μLOC-μ̋ABL›-T (name)-μGEN-T
2sg-∅-‹ABL› e.Br-‹ABL› (name)-GEN
'(The song is) your elder brother's, Willy's.' [R2007-may22]

Given the evidence against its existence, no special mechanism will be posited here that forces juxtaposed DPs into acquiring identical features. When juxtaposed DPs do acquire identical features, they do so independently of one another. A final definition of juxtaposition can now be given in (7.22), from which any direct reference to morphosyntactic features has been removed. Juxtaposed DPs, if they do share features, do so only indirectly as a result of normal principles of Kayardild morphosyntax.

(7.22) Juxtaposition (final definition)
The co-occurrence within the clause of multiple DPs which (i) are co-referential (partially or fully) or coordinated, and (iii) share the same semantic/grammatical role.

7.5 The syntax of DPs that lack N heads of NP

We have established that there is no need to posit any special principle or syntactic phrase type in order to account for the inflection of juxtaposed DPs; rather the inflectional facts of juxtaposed DPs follow from the same principles as adduced in earlier chapters. As a consequence we are now in a position to apply that knowledge and probe the syntactic nature of DPs lacking N heads of NP, by examining them in environments where they are juxtaposed to other DPs. In doing so we will encounter the reasons, cited originally in Chapter 5, for supposing the embedded VPs are situated inside a DP.

To begin the task, we can reiterate from Chapter 6 that DPs in Kayardild do not need to contain a filled head N position in NP. DPs without N heads are fully interpretable by the grammatical system; they have reference and a semantic/grammatical role and in light of the latter they are assignable to a predictable position in the non-surface syntactic tree (cf §5.6.2) which will determine the TAMA features they inherit.

The following examples introduce the functions of juxtaposed DPs which lack N heads. In (7.23)–(7.24) a DP which lacks an N head of NP serves to modify another juxtaposed DP whose N head position is filled.

(7.23) Modification

Ngada	***jungarrawu***	*karnaju*	***kaburrbawu***.
ŋat̪-ta	cuŋarpa+kuu-ø	kaɳa-c+kuu-ø	kapurpa+kuu-ø
1sg-T	big-μ̋PROP-T	‹light-J›-μ̋PROP-T	fire-μ̋PROP-T
1sg	big-FUT	‹light›-POT	fire-FUT

‘I want to light a *big* fire.’ [E250.ex.6-31]

(7.24) Modification

Ngada	***kiyarrngku***	*kalathu*	[$_{DP}$ ***wumburungku***	***mirrawu***].
ŋat̪-ta	kiarŋ+kuu-ø	kala-t̪+kuu-ø	wumpuɻuŋ+kuu-ø	mira+kuu-ø
1sg-T	two-μ̋PROP-T	‹cut-TH›-μ̋PROP-T	spear-μ̋PROP-T	good-μ̋PROP-T
1sg	two-FUT	‹cut›-POT	spear-FUT	good-FUT

‘I want to cut *two* good spears.’ [W1960; E250.ex.6-32]

In (7.25) the DP lacking an N head determines another DP in which the N head is overt.

(7.25) Determination

Ngada	[$_{DP}$ ***jungarrawu***	***yakuriwu***]	*diyaju*	***dathinku***.
ŋat̪-ta	cuŋarpa+kuu-ø	jakuɻi+kuu-ø	ʈia-c+kuu-ø	ʈat̪in+kuu-ø
1sg-T	big-μ̋PROP-T	fish-μ̋PROP-T	‹eat-J›-μ̋PROP-T	that-μ̋PROP-T
1sg	big-FUT	fish-FUT	‹eat›-POT	that-FUT

‘I want to eat *that* big fish.’ [E249.ex.6-29]

In the translations of (7.23)–(7.25) an emphasis has been placed on the word corresponding to the DP without N. Evans (1995a:249–50) documents that these DPs contribute meanings which are either restrictive (narrowing down one of multiple possible referents) or contrastive (picking out an attribute in contrast to other possible attributes). Furthermore, in terms of surface syntax the DP without a head N is always separated by a verb from its juxtaposed counterpart.[7] Evans analyses such cases, which I take to be two juxtaposed DPs, as ‘split NPs’, that is, as single,

[7] One wonders whether the true generalization might be that they are separated by any constituent. Although I have searched at some length for an example in which the separating constituent is something other than a verb, I have not found one.

discontinuous constituents (1995a:249–50). There are two reasons to reject the 'split' analysis. The first is an argument from economy: (i) there is no evidence that any other discontinuous NP/DP constituents exist in Kayardild; (ii) there is ample evidence that juxtaposed DPs exist; and (iii) there is ample evidence that juxtaposition is associated with specific semantic effects, and thus it is unnecessary to posit a 'split NP/DP' just for this one case. The second and perhaps more compelling argument is empirical. Here, examples can be found which contain the same kind of DP (without filled N) with the same semantic functions but which can't be analysed as split NP/DPs because the the material in the DP without N is repeated in the juxtaposed DP, as in (7.26) below.

(7.26) Elaboration

Jungarrbayarrngka	*kirra*	*kalaaja,*
cuŋarpa+kiarŋ+ka	ki-r-a	kala-i-c-a
big-µDU-T	2-du-T	cut-‹µMID-J›-T
big-DU	2-du	cut-‹MID›

[$_{DP}$	***jungarrbayarrngka***	***kunawunayarrngk***]
	cuŋarpa+kiarŋ+ka	kuna+kuna+kiarŋ+ka
	big-µDU-T	‹child$_{NL}$-child$_{NL}$›-µDU-T
	big-DU	‹child›-DU

'You two were cut (i.e. given cicatrices) *big*, as big children.' [R2005-jul08]

Having found grounds to reject the 'split NP/DP' analysis of juxtaposed DPs with unfilled N heads, let us now consider precisely what the internal syntactic structure of those DPs is.

Beginning with the position of the DP in relation to the overall clause structure, we can observe that in all of the sentences (7.23)–(7.26) the TAMA inflections of the juxtaposed DPs in question correspond precisely to what we expect if the DP were fit into the clause based simply on its semantic/grammatical role: the direct object DPs, which are daughters of V′, show inflection for TAMA, while the subject DPs, which are daughters of S'_{α}, do not. Turning next to the semantic behaviour of juxtaposed DPs that lack an N head, we find the following. In (7.23) and in (7.26) the lone word in the juxtaposed DP in question is an A head. That A head functions as a modifier, a behaviour consistent with it occupying an AP adjunct to N′, as shown in Figure 7.1. In (7.24), the juxtaposed DP in question contained just the Num head *kiyarrngku* 'two', with a semantic function corresponding to the syntactic configuration shown in Figure 7.2. In (7.25) the DP in question contained the demonstrative *dathinku*. Demonstratives can function as D heads or as N heads. *Dathinku* in the former function would translate as 'that', and in the latter as 'there'. The *dathinku* in (7.25) functions as a determiner 'that', and thus corresponds semantically to the syntactic structure in Figure 7.3.

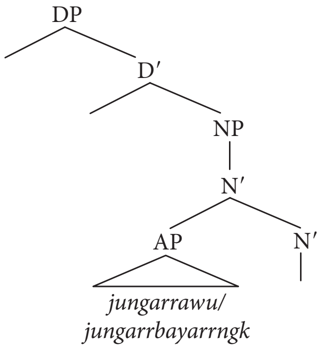


FIGURE 7.1 DP containing A only

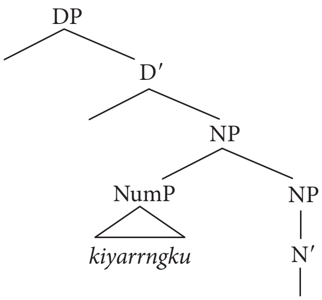


FIGURE 7.2 DP containing Num only

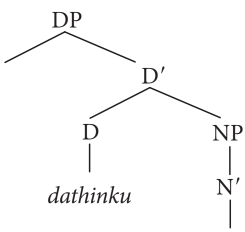


FIGURE 7.3 DP containing D only

We have no reason to believe that Figures 7.1–7.3 are anything but the correct syntactic structures for the juxtaposed DPs we have been discussing. What is perhaps most interesting about those syntactic structures, however, is the prediction that they lead to: that additional juxtaposed DPs lacking N ought to be attested containing constituents which are not represented in Figures 7.1–7.3, that is, containing DP in [Spec DP], DP modifiers in the N′-sister position and VP modifiers in the N′-sister position. Once we set out deliberately to look for such structures we find them, and we can begin with DPs in [Spec, DP].

In (7.27), embedded DP$_{\text{LOW}}$ *jungarrbanabaya dangkanabaya* ‘the adults’ appears inside a matrix DP$_{\text{HIGH}}$ in its [Spec DP] position, and determines the juxtaposed DP *wuranki* ‘food’. By doing so it induces the definite interpretation ‘the adults’ food’, as opposed to the indefinite ‘food from the adults’.

(7.27) Determination by $[_{\text{DP}}$ DP $[_{\text{D}''}$]]

$[_{\text{DP}_{\text{HIGH}}}[_{\text{DP}_{\text{LOW}}}$ ***Jungarrbanabaya***	***dangkanabaya***]	$[_{\text{D}'}$]]
cuŋarpa+ki-napa+ki-a	ʈaŋka+ki-napa+ki-a	
big-‹µLOC-µABL›-µLOC-T	person-‹µLOC-µABL›-µLOC-T	
big-‹ABL›-INS	person-‹ABL›-INS	

wungija	***wuranki.***
wuŋi-c-a	wuɻan+ki-a
‹steal-J›-T	food-µLOC-T
‹steal›	food-INS

‘They stole the adults’ food’ [E790]

The syntactic embedding of DP$_{\text{LOW}}$ within DP$_{\text{HIGH}}$ in (7.27) in shown in Figure 7.4.

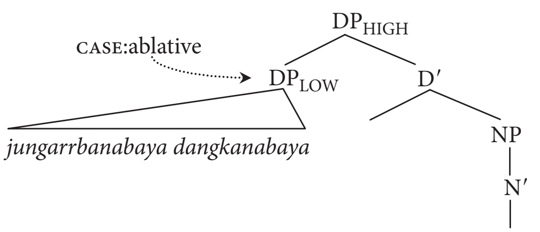


FIGURE 7.4 DP containing embedded DP at [Spec DP] only

At this point, one might question whether such a complicated DP structure as Figure 7.4 is justified, when it seems simpler just to posit one DP (the DP$_{\text{LOW}}$) without an extraneous, otherwise-empty matrix DP above it. In fact though, both semantic and inflectional considerations point towards an analysis along the lines of Figure 7.4. We can approach this issue by considering what the contrast would be, between a DP like Figure 7.4 and an unembedded CASE:ablative DP. Semantically, the interpretation of the embedded DP$_{\text{LOW}}$ in the former would follow both from the CASE of DP$_{\text{LOW}}$ and the position of DP$_{\text{LOW}}$ in DP$_{\text{HIGH}}$; in the latter, the semantics would follow from CASE alone. Inflectionally, DP$_{\text{LOW}}$ in the former should inherit TAMA according to the syntactic mother node selected by DP$_{\text{HIGH}}$, on the basis of the semantic/grammatical role of DP$_{\text{HIGH}}$; in the latter the DP would inherit TAMA according to its own syntactic mother node which it would select directly. The key sentence with which to compare (7.27) is one like (7.28). In (7.28), the DP *jungarrana dangkana* is not DP$_{\text{LOW}}$ within DP$_{\text{HIGH}}$, but is unembedded.

(7.28) (Not juxtaposition)

Ngalda	*marrija*	*kangki*	[DP$_{\text{HIGH}}$ ***jungarrana***	***dangkana***].
ŋa-l-ta	mari-c-a	kaŋ+ki-a	cuŋara+ki-naa-∅	ʈaŋka+ki-naa-∅
1-pl -T	‹hear-J›-T	story-μLOC-T	big-‹μLOC-μ̋ABL›-T	person-‹μLOC-μ̋ABL›-T
1-pl	‹hear›	story-INS	big-‹ABL›	person-‹ABL›

'We heard the story from the old people.' [E143.ex.4–35; 605, line.35]; Alternative interpretation, in appropriate context: 'We heard the story from old people.'

In (7.28), unlike (7.27), the 'old people' need not be interpreted as definite, because *jungarrana dangkana* is not a determiner—it cannot be, because it is not embedded in another DP. Also in (7.28), and unlike (7.27), the CASE:ablative DP *jungarrana dangkana* selects its own mother node. CASE:ablative DPs, when they select their own mother node select VP$_{\delta}$ (cf §5.6.2 and Appendix B, §B.7.2). This situates them higher than VP$_{\beta}$ and hence unable to inherit TAMA:instantiated which attaches to VP$_{\beta}$. In (7.28), *jungarrana dangkana* does not inflect for TAMA:instantiated. Turning back to (7.27), we see that the interpretation of DP$_{\text{LOW}}$ *jungarrbanabaya dangkanabaya* as a determiner depends not only on its ablative CASE, but on the fact that it occupies [Spec DP] in DP$_{\text{HIGH}}$, and the fact that it inflects for TAMA:instantiated follows from the fact that the matrix DP$_{\text{HIGH}}$ is a direct object DP, and thus low enough in the clause to inherit TAMA:instantiated. In short, the syntactic analysis in Figure 7.4 is supported by semantics and facts of inflection.

Next we move to DP adjuncts to N′. As was the case for embedded DP$_{\text{LOW}}$'s in the [Spec DP] position, a DP$_{\text{LOW}}$ adjunct to N′ will have its own CASE feature, and the overall position of its matrix DP$_{\text{HIGH}}$ in the non-surface syntactic tree is determined by the role of DP$_{\text{HIGH}}$ (irrespective of the CASE or role of DP$_{\text{LOW}}$). That this is so can be seen in the comparison of (7.29) and (7.30). DP$_{\text{LOW}}$ takes CASE:origin in both instances, but in (7.29) DP$_{\text{HIGH}}$ is a subject and so escapes inflection for TAMA (which would be TAMA:instantiated); in (7.30) DP$_{\text{HIGH}}$ is a direct object and so it inherits and inflects for TAMA:future.

(7.29) Modification by [DP[NP[N′ DP [N′]]]

[DP ***Muthaa***	***wuranda***]	*barjija*	[DP[NP[N′[DP ***malawaand***][N′]]]]],
muʈ̪a-a	wuɻan-ta	paɻci-c-a	mala-waːɲ-ta
many-T	animal-T	‹fall-J›-T	sea-μORIG-T
many	animal	‹fall›	sea-ORIG

[DP ***balkand***].
palkan-ta
fish killed by wind-T
fish killed by wind

'Many *marine* animals wash up, fish killed by the wind.' [R2007-jun02]

(7.30) Modification by [$_{DP}$[$_{NP}$[$_{N'}$ DP [$_{N'}$]]]]

[$_{DP}$[$_{NP}$[$_{N'}$[$_{DP}$	***Ngambuwaanju***][$_{N'}$]]]]	*diyanangku*	***ngukuwuru*** .
	ŋampu-waːɲ+kuu-ø	ʈia-c-ɳaŋ+kuu-ø	ŋuku+kuɻu-a
	well-µORIG-µ̋PROP-T	‹eat-J›-µNEG-µ̋PROP-T	water-µ̋PROP-T
	well-ORIG-FUT	‹eat›-NEG-POT	water-FUT

'(At that place) you can't drink water *from the well.*' [R2007-may29]

The syntactic structure of the juxtaposed DPs lacking N in (7.29) and (7.30) is shown in Figure 7.5.

The only structure yet to be exemplified is that shown in Figure 7.6, where a juxtaposed DP contains nothing but an embedded VP adjunct to N′. It is shown now in (7.31).

(7.31) Modification by [$_{DP}$[$_{NP}$[$_{N'}$ VP [$_{N'}$]]]]

Dathina	*dangkaa*	*dalijinj,*	*kamburijuruya,*
ʈaṯina	ʈaŋka-a	ʈali-c-iṉṯa-ø	kampuɻi-c+kuɻu+ki-a
that.T	man-T	‹come-J›-µOBL-T	‹tell-J›-µ̋PROP-µLOC-T
that	man	‹come›-HORT	‹tell›-POT-CMP

daninja	*waduntha*	*buumad,*
ʈan-iṉṯa-ø	watu-iṉṯa-ø	puːma-ṯ-ta-ø
here-µOBL-T	smoke-µOBL-T	‹be in smoke-J›-µDESID-T
here-EMO	smoke-EMO	‹be in smoke›-HORT

[$_{DP}$[$_{NP}$[$_{N'}$[$_{VP}$	***kungulngarrba***	***bayiinngarrb***][$_{N'}$]]]]
	kuŋal-ŋarpa-ø	paː-i-c-n-ŋarpa-ø
	mosquito-µCONS-T	bite-‹µMID-J›-‹N-µCONS›-T
	mosquito-ANTA-FUT	bite-‹MID›-‹ANTT›

'That man$_i$ should come, (you) should tell (him), and sit in the smoke here, who$_i$ was bitten by mosqitoes.' [W1960]

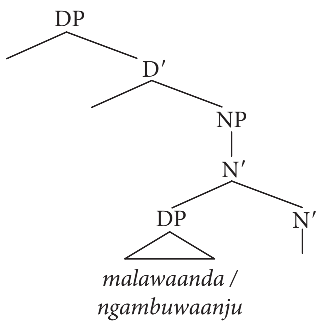


FIGURE 7.5 DP containing embedded DP sister of N′ only

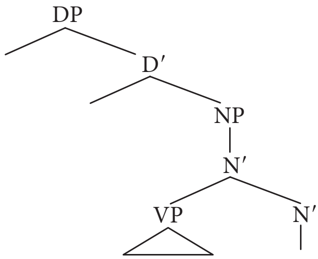


FIGURE 7.6 DP containing embedded VP sister of N′ only

There is ample cause to analyse the relative clause in (7.31) as an embedded VP adjunct to N′. We have now seen juxtaposed XP modifiers of several different kinds, all of which have the syntactic form of an XP adjunct to N′, embedded in a DP that lacks a head N and is juxtaposed to the DP to which it relates. The argument from parsimony would be that the VP relative clause in (7.31) is another instance of the same general structure. Moreover in §5.7 we saw an independent reason for analysing VP relative clauses as internal constituents of DPs: namely by doing so we predict them to inherit matrix TAM features in a manner parallel to DPs, so that embedded VPs that modify subjects inherit features parallel to subjects (as they do) and VPs that modify objects inherit features parallel to objects (as they also do). The two sources of evidence converge neatly.

7.6 Narrow scope negation

The morphomic privative suffix μPRIV is used to mark narrow-scope negation and in doing so it appears not to exhibit concord in DP. Although cases certainly exist where μPRIV occurs on all words in the DP, as in (7.32) and (7.34) below, it is also possible to find μPRIV on just a determiner (7.33), just a number (7.35), just a modifier (7.36), or on just the head N (7.37). Where appropriate in the examples I have marked the apparent DP constituent as ǂ$_{\text{DP}}$…ǂ, in cases where it will receive a revised analysis below.

(7.32) μPRIV across whole DP including overt D and N

Dathina	*dangkaa,*	[$_{\text{DP}}$ ***ngijinmarriya***	***wakathawarriya***]
ʈat̪ina	ʈaŋka-a	ŋicu-iɲ-wari-a	wakat̪a-wari-a
that.T	person-T	1sg-μPOSS-μPRIV-T	sister-μPRIV-T
that	person	1sg-POSS-PRIV	sister-PRIV

kirrka	*miburld.*
kirk+ka	mipuɻ-ta
‹nose-T	eye-T›
‹face	›

‘That person does not look like my sister (lit. does not have my sister’s face).’ [W1960]

(7.33) µPRIV on D only

Danda ǂ$_{\text{DP}}$	***ngijinmarriya***	*wangalk*ǂ,	*niwanda*	*wangalk.*
ʈan-ta	ŋicu-iɲ-wari-a	waŋalk+ka	ɳi+paɲ-ta	waŋalk+ka
this-T	1sg-µPOSS-µPRIV-T	boomerang-T	3sg-µPOSS-T	boomerang-T
this	1sg-POSS-PRIV	boomerang	3sg-POSS	boomerang

'This isn't my boomerang, it's his boomerang.' [W1960]

(7.34) µPRIV across whole DP including overt Num and N

[$_{\text{DP}}$	***Muthawarriya***	***thawalwarri***.]
	muʈ̪a-wari-a	ʈ̪awal-wari-a
	much-µPRIV-T	yam-µPRIV-T
	much-PRIV	yam-PRIV

'There's not many yams.' [E1982-01-01]

(7.35) µPRIV on Num only

ǂ$_{\text{DP}}$	***Muthawarri***	*wurand!* ǂ
	muʈ̪a-wari-a	wuɻan-ta
	much-µPRIV-T	food-T
	much-PRIV	food

'There's not much food!' [R2006-aug10]

(7.36) µPRIV on AP only

Jungarra	*wambald.*	*Dathina*	ǂ$_{\text{DP}}$	***kunyawarriya***	*wambald* ǂ.
cuŋara-∅	wampal-ta	ʈaʈ̪ina		kuɲa-wari-a	wampal-ta
big-T	bushfire-T	that.T		small-µPRIV-T	bushfire-T
big	bushfire	that		small-PRIV	bushfire

'It's a big bushfire. That's not a small bushfire.' [E1984-08-04]

(7.37) µPRIV on N only

Ngarrawurna	*nilatha*	*ngumbanji,*
ŋarauɳa-∅	ɳila-ʈ̪-a	ŋuŋ+paɲ+ki-a
(name)-T	‹call by name-TH›-T	2sg-µPOSS-µLOC-T
(name)	‹call by name›	2sg-∅-INS

maraka	ǂ$_{\text{DP}}$	*ngumbanda*	***kunawunawarri*** ǂ.
maɻaka		ŋuŋ+paɲ-ta	kuna+kuna-wari-a
CTRFCT		2sg-µPOSS-T	‹child$_{\text{NL}}$-child$_{\text{NL}}$›-µPRIV-T
CTRFCT		2sg-POSS	‹child$_{\text{NL}}$›-PRIV

'Ngarrawurna is calling you by name, as if he weren't your son (i.e. he is behaving as if he were in some other kin relation to you).' [E373.ex.9-235]

The interpretation of these facts in Evans (1995a) is that 'the privative need not display full phrasal concord when functioning as a negator; instead, the domain of case marking depends on the logical scope of negation' (1995a:159). While I agree that the domain of CASE marking does depend on logical scope, it need not follow that the normal principles of CASE concord are suspended. Rather than posit a non-concordial domain of CASE:privative inflection, it is possible to assume that a special mapping holds between logical scope and the syntax, such that the words under the scope of negation are placed in their own DP, to which CASE:privative attaches and which is then juxtaposed with another one or more DPs containing the out-of-scope words, which are not inflected for CASE:privative. That is the analysis adopted here. It would apply, for example to (7.35) above, as shown in (7.38).

(7.38) [DP ***Muthawarri*** PRIV] [DP *wurand !*]
muṯa-wari-a wuɻan-ta
much-µPRIV-T food-T
much-PRIV food
'There's not much food!' [R2006-aug10]

7.7 Juxtaposition and second predicates

In terms of their inflection and their non-surface syntax, second predicates on the subject and the direct object are just like juxtaposed subject and object DPs. Body part second predicates were discussed in Chapter 5 (e.g. example (5.13)), which inflect like a normal DP and which contain an overt N head of NP. Other second predicates can be found which lack N heads. All can be analysed as DPs. The simple nominal second predicates in (7.39) and (7.40) can be analysed with an internal syntax parallel to that shown in Figure 7.1 earlier, that is, they are A heads in AP adjuncts to N′ in otherwise-empty DPs.

(7.39) Depictive second predicate on the subject (CASE:∅ nominal)
Ngada kada ***ngumalda*** *yiwiiju.*
ŋaṯ-ta kata ŋumal-ta jiwiː-c+kuu-ø
1sg-T again.T single-T ‹sleep-J›-µ̋PROP-T
1sg again single ‹sleep›-POT
'I'll be sleeping by myself (as a single man) again.' [E359.ex.9-170]

(7.40) Depictive second predicate on the direct object (CASE:∅ nominal)
Burungku *diyaju,* ***burungku*** *diyaju.*
puɻuŋ+kuu-ø ṯia-c+kuu-ø puɻuŋ+kuu-ø ṯia-c+kuu-ø
cooked-µ̋PROP-T ‹eat-J›-µ̋PROP-T cooked-µ̋PROP-T ‹eat-J›-µ̋PROP-T
cooked-FUT ‹eat›-POT cooked-FUT ‹eat›-POT
'We'll eat it cooked, we'll eat it cooked.' [R2007-may23b]

The CASE:origin second predicate on the direct object in (7.41) can be analysed with an internal syntax parallel to Figure 7.5, that is, a DP adjunct to N′; and see example (5.45) in Chapter 5 for a clausal second predicate on the subject analysable as having the internal syntax as in Figure 7.6, consisting of an overt VP adjunct to N′.

(7.41) Depictive secondary predicate on the direct object (CASE:origin DP)

Kaburrbawaanju	*diyaju*	*wuranku.*
kapurpa-waːɲ+kuu-ø	ʈia-c+kuu-ø	wuɻan+kuu-ø
coals-μORIG-μ̋PROP-T	‹eat-J›-μ̋PROP-T	food-μ̋PROP-T
coals-ORIG-FUT	‹eat›-POT	food-FUT

(In response to the question of whether to eat the food raw or cooked): 'We'll eat the food from the coals.' [R2005-jul15a]

7.8 Summary

This chapter began with a survey of the functions of juxtaposition in Kayardild in §7.1. At that point the DPs which collocated with one another in order to fulfil such functions shared identical inflectional features. In §7.2–§7.4 a range of cases were considered in which the same functions resulted even when the DPs' inflectional features differed, leading us to reject an analysis in which the sharing of features is due to the presence of a 'juxtapositional phrase' node in the non-surface syntax, from which the common features would all percolate. Instead, the sharing of features arises epiphenomenally as an indirect consequence of shared semantic and grammatical characteristics. Crucially, these shared characteristics on their own are not sufficient to guarantee shared inflection in every instance, because under definable conditions their effect on inflection is overridden, leading predictably to the discrepancies that were observed.

In the second half of the chapter beginning with §7.5, juxtaposition was employed as a tool for interpreting the syntactic structure of DPs lacking a head N of NP. This enabled the existence of a range of syntactic structures to be confirmed, whose validity had been assumed in earlier chapters but not yet demonstrated. The logic was extended to narrow scope negation in §7.6 and second predicates in §7.7. Taking a broader view, an insight into the nature of DP juxtaposition in Kayardild leads to a highly unified analysis of attested syntactic structures in the language, pivoting around the fact that a large number of structural positions may be left unfilled. The counterpoint to this is that the facts of inflection, driven by feature attachment and downwards percolation, are blind to whether terminal nodes are filled or not, and therefore remain fully commensurate across a broad range of superficially rather different structures.

8

Feature percolation

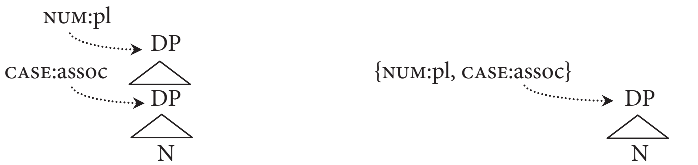
This chapter sets out in more detail the nature of feature percolation, the mechanism proposed in §4.5.4 to regulate the transfer of morphosyntactic features from the non-surface syntactic nodes to which they first attach, down to the terminal nodes corresponding to individual words. We begin with a discussion of Kayardild's realizational morphology, the component of the grammar that will have to interpret the feature structures that percolation generates.

8.1 Considerations from the realizational morphology

A question that must be addressed by any theory that relates the syntax of a language to its realizational morphology is how much if any of the linear ordering that appears in the latter ought to be derived from the former and how much ought to be a matter for the morphology alone. Without doubt some languages exist in which morphological order corresponds in a non-trivial manner to syntactic structure, and Kayardild is among them. The basic empirical observation, that a parallel can often be found between the linear order of features' morphological realizations (from the lexical stem outwards) and the relative embedding of the syntactic objects with which the features are associated (from the terminal node upwards) is the core of Baker's (1985) Mirror Principle, Sadock's (1991) Linearity Constraints, and Evans' (1995a:107) Concentric Scoping Principle which applies to Kayardild; it also figures in Anderson's (1992:94ff) Layering Principle, and falls out by default in Nordlinger's (1998) Constructive Case theory. On the other hand there is no shortage of languages in which the relationship between the order of inflectional morphs and syntax is tenuous at best and theories such as Paradigm Function Morphology (Stump 2001) do not assume any ordering to be supplied by the syntax. Thus, although many languages' realizational morphology could be described in such a way as to relate morphological order to syntactic structure, few of them must be. In the case of Kayardild, though, there is no question: syntax will have to provide at least some information about ordering to the realizational morphology, a point also made by Sadler and Nordlinger (2006b). The argument runs as follows.

In the general case the relative order of the realization of two feature values in Kayardild cannot be predicted on the basis of the identity of those values alone. The two words in (8.1a,b) are inflected for exactly the same feature values yet the order is contrastive. The reason is that the word forms in (8.1a,b) correspond to different syntactic structures, summarized diagrammatically in Figure 8.1(a,b), which displays the key syntactic nodes that are superordinate to the terminal, lexical node and the attachment of morphosyntactic feature values to them.

(8.1)	a. *karndirnurruwalad*	b. *karndiwalanurru*
	kaɳʈi-ɳuru+palat̪-ta	kaɳʈi+palat̪-ɳuru-a
	wife-µASSOC-µPL-T	wife-µPL-µASSOC-T
	wife-ASSOC-PL	wife-PL-ASSOC
	'many (men) with wives'	'(man) with many wives' (E106.ex.3-23a,b)



a. *karndirnurruwalad* 'wife-ASSOC-PL' b. *karndiwalanurru* 'wife-PL-ASSOC'

FIGURE 8.1 Attachment of CASE and NUMBER features to syntactic nodes in (8.1a,b)

Examples such as (8.1a,b) show that morphological order is contrastive, but they do not yet prove that syntax absolutely must pass an ordered set of features to the morphology. It might be proposed that the apparent ordering of features is transmitted to the morphology by way of an 'order-free, diacritic' system. Suppose that Kayardild possesses not one but two CASE features, CASE_1 and CASE_2, and not one but two NUMBER features, NUM_1 and NUM_2, and likewise with all features that can be contrastively ordered. The contrast in (8.1a,b) would be between the feature set {CASE_1:assoc, NUM_2:pl} and {CASE_1:assoc, NUM_1:pl}. In the syntax we can say that '2' features are higher than '1' features, and in the realizational morphology we can say that the linear order of features' realization must be $\text{NUM}_1>\text{CASE}_1>\text{NUM}_2>\text{CASE}_2$. Such an approach should succeed provided that the features it requires constitute a closed class and in §9.3 I suggest that indeed there are tight, syntactically motivated limits on embedding in Kayardild which would ensure this. Nevertheless, beyond its bare technical feasibility there are questions over how coherently an 'order-free diacritic' analysis could capture the nature of the system. Specifically, the diacritic model would require rules to faithfully map hierarchical syntactic relationships between feature values to the correct features (for example to CASE_1 then CASE_2 and not vice-versa), and rules to faithfully map those features to ordered morphological realizations. Significantly, unless some consistent meaning were imputed to the subscripts 1 and 2, these stipulations would need to be repeated independently for each pair of features, and the fact that syntactic and morphological ordering align in the same direction for each pair of features would be accidental. While it would be possible to impute meaning to the subscripts 1 and 2, and thereby unify the stipulations, doing so would involve an implicit reintroduction of ordering. A truly 'order-free diacritic' implementation would lack coherence, and thus I will employ a system which preserves ordering where needed, from the syntax via the morphosyntactic representation to the morphological realization.

8.2 Contrastive ordering and antagonism

Notwithstanding the discussion above regarding ordering, the guiding assumption made here is that the representation which is passed from the syntax to the realizational morphology is as minimal as possible. For that reason, information related to syntactic hierarchy will be kept to a bare minimum, and a relatively large amount of suffix ordering will need to be determined by the realizational morphology on its own. (An alternative account would place more of the information about syntactic embedding into the representation generated by feature percolation, and thereby lighten the load of the realizational component.) The realizational morphology itself is formalized in Chapter 11.

In addition to keeping track of ordering, the representation generated by feature percolation will need to convey which features potentially enter into antagonistic relationships. Recall that TAMA stands in an antagonistic relationship to TAMT and NEG, but only if the features involved correspond to the same clause. As we will see shortly, it will be possible to deal with both ordering and antagonism in a single stroke.

The kinds of features for which multiple values can be contrastively ordered on one Kayardild word are TAMA, TAMT, and NEG (attaching to VP nodes in two clauses, one of which is embedded in the other) and CASE and NUMBER (attaching to DP or NP nodes in two DPs, one of which is embedded in the other). All instances of contrastive ordering will therefore involve either embedded VPs or embedded DPs. Since we have already found good support for analysing all embedded VPs as occurring inside a DP we can simplify this observation to (8.2).

(8.2) Observation regarding contrastively ordered values of a single feature: Contrastive ordering of multiple values v_i,v_j of a single feature F, which attach to nodes $\mathbf{n}_i$, $\mathbf{n}_j$, is found if and only if the hierarchical sequence of nodes from $\mathbf{n}_i$ to $\mathbf{n}_j$ includes at least one DP node.

In addition, we can observe that all attested antagonistic relationships, listed in Table 8.1, involve pairs of features that attach to pairs of nodes between which no DP node occurs:

TABLE 8.1 Pairs of antagonistic features/values and node types

	Antagonistic pair	Attachment sites' and intervening nodes' type
a.	+SEJ / +CMP	S′
b.	TAMA / TAMT (in same clause)	S, VP
c.	TAMA / NEG (in same clause)	S, VP

(8.3) Observation regarding antagonism:
Antagonism between multiple features F_i, F_j, which attach to nodes $\mathbf{n}_i$, $\mathbf{n}_j$, is found if and only if the hierarchical sequence of nodes from $\mathbf{n}_i$ to $\mathbf{n}_j$ includes no DP nodes.

In order to keep track of both contrastive ordering and antagonism, it will be necessary and sufficient to note whether a DP node appears in the hierarchy of nodes between the attachment sites of two features.

8.3 Formal implementation

Feature percolation will be construed as a process which calculates an ordered collection of (unordered) sets of feature values. These orderings will be written, for example, as $\langle\{a,b\}>\{c,d,e\}>\{f,g\}\rangle$, where *a* through *g* are feature values, and in which the sets $\{a,b\}$, $\{c,d,e\}$ and $\{f,g\}$ are each internally unordered, but are ordered with respect to one another. During feature percolation, one such collection, C_i, will be calculated for every syntactic node $\mathbf{n}_i$ in the syntactic tree. The collections associated with terminal nodes are the ones which are passed to the realizational morphology. Collections that are constructed during feature percolation are distinct from the sets of features, A_i, which will have attached to a node $\mathbf{n}_i$ before percolation begins. The calculations themselves are defined in an iterative fashion, so that C_i always depends on A_i and on $C_{i\text{-}1}$, where $C_{i\text{-}1}$ is the collection associated with node $\mathbf{n}_{i\text{-}1}$, which is the node immediately superordinate to node $\mathbf{n}_i$. In this way, information will flow down the syntactic tree, from the root node to the terminals.

The calculation of C_i for any node $\mathbf{n}_i$ is shown in Table 8.2 (a–c), where $\{\varnothing\}$ is the null set.

It will be assumed that for representations passed to the realizational morphology, any ordering of a null set is vacuous, so that for example $\langle\{a,b\}>\{\varnothing\}\rangle$, $\langle\{\varnothing\}>\{a,b\}\rangle$, and $\langle\{a,b\}\rangle$ are all equivalent.

8.4 Examples

Examples of feature percolation are provided below. In each example three main pieces of information are displayed. In the centre is an abbreviated column of

Table 8.2 Percolation: calculation of collection C_i for any node $\mathbf{n}_i$

	Condition	Calculated value of C_i, where $C_{i-1} = \langle\, S_1 > S_2 > \ldots > S_k \,\rangle$ (for sets $S_1, S_2 \ldots S_k$ of feature values)
a.	if $\mathbf{n}_i = S''$	$C_i = \langle\, \{\emptyset\} \,\rangle$
b.	if $\mathbf{n}_i = DP$	$C_i = \langle\, A_i > S_1 > S_2 > \ldots > S_k \,\rangle$
c.	else	$C_i = \langle\, A_i \cup S_1 > S_2 > \ldots > S_k \,\rangle$

syntactic nodes ending with the terminal node at the bottom and starting with its highest superordinate node at the top. Generally, a node superordinate to the terminal is listed only if its collection, C_i, differs from that of its own immediately superordinate node. In such cases an indication is given of the set A_i of features that is attached to the node in question, the collection C_i which is calculated for that node, and the calculation operation that applies (a., b., or c. from Table 8.2).

Figures 8.2 and 8.3 show the application of feature percolation to the words *karndiwalanurru* and *karndirnurruwalad* from (8.1) above. Percolation in Figure 8.2 passes no ordering of NUMBER and CASE to the realizational morphology, while the percolation in Figure 8.3 passes ⟨{CASE:assoc} > {NUM:pl}⟩.

A_i	$\mathbf{n}_i$	C_i, in case $C_i \neq C_{i-1}$	operation
{ NUM:pl, CASE:assoc }	DP	⟨ { NUM:pl, CASE:assoc } ⟩	b.
	N		

Representation passed to the realizational morphology:
⟨ { NUM:pl, CASE:assoc } ⟩

FIGURE 8.2 Feature percolation for *karndiwalanurru* in (8.1a)

A_i	$\mathbf{n}_i$	C_i, in case $C_i \neq C_{i-1}$	operation
{NUM:pl}	DP	⟨ {NUM:pl} ⟩	b.
{CASE:assoc}	DP	⟨ {CASE:assoc} >{NUM:pl} ⟩	b.
	N		

Representation passed to the realizational morphology:
⟨ {CASE:assoc}>{NUM:pl} ⟩

FIGURE 8.3 Feature percolation for *karndirnurruwalad* in (8.1b)

Figures 8.4 and 8.5 show the lack of ordering which gets calculated between TAMT, NEG, and TAMA features that attach to VP nodes in the same clause. The words illustrated are *kurrinangku* and *bijarrbawu* from (8.4).

(8.4)	Yurdanjiya	makuwa	**kurrinangku**	**bijarrbawu**.
	juʈaɲci-a	maku-a	kuri-c-ɳaŋ+kuu-ø	picarpa+kuu-ø
	pregnant-T	woman-T	‹see-J›-μNEG-μ̋PROP-T	dugong-μ̋PROP-T›
	pregnant	woman	‹see›-NEG-POT	dugong-FUT

‘Pregnant women mustn’t look at the dugong.’ [R2005-jun29]

A_i	$\mathbf{n}_i$	C_i, in case $C_i \neq C_{i-1}$	operation
	S″	⟨ {∅} ⟩	a.
{TAMT:pot, +NEG} →	S	⟨ {TAMT:pot, +NEG} ⟩	c.
{TAMA:fut} →	VP_γ	⟨ {TAMA:fut,TAMT:pot, +NEG} ⟩	c.
	V		

Representation passed to the realizational morphology:
⟨ {TAMA:fut, TAMT:pot, +NEG} ⟩

FIGURE 8.4 Feature percolation for *kurrinangku* in (8.4)

A_i	$\mathbf{n}_i$	C_i, in case $C_i \neq C_{i-1}$	operation
	S″	⟨ {∅} ⟩	a.
{TAMT:pot, +NEG} →	S	⟨ {TAMT:pot, +NEG} ⟩	c.
{TAMA:fut} →	VP_γ	⟨ {TAMA:fut, TAMT:pot, +NEG} ⟩	c.
	DP	⟨ {∅}>{TAMA:fut, TAMT:pot, +NEG} ⟩	b.
	N		

Representation passed to the realizational morphology:
⟨ {TAMA:fut, TAMT:pot, +NEG} ⟩

FIGURE 8.5 Feature percolation for *bijarrbawu* in (8.4)

Figure 8.6 shows the ordering, mimicking syntactic hierarchy, produced between TAMT and TAMA features associated with different clauses. The word illustrated is *diyanngarrbawu* in (5.46) above, repeated here as (8.5).

(8.5)	*Kariyathu*	*jingkarmaruthu,*	*diyanngarrbawu*
	kaɻia-t̪+kuu-ø	ciŋka-ɻ-maɻu-t̪+kuu-ø	ʈia-c-n-ŋarpa+kuu-ø
	‹conceal-TH›-μ́PROP-T	‹scrub-INC›-‹μDAT-TH›-μ́PROP-T	‹eat-J›-‹N-μCONS›-μ́PROP-T
	‹conceal›-POT	‹scrub›-‹DAT›-POT	‹eat›-‹ANTT›-FUT

janangkurringarrbawu	*Murdumurduwaanju.*
canaŋkuri-ŋarpa+kuu-ø	muʈumuʈu-waːɲ+kuu-ø
goat-μCONS-μ́PROP-T	(place name)-μORIG-μ́PROP-T
goat-ANTA-FUT	(place name)-ORIG-FUT

‘He will conceal in the scrub (the ones) from Murdumurdu who have eaten the goat.’ [E1987-9-1]

A_i	$\mathbf{n}_i$	C_i, in case $C_i \neq C_{i-1}$	operation
	S″	⟨ {∅} ⟩	a.
{TAMT:pot }	S	⟨ {TAMT:pot} ⟩	c.
{TAMA:fut}	VP_γ	⟨ {TAMA:fut,TAMT:pot} ⟩	c.
	DP	⟨ {∅}>{TAMA:fut,TAMT:pot} ⟩	b.
	VP_ε		
{TAMA:anta}	VP_γ	⟨ {TAMA:anta}>{TAMA:fut,TAMA:pot} ⟩	c.
{TAMT:antt}	VP_α	⟨ {TAMT:antt,TAMA:anta}>{TAMA:fut,TAMT:pot} ⟩	c.
	V		

Representation passed to the realizational morphology:
⟨ {TAMT:antt,TAMA:anta}>{TAMA:fut,TAMT:pot} ⟩

FIGURE 8.6 Feature percolation for *diyanngarrbawu* in (8.5)

Figures 8.7 and 8.8 illustrate feature percolation in a complementized clause shown earlier in (5.11) and repeated as (8.6). The words illustrated are the determiner *dankiya* which is in a focal DP and so doesn't inherit +SEJ, and *karrijuunth* which inherits +SEJ and +COMP in an antagonistic configuration, that is, within the same unordered set inside C_i.

(8.6)	***Dankiya***	*kunawunaya*	*rikawalathijiya*
	ʈan+ki-a	kuna+kuna+ki-a	ɻika+palat̪-ic+ki-a
	this-μLOC-T	‹child$_{NL}$-child$_{NL}$›-μLOC-T	cold-‹μPL-μSAME›-μLOC-T
	this-CMP	‹child›-CMP	cold-‹EVERY›-CMP

ngijuwa	***karijuunth!***
ŋicu+pa-ø	kaɻi-c+kuu-in̪t̪a-ø
1sg-µSEJ-T	‹cover-J›-µ̋PROP-µOBL-T
1sg-SEJ	‹cover›-POT-SEJ

'I'll cover up *these children who are all cold*!' [R2005-jul19a]

A_i	$\mathbf{n}_i$	C_i, in case $C_i \neq C_{i-1}$	operation
	S″	⟨ {Ø} ⟩	a.
{+COMP}	S'_β	⟨ {+COMP} ⟩	c.
	DP	⟨ {Ø}>{+COMP} ⟩	b.
	D		

Representation passed to the realizational morphology:
⟨ {+COMP} ⟩

FIGURE 8.7 Feature percolation for *dankiya* in (8.6)

A_i	$\mathbf{n}_i$	C_i, in case $C_i \neq C_{i-1}$	operation
	S″	⟨ {Ø} ⟩	a.
{+COMP}	S'_β	⟨ {+COMP} ⟩	c.
{+SEJ}	S'_α	⟨ {+SEJ, +COMP} ⟩	c.
{TAMT:pot}	S	⟨ {TAMT:pot, +SEJ, +COMP} ⟩	c.
{TAMA:fut}	VP_γ	⟨ {TAMA:fut, TAMT:pot, +SEJ, +COMP} ⟩	c.
	V		

Representation passed to the realizational morphology:
⟨ {TAMA:fut,TAMT:pot, +SEJ, +COMP} ⟩

FIGURE 8.8 Feature percolation for *karijuunth* in (8.6)

9

Discussion

Chapters 5–8 offered an analysis of Kayardild inflection in terms of three formal notions: a non-surface syntactic structure; antagonism between certain features in terms of their overt realization; and concord of features within predictable domains, operationalized in terms of feature attachment followed by percolation through the non-surface syntax. The purpose of this chapter is to compare that with alternative analyses of Kayardild. Section 9.1 defends the position that the three formal notions of Chapters 5–8 are sufficient to account for the data by arguing against the need for additional principles of agreement which have been proposed in the literature. Section 9.2 emphasizes the parsimony of the present account of TAMA and TAMT inflection relative to the analysis in Evans (1995a). In §9.3 I consider the relationship between syntactic recursion and inflection in Kayardild and conclude that there is no convincing case for the claim (Evans 1995a; Evans and Levinson 2009) that morphology constrains the syntax.

9.1 Sufficiency of the analysis

This section argues against claims that a formal analysis Kayardild inflection requires as many as three additional agreement operations beyond concord.

9.1.1 Inflection of motion adverbs is not special

Kayardild possesses a closed class of motion adverbs ('motion verbs' in Evans 1995a). Unlike other adverbs which exhibit free surface word order, motion adverbs always appear in immediate post-verbal position. Of direct interest here is not the surface-syntactic behaviour of motion adverbs but their inflectional behaviour, which on my account is a matter of non-surface syntax. Six lexical stems function as motion adverbs. The same six also function as main verbs with somewhat different meanings. Table 9.1 lists the stems and their meanings as motion adverbs and main verbs, following Evans (1995a:308–11).

Motion adverbs are analysed here as acquiring their inflectional features in the same fashion as any other word, via feature percolation. Taking a contrary view,

Table 9.1 Motion adverbs, and meanings of the same stems as a main verbs

Stem form	Meaning as motion adverb	Meaning as main verb
thaath-	'go and V, expecting to return'	'return'
warraj-	'go/come along while V-ing'	'go/come'
danath-	'V as SUBJ moves away from OBJ',or 'V before SUBJ moves away'	'leave'
warath-	'V OBJ as OBJ moves away'or 'V OBJ before OBJ moves away'[a]	'send'
wurdiyalaaj-	'walk about, V-ing (everywhere)'	'walk about'
wanjiij-	'go/come up, to V'	'go/come up'

[a] The second meaning here is not listed by Evans (1995a), but it is found, for example, in *baaja waratha* 'kiss OBJ goodbye, before OBJ leaves' (cf *baaj-* 'kiss').

Evans (2003) argues that the inflection of motion adverbs is not comparable to that of other constituents, stating that unlike in other cases, 'one cannot derive the choice of [TAMT and NEGATION] inflection [on motion adverbs] directly from the clausal semantics: the only plausible source is direct agreement with the head verb' (Evans 2003:223). The argument hinges on a semantic analysis of sentences like (9.1).

(9.1) *Niya* *kuujuujarra* *thaatharr.*
ɳi-a kuːcuː-c+ŋara-ø t̪aː-t̪+ŋara-ø
3sg-T ‹swim-J›-ʮCONS-T ‹'return'-TH›-ʮCONS-T
3sg ‹swim›-PST ‹'return'›-PST
'He went off for a swim.' (Evans 2003:223,ex.10)

Evans observes that in a sentence like (9.1), 'the swimming is clearly located in the past, but the "returning" need not be (a narrator could go on, for example, to say that the subject had, unexpectedly, yet to return)' (2003:223). From this observation, the conclusion is drawn that *thaatharr* is not (or not necessarily) a semantically 'past tense' adverb, and consequently that its morphosyntactic past TAMT inflection merely repeats the TAMT:past feature associated with the head verb. If I understand Evans correctly, the crucial comparison is with a conceivable alternative, in pseudo-Kayardild, where the 'future' meaning of *thaath-* is reflected faithfully in its TAMT inflection, so that *thaath-* would inflect not for TAMT:past but for TAMT:potential.

Two points can be raised in response to this. First, even if the premise regarding the meaning of *thaatharr* is correct and it is *per se* a 'future' adverb, it does not necessarily follow that *thaatharr* fails to acquire its TAMT:past feature on the basis of clause-level semantics—for the argument to go through, one would need to prove that the compositional semantics of Kayardild yields something other than a past tense clause when confronted with a past tense head verb and a semantically 'future tense' adverb.[1] Secondly and more importantly, there is a compelling reason to believe that *thaatharr* is not a 'future tense' adverb at all but a past tense adverb. As Evans (1995a:308) documents, the stem form *thaath-* when used as an adverb means not 'return' but 'go and V, expecting to return', and any argument regarding the mechanism by which motion adverbs are inflected must be attentive to which meaning is in play. In (9.1) *thaath-* is a motion adverb and thus the relevant semantic fact is that the subject did 'go and V, expecting to return' in the past. Consequently there is no cause to believe that the past TAMT value of *thaath-* is anomalous or special in (9.1), or more generally, that motion adverbs inflect according to any principle other than those operating elsewhere in the clause.

9.1.2 'Referential case' and 'case linkage' are unnecessary

Juxtaposed DPs in Kayardild typically inflect alike (Chapter 7). Subjects and their second predicates always inflect alike, as do objects and their second predicates (Chapter 5). Under the present analysis no special mechanism is required to account for these facts. Instead the semantic/grammatical functions of the DPs cause them to occupy identical structural positions in the non-surface syntax, as a consequence of which concord, implemented in terms of feature percolation, causes the DPs to inherit the same features as one another—independently and in parallel. An alternative, non-concordial analysis is that of 'referential case' (Austin 1981; Dench and Evans 1988), which requires extra machinery.

The notion of referential case is applied to the analysis of juxtaposed DPs and second predicates in Kayardild among other Australian languages in a seminal paper on case stacking by Dench and Evans (1998), who state that it involves 'the marking of some NP or adverb in agreement with some other (usually core) NP in the same clause' (1988:13). The key characteristic of referential case for the present purposes is that the acquisition of features by DPs is not always parallel and independent; rather some DPs acquire features only dependently, subsequent to the acquisition of features by others.[2] Using the terminology 'case linkage' Evans (1995a:331) invokes what appears to be the same mechanism to account for the inflection of second predicates in Kayardild, though no definition is provided: '[I] assume that object complements are distinct constituents, and that their agreement with the object is accounted for by case linkage' Evans (1995a:331).

The present analysis of Kayardild does not require referential case or case linkage, as the same effects follow automatically from concord and the placement of DPs in

[1] An equivalent observation is made by Corbett (2006:140).

[2] Arguments against the use of dependent mechanisms for the distributing of inflectional features as in referential case have also been made by Sadler and Nordlinger (2006a) with respect to appositional, part–whole, and asyndetic coordinating DP juxtaposition in Australian languages, and by Schulze-Berndt and Himmelmann (2004) with respect to second predicates.

appropriate positions in the non-surface syntax. This is an interesting and encouraging result given that the impetus for proposing non-surface syntax in Kayardild was not specifically to obviate the need for other mechanisms of feature-transfer, but to simplify the description of concord.

9.1.3 Sejunct–nonsejunct is not person agreement

Here I supply counterarguments to suggestions in Evans (1995b:409, 2003:221) that the opposition between sejunct and nonsejunct complementized clauses is a form of agreement with the person value of the subject.

To recap §5.1, complementized clauses in Kayardild will be nonsejunct when the subject is (i) first person inclusive, or (ii) second person and the speaker wishes to express solidarity with the addressee; and are sejunct otherwise. In nonsejunct clauses all constituents other than topic DPs are associated with a feature +COMP. In sejunct clauses all constituents other than focus DPs and topic DPs are in addition associated with +SEJ. On constituents associated with both +COMP and +SEJ only +SEJ is overtly realized due to feature antagonism. In Table 9.2 I lay out this arrangement as a pairing of two systems. The speaker opts between system A and system B in order to express solidarity with the addressee or not, though systems A and B are materially distinct only when the subject is second person.

System A groups inclusives against all others, while system B groups second persons and inclusives together in opposition to others. As far as I can ascertain the syncretisms in system A do not appear elsewhere in the world's languages as a pattern of person/clusivity marking; the pattern is not mentioned for example in the extensive survey of person system syncretisms by Seweirska (2004:75–81). Nor is system B a natural or particularly common system: from a survey of clusivity-based syncretisms Cysouw (2005) concludes that syncretism of the second person with inclusives is just as common as with exclusives, and that neither is 'natural'. In terms of their internal oppositions then, there is nothing to suggest that either system A or B is a system of person or clusivity marking in any typologically grounded sense.

The idiosyncrasy of the Kayardild sejunct–nonsejunct system extends also to the basis of optionality between systems A and B. To appreciate this, consider the significantly different optionality found in NUMBER agreement between a verb and

TABLE 9.2 Use of sejunct and nonsejunct construed as a system of options

	1st person inclusive	2nd person	1st person exclusive & 3rd persons
System A (solidarity)	{+COMP, +SEJ}	+COMP	
System B (no solidarity)	{+COMP, +SEJ}		+COMP

a semantically collective subject in some varieties of English, for example in 'the committee has agreed' versus 'the committee have agreed'. Corbett (2006:155–65) refers to this phenomenon as **semantic agreement** and shows that it arises in cases where two different construals of an agreement-triggering item motivate the usage of different inflectional features. In the English case the word 'committee' can be construed as congruent with its (singular) morphosyntactic form, or as plural. Importantly, what is construed one way or another is whether 'committee' denotes a unit or a multiple, and the inflectional feature which is affected is correspondingly NUMBER (and not, for example, PERSON). The purported link between Kayardild sejunct–nonsejunct and person or clusivity is not at all parallel. That is, when the speaker in Kayardild chooses system A or B, that choice conveys a construal of the addressee not as first person inclusive, or exclusive, or third person, but as someone with whom the speaker expresses solidarity or not.

In sum, I am inclined to agree with Cysouw (2005:100), that if a typological 'phenomenon is rare cross-linguistically, then the explanation should not invoke universal characteristics'. Kayardild's +SEJ system is not only rare but almost certainly unique. It should be analysed not as person agreement but as a binary opposition which idiosyncratically entangles aspects of person, clusivity and solidarity.

9.2 Parsimony of the analysis

The analysis of TAM inflection presented in Chapters 4–9 is that each Kayardild clause is associated with a set, $\mathbf{T}_C$, comprising two TAM features (the thematic TAMT and athematic TAMA) and sometimes +NEG. Some words in the Kayardild clause inherit and hence inflect for none of the features in $\mathbf{T}_C$ while others inherit them, and then may inflect for either TAMA or TAMT/NEG. The disjunctive choice between TAMA on the one hand and TAMT/NEG on the other is due to feature antagonism. Precisely which of TAMA or TAMT/NEG gets realized is determined by the morphomic form of the stem to which the inflection will attach. Stems ending morphomically in a thematic element (glossed TH and J) inflect for TAMT/NEG while others inflect for TAMA. In Chapter 2 I argued that TH and J are morphomic units which occur at the ends of lexical verbal stems, the ends of thematic case suffixes, and the end of markers for the incipient values of TAMA and TAMT.

One potential concern with this analysis is circularity: have thematics been postulated in a *post hoc* manner in just those places where they will lead to correct predictions about inflection? The answer is no. The presence of thematics is detectable independently through their phonological realization. In underlying phonological forms they appear uniformly as /t̪/ and /c/. According to the regular phonological rules of Kayardild those underlying segments may surface unchanged or may leave indirect phonological traces of their presence, such as when the retroflex-initial negative suffix /-ɳaŋ/ undergoes deretroflexion in the derivations /…t̪+ɳaŋ/, /…c+ɳaŋ/ → […naŋ…]. The only times TH and J fail entirely to appear on the surface is in cases where they are expected on independent phonological grounds to be deleted without trace, such as when followed by the /n/ realization of the 'morphomic nominalizer' suffix μN, because in Kayardild any underlying string /t̪+n/ or /c+n/ surfaces simply as [n] (Round 2009).

Another aspect of the present analysis is that single values of TAMT may be realized by multiple morphomic units, such as when TAMT:nonveridical is realized by the morphomic string μN-μPRIV. Several TAMT values have multi-unit morphomic realizations which begin with μN. Diachronically these trace back to case-marked nominalizations of verbs, but as I remarked in §2.6.8 much of the system which is ancestral to modern Kayardild inflection has undergone 'morphomicization'. Erstwhile verbal thematics have become morphomic TH and J; erstwhile case markers have become morphomic categories that now realize case, tense/aspect/mood, and complementization; and erstwhile nominalizers and case have become morphomic categories which realize TAMT values.

The analysis of Kayardild inflection in Evans (1995a) adopts what could be characterized as a more historicizing view according to which TAMT suffixes always attach to 'morphologically verbal' words, and thus thematically CASE-inflected nouns must be regarded as 'morphologically verbalized';[3] secondly the marker μN in TAMT suffixes is taken to convert its stems to 'morphological nominals' in which case certain tense-inflected verbs must be regarded as morphologically nominalized.[4] In the following sections I argue that this leads to an unnecessarily complex picture of Kayardild inflection, characterized by an asymmetric combination of six TAM features (versus two on the analysis proposed here) and a complicated system of inflectional selection which is forced to search inside a stem's layered composition in order to decide which feature should be inflected for.

9.2.1 Complexity of the feature set

Kayardild TAM inflection is analysed in this book in terms of two features, TAMA and TAMT and every clause associates with one value of each. In Evans (1995a) six features are used, if we count as 'features' the kinds of marking which fulfil the same function as my TAMA and TAMT. In a given clause either two or three are used, and which features are used will vary from one clause type to another. The discrepancy between the two analyses can be illustrated with the four short clauses in (9.2)–(9.5).[5]

[3] I will not discuss the incipient TAM markers in this section as Evans (1995a) does not analyse them as distinct parts of the inflectional systems (cf §5.4.1).

[4] Evans' notion of word-class changing inflection is rather different from the notion in Distributed Morphology according to which roots acquire their word class only by virtue of class-bestowing functional heads in their syntactic environment (Harley and Noyer 1999; Embick 2000). For Evans, stems are inherently classed and their class changes despite there being no alteration of the syntactic environment; in DM stems are inherently classless and only change class when their environment changes.

[5] For the purposes of providing paradigms of comparable examples, I deviate here from my usual practice of citing only attested sentences. The TAM features (9.2)-(9.5) can be found in attested sentences in (7.37), (B.7), (4.13), and (5.32) respectively.

In (9.2) my TAMT corresponds to Evans' TENSE and my TAMA to Evans' MODAL CASE. Evans' (1995a) features are indicated in parentheses in the final line of the gloss.

(9.2)	*Ngada*	*waaja*	*wangarri.*
	ŋat̪-ta	waː-c-a	waŋar+ki-a
	1sg-T	‹sing-J›-T	song-µLOC-T
	1sg	‹sing›-**TAMT:PAST**	song-**TAMA:INS**
		(TENSE)	(MODAL CASE)
	'I sang a song.'		

In (9.3) my TAMT now corresponds to Evans' INFLECTIONAL NOMINALIZATION, a morphological operation which occurs across the same syntactic domain as TENSE but which converts stems into 'morphological nominals' (more on which below). My TAMA corresponds in (9.3) to Evans' ASSOCIATING CASE, which occurs in conjunction with 'nominalized' verbs of the type in (9.3), and which appears in addition to the ZERO value of MODAL CASE (Evans 1995a:472, 483).

(9.3)	*Ngada*	*waanda*	*wangarrinj.*
	ŋat̪-ta	waː-c-n-ta	waŋar-in̪t̪a-ø
	1sg-T	‹sing-J›-µN-T	song-µOBL-T
	1sg	‹sing›-**TAMT:PROG**	song-**TAMA:CONT**
		(NOMINALIZATION)	(ASSOCIATING CASE + MODAL CASE:zero)
	'I am singing a song.'		

The clause in (9.4) also contains an inflectionally nominalized verb on Evans' account, but one which further inflects for what I will term 'NOMINALIZATION CASE$_1$'.[6] Thus, here my TAMT corresponds to a combination of INFLECTIONAL NOMINALIZATION and NOMINALIZATION CASE$_1$. My TAMA corresponds to Evans' MODAL CASE once again, illustrating the fact that the ASSOCIATING CASE in (9.3) above only co-occurs with INFLECTIONAL NOMINALIZATION if NOMINALIZATION CASE$_1$ is absent.

(9.4)	*Ngada*	*waanmarriya*	*wangarri.*
	ŋat̪-ta	waː-c-n-wari-a	waŋar+ki-a
	1sg-T	‹sing-J›-‹µN-µPRIV›-T	song-µLOC-T
	1sg	‹sing›-‹**TAMT:NONVER**›	song-**TAMA:INS**
		(NOMINALIZATION (µN) &	(MODAL CASE)
		NOMINALIZATION CASE$_1$ (µPRIV))	
	'I am not singing a song.'		

[6] Evans does not assign any specific label to this kind of case, but nominalization case$_1$ is not distributed like any other kinds of case in Evans' analysis (adnominal case, relational case, modal case, or complementizing case) so presumably should not be identified with any of them.

Lastly in (9.5) my TAMT again corresponds to INFLECTIONAL NOMINALIZATION and NOMINALIZATION CASE$_1$, but this time my TAMA corresponds to yet another kind of CASE. Evans does not give this CASE a specific name, but notes (1995:480) that it displaces the MODAL CASE which appears in clauses like (9.2) and (9.4). Here I will call it NOMINALIZATION CASE$_2$.

(9.5)	*Ngada*	*waanngarrba*	*wangarrngarrb.*
	ŋat̪-ta	waː-c-n-ŋarpa-ø	waŋar-ŋarpa-ø
	1sg-T	‹sing-J›-‹μN-μCONS›-T	song-μCONS-T
	1sg	‹sing›-‹**TAMT:ANTT**› (NOMINALIZATION (μN) & NOMINALIZATION CASE$_1$ (μCONS))	song-**TAMA:ANTA** (NOMINALIZATION CASE$_2$)
	'I have sung a song.'		

The sum of these differences is that Evans (1995a) employs three kinds of CASE where I use TAMA, usually with one, but sometimes with two kinds per clause, and three kinds of marking where I use TAMT. The asymmetric co-occurrences of those features is summarized in Table 9.3. The points I make here are simply that in terms of raw numbers of features required, the analysis presented in the preceding chapters is more parsimonious, and that it is more perspicuous insofar as it captures a twin system of TAM marking in terms of two consistent features, rather than six in various permutations.

9.2.2 *Complexity of conditioning*

In contrast to the analysis proposed here, Evans (1995a) does not analyse Kayardild's thematics TH and J as part of stems (§2.2.2) and therefore some other mechanism must be employed to condition the appearance of the equivalents of TAMT and TAMA inflection. The mechanism employed is an abstract diacritic feature which Evans (1995a, 2000, 2003) refers to as a stem's 'morphological word class' (I substantiate my claim that this feature is diacritic only in §9.2.3 below). This is different from a word's syntactic word class (Evans 1995a:89) which determines its syntactic behaviour. In

TABLE 9.3 Equivalents of TAMA and TAMT in Evans (1995a)

TAMA equivalent	Clause types (listed according to their TAMT equivalent)
MODAL CASE	all those with TENSE, some with INFLECTIONAL NOMINALIZATION and NOMINALIZATION CASE$_1$
ASSOCIATING CASE & MODAL CASE:zero	all with INFLECTIONAL NOMINALIZATION and no NOMINALIZATION CASE$_1$
NOMINALIZATION CASE$_2$	some with INFLECTIONAL NOMINALIZATION and NOMINALIZATION CASE$_1$

this section I argue that Evans' choice of diacritic analysis, which one might expect to be benign, is compromised by a need to refer to the layered composition of a stem in order to decide which feature it should inflect for.

Evans (2003) states that the equivalents of my TAMA are assigned to DPs, and that the equivalents of my TAMT are assigned either to verbs and thence by agreement to other morphologically verbal words, or in parallel to all morphologically verbal words. This account proceeds straightforwardly in cases such as (9.6). Glossing in the next few examples follows Evans' analysis (including VCASE for verbalizing case; NOMZN for inflectional nominalization; NOMZN CASE for nominalization case). The morphological word class of stems is indicated by a subscripted N or V on morphs in the phonological representation. The termination (T) is not glossed.

(9.6)	*Ngada*	*waaja*	*wangarriya*	*thabujumaruth.*
	ŋat̪$_N$-ta	waː$_V$-c-a	waŋar$_N$+ki-a	t̪apucu$_N$-maɻu$_V$-t̪-a
	1sg	sing-TENSE	song-MODAL CASE	e.Br-VCASE-TENSE

'I sang a song for my brother.' [Glossed after Evans 1995a]

The clause in (9.6) contains a syntactic verb (whose stem is morphologically verbal), a direct object DP (morphologically nominal) and a dative referent which is syntactically a DP but which carries inflection for VERBALIZING CASE (my thematic CASE), which converts it into a morphologically verbal unit. The assignment of features is straightforward. Morphologically verbal stems inflect for TENSE and morphologically nominal stems inflect for MODAL CASE which is assigned to DPs. Unproblematically, although MODAL CASE is generally assigned to DPs, it presumably cannot be assigned to (or perhaps, cannot be realized on) morphologically verbal stems.

In (9.7) the verb is marked with INFLECTIONAL NOMINALIZATION, as is the dative DP, while the direct object is inflected for ASSOCIATING CASE and MODAL CASE:zero.

(9.7)	*Ngada*	*waanda*	*wangarrinja*	*thabujumarund.*
	ŋat̪$_N$-ta	waː$_V$-n$_N$-ta	waŋar$_N$-in̪t̪a	t̪apucu$_N$-maɻu$_V$-n$_N$-ta
	1sg	sing-NOMZN	song-ASSOCIATING CASE & MODAL:zero	e.Br-VCASE-NOMZN

'I am singing a song for my brother.' [Glossed after Evans 1995a]

Since ASSOCIATING CASE and MODAL CASE:zero are assigned to DPs, the inflection of the direct object is straightforward: its morphologically nominal stem inflects for the features assigned to it. The inflection of the verb is likewise straightforward since the only feature available to it is INFLECTIONAL NOMINALIZATION, which applies to morphologically verbal stems. But what of the dative DP? The morphologically verbal stem *thabuju*$_N$-*maru*$_V$- will inflect straightforwardly for INFLECTIONAL NOMINALIZATION, but this yields *thabuju*$_N$-*maru*$_V$-*n*$_N$- which is a morphologically nominal word in a DP. Without further stipulation we might expect *thabuju*$_N$-*maru*$_V$-*n*$_N$- to inflect for ASSOCIATING CASE and MODAL CASE:zero just like the direct object DP which is also a morphologically nominal stem in a DP. Several conceivable accounts are available. If ASSOCIATING CASE/MODAL CASE:zero were assigned only to morphologically nominal words in DPs, and if it were assigned after the assignment (and realization) of VERBALIZAING CASE but before the assignment and/or realization of INFLECTIONAL NOMINALIZATION (at which point *thabuju*$_{\mathrm{N}}$-*maru*$_{\mathrm{V}}$- is still verbal), then the correct result is obtained. Alternatively it could be stipulated that ASSOCIATING CASE/MODAL CASE:zero cannot attach to an inflectionally nominalized stem, though this seems to run against the spirit of the analysis, because it is no longer a morphological word class *per se* which is conditioning inflection but rather the fact that the stem ends in a suffix that has caused a *change* in the morphological word class, from verbal to nominal. Similar issues arise with the clause in (9.8).

(9.8)	*Ngada*	*waanmarriya*	*wangarriya*	*thabujumarunmarri.*
	ŋat̪$_{\mathrm{N}}$-ta	waː$_{\mathrm{V}}$-n$_{\mathrm{N}}$-wari-a	waŋar$_{\mathrm{N}}$-ki-a	t̪apucu$_{\mathrm{N}}$-maɻu$_{\mathrm{V}}$-n$_{\mathrm{N}}$-wari-a
	1SG	sing-NOMZN-NOMZN CASE$_1$	song-MODAL CASE	e.Br-VCASE-NOMZN-NOMZN CASE$_1$

‘I am not singing a song for my brother.’ [Glossed after Evans 1995a]

The direct object is assigned MODAL CASE as in (9.6). The verb is first assigned INFLECTIONAL NOMINALIZATION uncontroversially. The dative DP is presumably assigned INFLECTIONAL NOMINALIZATION and not assigned MODAL CASE for reasons parallel to (9.7) (which as discussed above may require ordered feature assignment—MODAL CASE first, then INFLECTIONAL NOMINALIZATION—or a weakening of morphological word class as the driver of TAM inflection). The question which remains is how NOMINALIZATION CASE$_1$ is assigned and why it is assigned where it is. NOMINALIZATION CASE$_1$ cannot simply be assigned to syntactic verbs, because the dative DP acquires it. Nor can it simply be assigned to morphologically verbal words because once INFLECTIONAL NOMINALIZATION has been realized, all previously morphologically verbal stems in (9.6) will have been converted into morphological nominals. Perhaps one could say that NOMINALIZATION CASE$_1$ is incompatible with MODAL CASE which is assigned earlier, although again this weakens the status of morphological word class as the driver of TAM inflection (since inflection is now sensitive to kinds of CASE). Or it could be said is that NOMINALIZATION CASE$_1$ is assigned not to any syntactic class, and not to any morphological word class, but to the class of morphologically nominalized words, that is, those ending in suffixes which convert morphological verbals into morphological nominals. As such, it appears unavoidable that the rules of feature assignment are sensitive to syntactic word class (as when MODAL CASE is assigned only in DPs), and morphological word class, and either the morphological word class history of a word or to certain kinds of CASE. This is a convoluted arrangement in comparison to the analysis of Kayardild inflection presented in

Chapters 4–9, where the choice between inflecting for TAMA or TAMT is conditioned always and only by the rightmost morphomic element of the stem.

9.2.3 Why thematic case markers are not verbalizing

The analysis of Kayardild TAM inflection proposed in Chapters 4–9 does not invoke the notion of a morphological word class which is distinct from syntactic class. Consequently, if there were content to Evans' notion of morphological word class beyond its use as an inflection-conditioning diacritic, then the analysis proposed here could be considered wanting. Evans (1995a:177–80) argues that morphologically verbalized nominals are indeed contentfully verbal in two respects. Here I argue against that position.

The first of Evans' two arguments relates to verbal argument structure. It is claimed that 'one may treat the verbal[izing] case as governing NP arguments in various grammatical functions' (Evans 1995a:177), and that '[a] satisfactory representation of verbal[izing] case, then, requires verb-like argument structures' (Evans 1995a:178). Two lines of evidence are offered, the first relating to main verb elision and the second to non-conflicting grammatical functions.

The semantics of thematic CASE (verbalizing case) pertains to events of motion and transfer (cf §4.1.1) and it is a true observation that Kayardild main verbs in motion and transfer clauses are frequently omitted if the clause contains syntactic nominals inflected for thematic CASE. An example is (9.9) in which the highlighted, dative DP is morphologically verbalized on Evans' account.

(9.9)	*(Nyingka)*	*(wuuja)*	***ngijinmarutha***	*kuwand!*
	ɲiŋ+ka	wuː-c-a	ŋicu-iɲ-maɻu-t̪-a	kuwaɲ-ta
	2sg-T	‹give-J›-T	1sg-µINY-‹µDAT-TH›-T	fire stick-T
	2sg	‹give›	1sg-ø-‹DAT›	fire stick

'(You) give me the firestick!' [E177.ex.4–153]

The question here is whether main verbs are omissible because words such as *ngijinmarutha* are like verbs and can govern subjects and objects, or because words such as *ngijinmarutha* are semantically rich enough that the nature of the event can be recovered pragmatically. Evidence supports a pragmatic account. Kayardild main verbs of motion are also freely elided from clauses whose motion semantics can be inferred from the content of non-verbalized DPs. This is illustrated in (9.10) where movement is inferable from the lexical semantics of *jinarungku* 'where to' and *balungku* 'to the west', and in (9.11) where movement is inferable from the allative CASE inflection.

(9.10)	*Nyingka*	***jinarungku?***	*Ngada*	***balungku.***
	ɲiŋ+ka	cina-ɻuŋ+kuu-ø	ŋat̪-ta	pat̪-ɻuŋ+kuu-ø
	2sg-T	where-µALLC-µ̋PROP-T	1sg-T	west-µALLC-µ̋PROP-T
	2sg	where-ALLC-FUT	1sg	west-ALLC-FUT

'Where are you (going) to? I'm (going) to the west.' [E688]

(9.11)

(9.11)	*Ngada*	***dathinkiringku***	***kamarriringku.***
	ŋat̪-ta	t̪at̪in+ki-ɻiŋ+kuu-ø	kamar+ki-ɻiŋ+kuu-ø
	1sg-T	that-‹μLOC-μALL›-μ̋PROP-T	dugong-‹μLOC-μALL›-μ̋PROP-T
	1sg	that-‹ALL›-FUT	dugong-‹ALL›-FUT

‘I will (go) to that stone.’ [W1960; E318.ex.9-28]

As Evans notes with respect to examples like this, ‘the meaning of certain case suffixes includes a movement component, and provided that the meaning of “movement” is expressed, whether by case suffix, verb, or both, the sentence is grammatical’ (1995a:319). This account extends without problem to clauses denoting transfer events, and the thematic CASE values (Evans’ verbalizing case). The elision of main verbs in sentences such as (9.9) furnishes no positive evidence for thematic cases possessing a verb-like argument structure.

The second line of evidence offered by Evans relates to the requirement on multiple verb heads of Kayardild clauses discussed in §5.5.1, that they have non-contradictory argument structures. Evans’ claim (1995a:178–80) is that these restrictions on argument structure apply also to morphologically verbalized nominals. For example, the dative suffix in (9.9) governs a direct object which must be the theme (i.e. the moved or transferred entity) in an event of caused movement or transfer (Evans 1995a:177–80). If this is true then two predictions follow. First the dative presumably should not appear in passivized clauses in which the theme has been promoted to subject, since the dative requires the theme to be an object. Secondly, dative DPs should not appear in the same clause as DPs in the (thematic/verbalizing) donative CASE, since the donative requires the direct object to be the recipient (Evans 1995a:180). My corpus however contains examples of both constructions in the spontaneous speech of speakers in full command of the traditional language, shown in (9.12) and (9.13) respectively.

(9.12)	*Kunawun*	*kurrkaaj,*	*juujamaruth,*
	kuna+kuna-ø	kurka-i-c-a	cuːca-maɻu-t̪-a
	‹child_{NL}-child_{NL}›-T	take-‹μMID-J›-T	church-‹μDAT-TH›-T
	‹children›	take-‹MID›	church-‹DAT›

makuwa	*kurrkaaj.*
maku-a	kurka-i-c-a
woman-T	take-‹μMID-J›-T
Women	take-‹MID›

‘The children get taken to church, the women get taken.’ [R2005-jul05b]

(9.13)	*Ee*	*wuuja*	*ngada*	*bardakamarutha*	*yakuriwuj!*
	eː	wuː-c-a	ŋat̪-ta	pat̪aka-maɻu-t̪-a	jakuɻi-wu-c-a
	hey	‹give-J›-T	1sg-T	belly-‹μDAT-TH›-T	fish-‹μDON-J›-T
	hey	‹give›	1sg	belly-‹DAT›	fish-‹DON›

A woman commands her country: ‘Hey, give me fish for my belly’ [R2005-jul01c; uttered under a single intonation contour]

Sentences (9.12) and (9.13) counterexemplify the hypothesis that morphologically verbalized nominals have verb-like argument structures. I suggest that what we are witnessing in Kayardild is an instance of the phenomenon referred to in the grammaticalization literature as **persistence** (Hopper 1991), in which suffixes that have evolved from erstwhile free lexemes continue to exhibit quirks of synchronic behaviour retained from their older function. It is for this reason that thematic CASE suffixes behave for the most part in a manner which is consistent with their possessing a verb-like argument structure. Examples such as (9.12) and (9.13) are illuminating because they show that the suffixes in modern Kayardild have decoupled from their prior status as verbs and have begun to accrue a more extended range of usage. More generally, while it is true that thematic CASE inflections are semantically rich, and rich in a sense which pertains to argument-like roles, it should be remembered that even suffixes with no verbal pedigree participate in this kind of semantic behaviour in Kayardild, as pointed out in §3.2.6 with respect to derivational, compounded nominal stems ending in the morphomic privative, proprietive, and associative suffixes. The contribution of argument-like semantics is not the sole preserve of verbs.

A final argument given in support of morphologically verbalized nominals being contentfully verbal is that DPs inflected for thematic CASE cannot be relativized on or 'be the pivot in any complex construction … reflect[ing] the less-than-full argument status of such constituents' (Evans 1995a:180). Although it is true, there is little that follows from this observation, since the only DPs which are relativized on (using an embedded VP constituent) are subjects and objects, and arguably in one recorded instance (9.23), a CASE:proprietive DP; pivots in Kayardild may be subjects, possessors, objects, locations, or instruments (Evans 1995a:500–11), the latter three of which arguably fall under the one category of V complement (i.e. direct object or locational object, cf §5.5.2). In terms of their resistance to relativization and use as pivots, DPs inflected for thematic CASE (verbalizing CASE) are no different from DPs inflected for other, athematic CASE values of comparable semantic richness, such as privative, associative, or utilitive.

There is no compelling reason to regard 'morphological word class' as possessing content beyond its function as an inflection-conditioning diacritic, and thus the analysis proposed in Chapters 4–9, which dispenses with the notion, does not lose descriptive power by doing so. It is entirely feasible, and more parsimonious, to analyse Kayardild inflection without inflectional word-class conversion.

9.3 Inflection and recursion

We turn next to the topic of recursion in the inflectional morphology of Kayardild. Given the nature of concord in Kayardild, our expectation is that words in deeply embedded syntactic positions should typically inflect for large numbers of morphosyntactic features. Moreover, since it is possible to embed constituents of the same type within one another (e.g. VP below VP; DP below DP), we expect that features associated with those types of nodes should recur in association with single words: for example, we should find words which inflect for multiple TAMA and TAMT features, multiple CASE features or multiple NUMBER features. The first purpose of this section is to confirm that in general this is indeed the case, by providing a catalogue of attested recursive morphological structures in §9.3.1. The second purpose is to consider the apparent existence of an upper limit to the morphological complexity of Kayardild words. In §9.3.2 it is argued *contra* claims in the literature, that any constraints which do exist on the complexity of Kayardild words are not in essence morphological, but syntactic. Finally in §9.4, I review existing formal studies of Kayardild inflectional recursion and note implications for them of the revised analysis of the Kayardild facts proposed in Chapters 4–9.

9.3.1 Recursive features and pairwise orderings

This section assembles a catalogue of all of the pairs of features which co-occur in Kayardild words together with supporting examples (such a catalogue has not been published previously). The section will conclude by considering the analysis of one suspicious sentence and two suspicious word forms whose syntactic or morphological structures are unique and whose grammaticality must be regarded with reservation.

Table 9.4 lists the morphosyntactic features of which multiple tokens have been attested, each with overt realization, in association with a single word which either appears in a sentential context, or is reported to have been uttered spontaneously by a Kayardild speaker. Cross references are given to examples, two of which follow.

(9.14) NUMBER–CASE–CASE–TAMT–SEJ
ngurruwarrawalathinabamaruthurrka
ŋuruwara+palat̪+ki-napa-maɻu-t̪+kurka-ø
fishtrap-μPL-‹μLOC-μABL›-‹μDAT-TH›-μLOC.OBL-T
fishtrap-PL-‹ABL›-‹DAT›-INS-SEJ
'for the ones from the many fishtraps' [E66]

(9.15) NUMBER–TAMA–TAMA

Ngada	*jungarrawu*	*wangalku*	*barrkiju*
ŋat̪-ta	cuŋara+kuu-ø	waŋalk+kuu-ø	parki-c+kuu-ø
1SG-T	big-μ̋PROP-T	boomerang-μ̋PROP-T	‹cut-J›-μ̋PROP-T
1SG	big-FUT	boomerang-FUT	‹cut›-POT

dangkawalanymarrawu	*balanku.*
ʈaŋka+palat̪-mara+kuu-ø	pala-t̪-n+kuu-ø
person-μPL-μUTIL-μ̋PROP-T	‹kill-TH›-μN-μ̋PROP-T
person-PL-FUNC-FUT	‹kill›-PROG-FUT

'I will cut a big boomerang for killing people.' [W1960]

TABLE 9.4 Features multiply-attested, with an overt realization, in a single word

Feature	In ex.	Word	Values
CASE	(9.14)	*ngurruwarrawalathinabamaruthurrka*	ABL, DAT
TAMA	(9.15)	*dangkawalanymarrawu*	FUNC, FUT
TAMT	(5.28)	*karduranmariijuunth*	INCPT, POT

Table 9.4 catalogues the ability of Kayardild words to inflect for two values of CASE, TAMT and TAMT. The only word which arguably inflects for three values of any feature in Kayardild is *ngimiwaanjinabawu* in (9.23), but this appears in our suspicious sentence to be discussed below and which may require reanalysis, in which case *ngimiwaanjinabawu* would contain only two CASE features.

There are no words inflected for multiple instances of +SEJ, +COMP or NEGATION. In each case, the lack of attestation stems from the fact that S″ presents an opaque barrier to feature percolation (Chapter 8). All three of +SEJ, +COMP, or NEGATION appear only in full clauses and not in embedded VPs, as a result of which the accumulation of multiple copies would require percolation across the maximal clausal node S″, which cannot occur. I have no instances of a word which occurs in sentential context and which inflects for multiple NUMBER values. Such a word would need to appear in the same kind of syntactic structure required to support multiple CASE inflections. Since the latter is attested, it would appear that the lack of attested, multiple NUMBER inflection is an accidental gap in the corpus.

Table 9.5 lists pairs of distinct features F, G attested as overtly realized on the same word, in contexts where feature F attaches to a syntactic node which is no higher than the node to which G attaches.[7]

(9.16) NUMBER–CASE–TAMA

Bankiwalanurruya	*kurrumbuwuru*	*kurdalath.*
panki-walat̪-ɳuru+ki-a	kurumpu+kuɻu-ø	kuʈala-t̪-a
lagoon-μPL-μASSOC-μLOC-T	fish spear-μ́PROP-T	‹spear-TH›-T
lagoon-PL-ASSOC-INS	fish spear-PROP	‹spear›

'(People) speared (fish) with a fish spear, at places with lots of lagoons.'

(9.17) NUMBER–TAMA–SEJ; TAMT–SEJ

Widawalathuuntha	***jaajaajuunth.***
wita+palat̪+kuu-in̪t̪a-ø	caː-c-caː-c+kuu-in̪ta-ø
hole-μPL-μ́PROP-μOBL-T	‹enter-J-enter-J›-μ́PROP-μOBL-T
hole-PL-FUT-SEJ	‹fish into repeatedly›-POT-SEJ

'We will fish into to the holes.'

[7] NEGATION is left aside here. It is always realized cumulatively with, or immediately before, TAMT.

TABLE 9.5 Pairs of distinct features F, G attested as overtly realized on the same word

Feature F	Feature G	In ex.	Word	Values
NUMBER	CASE	(9.16)	*bankiwalanurruya*	PL, ASSOC
	TAMA	(9.17)	*widawalathuuntha*	PL, FUT
	SEJ	(9.18)	*dangkawalathinj*	PL, +
	COMP	(5.10)	*dangkawalathiya*	PL, +
CASE	TAMA	(5.46)	*Murdumurduwaanju*	ORIG, FUT
	TAMT	(5.46)	*jingkarmaruthu*	DAT, POT
	SEJ	(9.19)	*ngukumarranth*	UTIL, +
	COMP	(5.17)	*bijarrbawuruy*	PROP, +
TAMA	SEJ	(9.17)	*widawalathuuntha*	FUT, +
	COMP	(5.2)	*kurulutharraya*	PST, +
TAMT	NUMBER	9.20)	*minakuriwulaankiyarrngk*	CONT, DU
	SEJ	(9.17)	*jaajaajuunth*	POT, +
	COMP	(9.20)	*raajuruya*	POT, +
SEJ	(none)			
COMP	(none)			

(9.18) NUMBER–SEJ

Wirrkajuuntha	***dangkawalathinj.***
wirka-c+kuu-n̪ta-ø	ʈaŋka+palat̪-in̪t̪a-ø
dance-µ́PROP-µOBL-T	man-µPL-µOBL-T
dance-POT-SEJ	man-PL-SEJ

(While they sing,) ‘the men will dance.’ [W1960]

(9.19) CASE–SEJ

Dankurrka	*birndibirndinja*	*rawalaninja*	***ngukumarranth.***
ʈan+kurka-ø	piɳʈi-piɳʈi-ɲca-ø	ɹawalan-in̪t̪a-ø	ŋuku-mara-in̪t̪a-ø
here-‹µLOC.µOBL›-T	‹shell$_{NL}$-shell$_{NL}$›-µOBL-T	baler-µOBL-T	water-µUTIL-µOBL-T
here-‹PRES-SEJ›	‹baler›-SEJ	baler-SEJ	water-UTIL-SEJ

‘Here’s a baler shell for (carrying) water.’ [R2005-jul06]

(9.20) TAMT–COMP; CASE–TAMT–NUMBER

Ngakulda	***raajuruya***	[$_{DP}$[$_{D'}$	*dathinkiyarrngka*
ŋa-ku-l-ta	ɹaː-c+kuɹu+ki-a		ʈat̪in+kiarŋ+ka
1-2-pl-T	‹spear-J›-µ́PROP-µLOC-T		that-µDU-T
1-2-pl	‹spear›-POT-CMP		that-DU

[NP[N′[VP…[DP ***Minakuriwulaankiyarrngk!***ABLS]…PROG]]]] DU][8]
minakuɻi-wula-i-c-n+kiarŋ+ka
(place name)-‹µABLO-µMID-J›-µN-µDU-T
(place name)-‹ABLS›-PROG-DU
'We'll spear those two who are coming from Minakuri!' [R2005-jul08]

In §9.3.2 next, I will argue that the examples cited above contain certain gaps which in all likelihood are non-accidental. Specifically, although there are many attested combinations of features which correspond to the syntactic embedding of DP within DP, there is no uncontentious combination of features corresponding to the embedding of DP within DP within DP. Nor is there any uncontentious combination corresponding to the embedding of VP within an overtly case-marked DP. There are however three suspicious potential counterexamples which should be mentioned first.

Examples (9.21) and (9.22) are cited in Evans (1995a) as single words without accompanying sentential context and are not reported as having been spontaneously uttered.[9]

(9.21) ? CASE–NUMBER–CASE–CASE–CASE–COMP
? kunawunarnurruwalakarrannguninabaya=da
kuna+kuna-ɳuru+palat̪-karaɲ-ŋuni+ki-napa+ki-a=ic-ta
‹child$_{NL}$-child$_{NL}$›-µASSOC-µPL-µGEN-µINST-‹µLOC-µABL›-µLOC-T=µSAME-T
‹child›-ASSOC-PL-GEN-INST-ABL-COMP = SAME
'whereas still using the (things) of the many people with children' [E66]

(9.22) ? NUMBER–CASE–CASE–NUMBER
? makuyarrnurrunabawala
maku+kiarŋ-ɳuru+ki-napa+palaa
woman-µDU-µASSOC-‹µLOC-µABL›-µPL.T
woman-DU-ASSOC-‹ABL›-PL
'the many belonging to (those) having two wives' [E116]

Example (9.21) contains four overtly realized CASE features and therefore would correspond to a particularly deep embedding of four DPs.[10] Example (9.22) inflects overtly for two CASE features plus another NUMBER feature outside of them, which

[8] The word *Minakuriwulaankiyarrngk* is an N head in a DP inflected for CASE:subjective-allative, which sits within a VP relative clause (i) whose main verb is elided, (ii) which is marked for TAMT: progressive, and (iii) which sits as adjunct to N′ within a matrix DP. That matrix DP (i) lacks an overt N head of NP; (ii) has a determiner *dathinkiyarrngka*, and (iii) is inflected for NUMBER:dual. The NUMBER feature percolates all the way down to *Minakuriwulaankiyarrngk*.

[9] Regarding the length of (9.21) as measured in syllables Evans comments, 'I have not heard such long forms in free speech' (1995a:66).

[10] Because word (9.21) also inflects for +COMP, which on Evans' (1995a) analysis is complementizing case, it also exceeds Evans' (1995a:122–3, 1995b) own reported upper limit of four case suffixes on Kayardild words (see §9.3.2 for further discussion of this upper limit).

would require an embedding of three DPs. On the grounds that my corpus of actual utterances and sentences, which includes those published by Evans (1995a), contains no convincing evidence of DP within DP within DP, it seems appropriate to regard the grammaticality of (9.21) and (9.22) as questionable. This requires a little more justification, since both words were presumably accepted by speakers during Evans' research. It is possible that the nature of speakers' acceptance of the forms was similar to what I experienced in the field myself, where (younger) speakers of Kayardild accepted some suggested forms which were known to be, or later proved to be, ill-formed in the traditional language, provided that the forms were composed of legitimate Kayardild morphs. (It is primarily for this reason that all examples elsewhere in this book have deliberately been restricted to utterances recorded from older speakers, or published elsewhere as full sentences.)

For similar reasons, it seems prudent to regard example (9.23) as contentious.

<table>
<tr><td>(9.23)</td><td>(Darirra</td><td>?mardalaaja /</td><td>?mardalaaju)</td><td>[_{DP}</td><td>muthawu</td><td>ngunymurru],</td></tr>
<tr><td></td><td>ṭaɻir-a</td><td>maṭala-i-c-a</td><td>maṭala-i-c+kuu-ø</td><td></td><td>mut̪a+kuu-ø</td><td>ŋuɲmur+kuu-ø</td></tr>
<tr><td></td><td>infant-T</td><td>rub-‹MID-J›-T</td><td>rub-‹MID-J›-μ̋PROP-T</td><td></td><td>much-μ̋PROP-T</td><td>grease-μ̋PROP-T</td></tr>
<tr><td></td><td>infant</td><td>rub-‹MID›</td><td>rub-‹MID›-POT</td><td></td><td>much-PROP|FUT</td><td>grease-PROP|FUT</td></tr>
</table>

<table>
<tr><td>[_{DP}</td><td>muthawu</td><td>ngunymurru</td><td>wuranku],</td></tr>
<tr><td></td><td>mut̪a+kuu-ø</td><td>ŋuɲmur+kuu-ø</td><td>wuɻan+kuu-ø</td></tr>
<tr><td></td><td>much-μ̋PROP-T</td><td>grease-μ̋PROP-T</td><td>food-μ̋PROP-T</td></tr>
<tr><td></td><td>much-PROP|FUT</td><td>grease-PROP|FUT</td><td>food-PROP|FUT</td></tr>
</table>

<table>
<tr><td>[_{DP}</td><td>makunmaanju</td><td>wuranku],</td></tr>
<tr><td></td><td>mak-wu-c-n-waːɲ+kuu-ø</td><td>wuɻan+kuu-ø</td></tr>
<tr><td></td><td>‹torch-μDON-J-N-μORIG›-μ̋PROP-T</td><td>food-μ̋PROP-T</td></tr>
<tr><td></td><td>‹obtained by torchlight›-PROP|FUT</td><td>food-PROP|FUT</td></tr>
</table>

<table>
<tr><td>[_{DP}</td><td>ngimiwaanju</td><td>wuranku],</td><td>[_{DP}[_{NP}[_{N′}[_{VP}</td><td>kurdalathirrinju</td></tr>
<tr><td></td><td>ŋimi-waːɲ+kuu-ø</td><td>wuɻan+kuu-ø</td><td></td><td>kuṭala-t̪-iriɲ+kuu-ø</td></tr>
<tr><td></td><td>night-μORIG-μ̋PROP-T</td><td>food-μ̋PROP-T</td><td></td><td>‹spear-TH›-μRES-μ̋PROP-T</td></tr>
<tr><td></td><td>night-ORIG-PROP|FUT</td><td>food-PROP|FUT</td><td></td><td>‹spear›-RES-PROP|FUT</td></tr>
</table>

<table>
<tr><td>ngimiwaanjinabawu</td><td>kanthathunabawu]]]].</td></tr>
<tr><td>ŋimi-waːɲ+ki-napa+kuu-ø</td><td>kan̪t̪at̪u+ki-napa+kuu-ø</td></tr>
<tr><td>night-μORIG-‹μLOC-μABL›-μ̋PROP-T</td><td>father-‹μLOC-μABL›-μ̋PROP-T</td></tr>
<tr><td>night-ORIG-‹ABL›-PROP|FUT</td><td>father-‹ABL›-PROP|FUT</td></tr>
</table>

'(The newborn was rubbed) with lots of grease, lots of greasy food, with food (speared) by (the light of) a bark torch, with food (speared) at night-time, speared by (the baby's) father at night-time.' [E116.ex.3-52]

The difficulty here is that sentence (9.23) was uttered without the two initial words, which appear in parentheses as (*darirra mardalaaja/?mardalaaju*). Evans (1995a:116) cites *darirra mardalaaja* in parentheses, and adds that, '[t]he ellipsed material was not present when I recorded this, but was supplied later when I asked about the meaning of this sentence'. If it is true that (9.23) is grammatical with initial *darirra mardalaaja* then it is unique in two significant respects. First, it contains the only instance in my corpus of a word inflected for three CASE values: *ngimiwaanjinabawu*, which appears in the only DP within DP within DP attested in a sentential context. Secondly, it contains the only attested instance of a word inflected for a TAM feature from a lower node than CASE: *kurdalathirrinju*, which appears inside the only embedded VP attested within an overtly CASE-marked DP. Importantly, these multiple idiosyncrasies obtain only if the main verb is *mardalaaja* (inflected for TAMT: actual), in which case the only interpretation available for the μPROP marking across most of the clause is as a realization of CASE:proprietive. On the other hand, if the main verb were *mardalaaju* (inflected for TAMT:potential) then the μPROP marking across most of the clause would be a realization of TAMA:future and sentence (9.23) would not be syntactically or morphologically unique in any way.[11]

The questionable status of (9.21), (9.22), and (9.23) bear significantly on our understanding of the relationship in Kayardild between multiple feature marking and the syntactic structures which underlie it. If (9.21) and (9.22) are ungrammatical and if the originally-elided material in (9.23) is assumed to have been *darirra mardalaaju* then (i) no feature has been attested in Kayardild with more than two values marked on a single word; (ii) CASE, the TAM features, COMP, and SEJ always attach to nodes in a particular hierarchical order, with CASE lowest, then TAM, then SEJ, then COMP; (iii) the attested environments of embedded VPs coincide with DPs which have no overt CASE marking. If on the other hand (9.23) begins with *darirra mardalaaja* then none of those three generalizations holds. If (9.21) and (9.22) are grammatical then generalization (i) fails to hold. My suspicion is that the three generalizations are true, that (9.21) and (9.22) are ungrammatical, and that (9.23) is ungrammatical with *darirra mardalaaja*, and grammatical with *darirra mardalaaju.*

9.3.2 Explaining the limits of inflectional complexity

Even if the features CASE, TAMA, TAMT, and NUMBER are all limited to two overt values per word, we still predict some very exuberant inflection in Kayardild. The maximum expected would be seven overt inflections: two of CASE, two of NUMBER, two TAM values, and one of either +COMP or +SEJ. The greatest number uncontentiously attested though is just five: NUMBER–CASE–CASE–TAMT–SEJ in (9.14) above. Evans (1995a:114) mentions that attempts to elicit words or draw responses to suggested words with extreme amounts of inflection were unsuccessful. One significant observation with respect to this is that extreme inflection and the syntactic structures

[11] The final embedded VP would sit in a locational object 'instrument' DP unmarked for CASE: see §5.5.2 for reasons why instrument DPs in passive sentences can be considered a kind of object in Kayardild.

which would underlie it are both unattested in tandem. It is not the case that after some point syntactic structures continue to increase in complexity while the morphology fails to keep pace;[12] rather syntactic structures whose corresponding morphological structure would be 'too complex' also fail to occur. Since the syntax and the morphology both exhibit upper bounds of complexity, a question that presents itself is whether those upper bounds are inherently syntactic (in which case, we might expect more morphological complexity if only the syntax obliged), or morphological (in which case we might expect more syntactic complexity if only it were compatible with the morphology). Evans (1995b:410) argues for the latter interpretation, that it is the morphology of Kayardild which constrains the syntax, a claim repeated in abbreviated form in Evans and Levinson (2009:444). The claim is interesting as it implies that Kayardild is a counterexample to the principle of 'morphology-free syntax' (Zwicky 1996). In this section I argue to the contrary that the constraints are mostly if not entirely inherently syntactic. There are numerous syntactic structures which would be morphologically felicitous in Kayardild yet which are unattested, and there are some few syntactic structures which are attested despite the inability of the morphology to distinguish them overtly from others.

Evans (1995b:410) states that 'there are morphologically imposed limits to the syntactic possibilities of recursion' in Kayardild. To express the morphological constraints on word structure Evans proposes a model which I will term 'templatic opportunism'. Templatic opportunism states that a Kayardild word contains just one templatic slot for each of Evans' ADNOMINAL CASE (corresponding on my analysis to CASE), RELATIONAL CASE (also corresponding to my CASE), MODAL CASE (my TAMA), and COMPLEMENTIZING CASE (my +COMP and +SEJ), and that if any feature has two values which are to be realized overtly, then one value must co-opt an empty slot belonging to another feature (Evans 1995b:410).[13] The proposal is then that the syntax is constrained to generate just

[12] This alternate scenario is encountered in Old Georgian and Hurrian (Plank 1995:93). In Old Georgian and Hurrian a limited form of inflectional recursion occurs with respect to case marking, in which a word can inflect for no more than two case suffixes, even when the syntactic structures involved contain more than two layers of DP embedding.

[13] Evans (1995a:122–3) contains a different proposal, and one which is less explicit than Evans (1995b). A diagram shows four 'ranks' of inflection and four groupings of inflectional endings: [adnominal case and number], [relational case], [modal case], [associating case and complementizing case]. It is not clear if groupings should correspond to ranks, or if ranks are equivalent to 'slots' in Evans (1995b). It seems that ranks and slots should not be equated, since if we count number among our inflections, then the word *ngurruwarrawalathinabamaruthurrka* which is reported by Evans as occurring in spontaneous speech would exceed the number of available slots, with its five inflectional suffixes. Evans (1995a) also places explicit caps of two overt values on relational case (which together with adnominal case approximates to my CASE) and modal case (my TAMA) and of one value on complementizing case (my +SEJ and +COMP). These caps are not mentioned in Evans (1995b) and conceptually they are fundamentally different to Evans' (1995b) proposal. Evans (1995b) seeks to have the syntax constrained by limits on morphological exponence, whereas a cap that is placed on relational, modal, and complementizing case but not on adnominal case would constrain the system according to morphological function. Given that such functions can never exist or fail to exist independently of syntactic structures, a constraint on morphological *function* is much

those structures which can be distinctly realized by the templatically opportunistic morphology; should the morphology be unable to overtly realize a given set of morphosyntactic features, then the corresponding syntactic structure will be ill-formed. This model correctly predicts the attested maximum of four overt exponents for CASE, TAMA, and +COMP/+SEJ (it says nothing of NUMBER) but it falsely predicts structures which are not attested, and falsely eliminates structures which are. We begin with an example of predicted yet unattested syntactic structures.

If templatic opportunism were all that ultimately constrained the nature of embedding in Kayardild syntax then we would expect to find words inflected for example with three or four overt TAMA markers (since there are up to four slots available). A word with three TAMA features could reasonably be expected to appear on a direct object in an embedded VP constituent, embedded under another VP constituent embedded within a matrix S″, for example in the equivalent of 'I saw the man watching the women cooking *food*'. Such words and structures are unattested though. The maximal embedding of VP is one level deep under S″, a fact which does not follow from any constraints imposed by templatic opportunism but instead is inherently syntactic.

Evans' (1995b:410) model also predicts that if the morphosyntactic features of a syntactic structure cannot all be overtly realized, then the structure will be ill-formed. Explicitly included in this is the restriction that Kayardild places on μLOC (Evans' LOCATIVE CASE). However, in §6.8, as we examined evidence that Kayardild possesses CASE:locative DPs distinct from case:Ø DPs, we saw that for morphomic reasons the μLOC exponent of CASE:locative rarely appears overtly. This in turn neutralizes the morphosyntactic contrast between CASE:locative and case:Ø DPs, but it causes no problem. In direct contradiction of Evans' model, the syntactic structures in such cases are amply attested even though the realization of CASE:locative is blocked by the morphology. A model which limits syntax to overtly distinct possibilities afforded by templatic opportunism thus underpredicts, as well as overpredicts, the range of syntactic structures attested.

Evans and Levinson (2009:443) briefly put a related claim, that Kayardild will not tolerate more than one level of clausal (i.e. S″) embedding for inherently morphological reasons, namely that embedded clauses are marked with μOBL and that the language prohibits the appearance of multiple μOBL markers. This claim also overpredicts and underpredicts. First, the claim is that a sejunct complementized clause (marked by μOBL) could not appear subordinated to another sejunct complementized clause because it would require double μOBL marking, which the morphology prohibits. Yet in a discussion of 'purpose clauses' Evans (1995a:519–20) analyses (9.24) as exhibiting precisely this syntactic structure, remarking that '[w]hen a *subordinate* purpose clause follows a matrix clause describing some real event, it

the same as an inherently syntactic constraint, and different altogether from the *exponence*-based constraints of Evans (1995b) and Evans and Levinson (2009).

may give an inference, being drawn from the main clause, about the future' (my emphasis). Note that both the 'matrix' and 'subordinate' clauses in (9.24) exhibit (one copy of) overt μOBL marking for +SEJ.[14]

(9.24)

Ngijinda	*dulka*	*kariyathurrka*	*maljinja*
ŋicu-iɲ-ta	ʈulk+ka	kaɻija-t̪+kurka-ø	malci-in̪t̪a-ø
1sg-μPOSS-T	country-T	‹obscure-TH›-μLOC.OBL-T	school-μOBL-T
1sg-POSS	country	‹obscure›-PRES.SEJ	school-SEJ

wuraninj,	[$_{\text{Subordinate S}''}$	*bangantha*	*bijarrbantha*
wuɻan-in̪t̪a-ø		paŋa-in̪t̪a-ø	picarpa-in̪t̪a-ø
creature-μOBL-T		turtle-μOBL-T	dugong-μOBL-T
creature-SEJ		turtle-SEJ	dugong-SEJ

balungkurrka	*thulathuunth.*]
pat̪-ɻuŋ+kuu-in̪t̪a-ø	t̪ula-t̪+kuu-in̪t̪a-ø
west-μALLC-μ̋PROP-μOBL-T	‹descend-TH›-μ̋PROP-μOBL-T
west-ALLC-FUT-SEJ	‹descend›-POT-SEJ

'Schools of creatures are muddying up my sea-territory, so that (one can infer that) turtle and dugong will be descending westwards upon it.' [E520.ex.12-86]

Example (9.24) indicates that in the general case the morphological prohibition on multiple μOBL does not block S″ embedding, and consequently the lack of deep embedding of Kayardild S″ cannot be made to follow from morphological constraints. Like the prohibition against recursive embedding of VP, the prohibition against deep recursive embedding of S″ is inherently syntactic.[15]

The same line of reasoning can be extended further, to the observation that at most two values of CASE (using my definition of CASE) can be realized on a Kayardild word, and not the four which morphological constraints would predict. Again, the evidence indicates that there is a prohibition against deep recursive embedding (this time, of DP) which is inherently syntactic.

If templatic opportunism does not provide a satisfactory account, then why does there still appear to be an upper limit of four overtly realized features of CASE, TAMA, TAMT, COMP and SEJ? That limit is not the same as the five (two CASE + two TAM + one of +COMP or +SEJ) which follows from the constraints established so far. With sufficient attention to detail the answer will fall out from the syntax.

Our observed apparent maximum is four overtly realized features. To begin with, only one of +COMP and +SEJ may occur, so setting +COMP and +SEJ aside leaves a

[14] The direct object *ngijinda dulka* in the first clause has been topicalized so does not inflect for +SEJ.

[15] The syntactic nature of the limit on S″ is also apparent in its application to uncomplementized S″. Uncomplementized S″ carry no special overt marking yet their embeddedness is limited exactly as for complementized S″, a situation which inherently morphological constraints do not predict.

maximum of three overtly realized values of CASE, TAMA, and TAMT to account for. That maximum will follow from the conditions on internal constituents in embedded VPs which were established in §5.4, plus the apparent limitation on recursive DP embedding, whose limit is DP within DP.

First, in a main clause (or in embedded S″ which involves no percolation of features from its matrix) the maximal DP embedding will yield two CASE features, and clausal TAM inflection can contribute a maximum of one further feature, yielding a total of three. In embedded VP clauses inflection for the TAM features of the local and matrix clauses yields up to two features, though local TAM inflections do not appear on several kinds of demoted logical subject DPs. A demoted logical subject DP could then contribute a maximum of two CASE features (if it contained an embedded, CASE-marked DP and were CASE-marked itself), yielding a total of three features. The remaining DPs in an embedded clause are all situated below VP_{α} and so will inherit both matrix and local TAM. Most of those DPs are CASE:Ø DPs or CASE:locative DPs whose CASE:locative cannot appear overtly for morphomic reasons; thus even with another CASE-marked DP embedded inside them, they yield just one CASE feature plus two TAM features for a maximum of three features. The only other DPs below VP_{α} in an embedded VP are those inflected for thematic CASE and here I predict that one extra overt feature should be licensed: it should be possible for a DP inflected for thematic CASE to contain one other embedded CASE-marked DP inside it, in addition to inflecting for two TAM values and one of +COMP or +SEJ. This is a very specific set of conditions which would be met vanishingly rarely in discourse. Given the size of the present Kayardild corpus, its absence is almost certainly an accidental gap. In sum, we do not need to propose any inherently morphological constraints on Kayardild in order to derive the observed upper limits on inflection. The upper limits to inflection follow from demonstrable and inherently syntactic constraints on syntactic structures.

9.4 Implications for existing formal treatments

Since they were first presented in Evans (1985; 1995a) the facts of Kayardild inflection have received attention from a number of formal theorists, including Lieber (1992), Andrews (1996), Nordlinger (1998), Kracht (2002), and Sadler and Nordlinger (2006b). This section summarizes the implications for these studies of the reanalysis and review of the facts of Kayardild presented here.

Andrews (1996) and Nordlinger (1998) are both theoretical proposals within Lexical Functional Grammar (Kaplan and Bresnan 1982), concerned with the nature of operations that build grammatical structures, and Kracht (2002) is a computational study of complex morphology within DPs; all three studies refer to Kayardild and provide partial analyses of its morphosyntax. For the arguments and findings of these studies the reanalysis of Kayardild advanced here is largely benign. Although the reanalysis calls for revisions of the details of these accounts, its implications for their fundamental approach are negligible, following from the fact that all three studies focus primarily on the relationship between multiple features marked on a single word and their formal association with syntactic or information structures of various sizes. The reanalysis of Kayardild presented here does not alter the basic observation already present in Evans' (1985; 1995a) account of Kayardild, that multiple inflectional suffixes relate to grammatical domains of various sizes.

Lieber (1992) argues for a specific, formal theory of morphosyntactic representations. Kayardild is cited in relation to the question of how many crucially layered (or ordered) values of one and the same feature a word may associate with (1992:94–7). The language is taken to illustrate the outer bounds of complexity, since under Evans' (1985) analysis a Kayardild word carries up to four exponents of CASE. The reanalysis of Kayardild proposed here replaces Evans' CASE with several features, for which no more than two values are attested with certainty in association with any word, and thus it has no significant repercussions for Lieber's theory.

Sadler and Nordlinger (2006b) are concerned not with the representation, but with the realization of multiple instances of features and propose a revision to the realizational theory of Paradigm Functional Morphology (PFM, Stump 2001). Again, Kayardild is held to be significant to the extent that words may associate with multiple CASE features. The multiple 'functions' of CASE are taken by Sadler and Nordlinger to exhibit identical realizations, following a statement to that effect by Evans (1995a:118). The central argument is that the existence of languages such as Kayardild demands a recursive component in the realizational architecture of PFM. In §2.6.7 I noted that Evans' CASE does not in general have identical realization across its 'functions'. As a consequence those functions cannot all be generated by the same, recursively applying component and thus the facts of Kayardild appealed to by Sadler and Nordlinger do not provide an adequate empirical basis for their proposal. Notwithstanding this there are other facts of Kayardild, namely the permissibility of multiple values of (my features) CASE, TAMA, TAMT, and NUMBER in association with a single word which could occupy an equivalent place in a revised argument. The conclusions from such an argument would be empirically valid and be equivalent to those of Sadler and Nordlinger (2006b).[16]

9.5 Summary

In §9.1 I argued that an account of Kayardild inflection has no need for special mechanisms of agreement for motion verbs (Evans 2003), juxtaposition or second

[16] In Chapter 11, the realization of the multiple tokens of the same features will be achieved not through the use of recursive rules as proposed by Sadler and Nordlinger (2006b), but by a fell-swoop, constraint-based architecture.

predicates (Dench and Evans 1988; Evans 1995a), or for person (Evans 2003). Each inflectional phenomenon is sufficiently accounted for in terms of the non-surface syntax, antagonism, and concord set out in Chapters 5–8. In §9.2 it was argued that the analysis of TAM inflection in Chapters 5–8 is more parsimonious than in Evans (1995a), requiring few features, fewer combinations of features in association with individual clauses, and simpler statements of the conditioning factors according to which the various features are overtly realized. It was also argued that thematic CASE markers are not verbal and thus that inflection in Kayardild does not involve any conversion of 'morphological word class'. In §9.3 I identified a small set of questionable data and argued that once it is recognized as such, the attested combinations of inflectional features in Kayardild words is rather constrained. Pursuing this further, it was argued that there is no cause to believe that Kayardild's syntactic structures are constrained by the limitations of its realizational morphology (Evans 1995b; Evans and Levinson 2009). A morphological account (Evans 1995b) both overgenerates and undergenerates whereas a good coverage of the data is obtained by postulating a set of inherently syntactic upper bounds on the embedding of S″, VP, and DP.

10

Particles

The past several chapters have accounted for how words in Kayardild inflect. This chapter turns to a class of Kayardild words which do not inflect at all. The class of **particles** is distinguished not only by a lack of inflection, but by a tight regulation of surface word order. Particles are analysed here as special clitics (Zwicky 1977; Anderson 2005) which align with the edges of surface syntactic constituents, namely clauses and DPs. The alignment behaviour of particles and its correlation with a lack of inflection is a new observation. I assume that the empirical facts presented below could be formalized in an alignment-based framework such as Anderson (2005) although I do not present that formalization here (but see Round 2009:607–31 for this approach). True particles are covered in §10.1 after which §10.2 discusses a set of semantically particle-like constituents analysed as particles in Evans (1995a) but which are treated here as DPs. Roots which function as both particles and (particle-like) non-particles are mentioned in §10.3. For further exemplification see also Evans (1995a:378–89, 394–6).

10.1 True particles

True particles are not present in Kayardild's non-surface syntactic representation. Consequently they cannot inherit morphosyntactic features by percolation and so never inflect. Instead I analyse them as being introduced into the surface syntax as special clitics, where they align with the edges of other constituents, namely clauses and DPs.

Particles which align with an edge of a clause are listed in Table 10.1. Those which have more than one function carry subscripts.

Most particles which align with a clause edge align to the left, and those that do can be assigned a rank which expresses the priority with which they appear at the very edge of the clause in cases where more than one particle appears. The significance of the 'last' rank will be discussed further below. Examples of left edge alignments of particles at ranks 'first' and 'second' appear in (10.1)–(10.5).

Table 10.1 Particles aligned with clause edges

Edge	Rank	Particle	Function
Left	first	*bana*$_1$	clausal co-ordinator
	first	*kara*	interrogative
	second	*barri*$_1$	downgrader
	second	*marrbi*$_1$	'maybe'
	second	*minyi*	'and so'
	last	*bayambaya*	warning
	last	*kalala*	'really'
	last	*maarra*$_1$	'all/only' (scope over predicate)
	last	*maarra*$_2$	'all' (scope over DP)
	last	*mara*	counterfactual
	last	*maraka*$_1$	counterfactual
	last	*namu/numu*	negator
Right		*maraka*$_1$	counterfactual

(10.1)

Bana	*wirrilinja*	*ngijuwa*	*karbakarbarud.*
pana-ø	wiril-iɳca-ø	ŋicu+pa-ø	kaɻpa-kaɻpa-ɻu-t̪-ta-ø
and-T	leaf-µOBL-T	1sg-µSEJ-T	‹dry$_{NL}$-dry$_{NL}$›-‹µFACT-TH›-µDES-T
and	leaf-EMO.SEJ	1sg-SEJ	‹dry›-‹FACT›-DES

'And I should dry (the baby) in leaves.' [R2005-aug02a]

(10.2)

Barri	*wuuja*	*ni!*
bari-a	wuː-c-a	ɳi-a
just-T	‹put-J›-T	3sg-T
Just	‹put›	3sg

'OK, just give it back to him!' [E384.ex.9-283]

(10.3)

Kara	*nyingka*	*marrij?*
kaɻa-ø	ɲiŋ+ka	mari-c-a
INTERROG-T	2sg-T	‹understand-J›-T
INTERROG	2sg	‹understand›

'Do you understand?' [R2005-jul05b]

(10.4)

Marrbi	*niya*	*nalbirdiwath.*
marpi-a	ɳi-a	ɳal-piʈi-wa-t̪-a
maybe-T	3sg-T	‹head-bad›-‹µINCH-TH›-T
maybe	3sg	‹crazy›-‹INCH›

'Maybe he went crazy.' [E1984–08-04]

(10.5)	***Minyi***	*wumburuwarri*	*thaatha*	*bilda*	*balungka*
	miɲi-a	wumpuɻuŋ-wari-ø	t̪aa-t̪-a	pi-l-ta	pat̪-ɻuŋ+ka
	and so-T	spear-μPRIV-T	‹return-TH›-T	3-pl-T	west-μALLC-T
	and so	spear-PRIV	‹return›	3-pl	west-ALLC
	muthaa	*dangkaa.*			
	mut̪a-a	ʈaŋka-a			
	many-T	man-T			
	many	man			

‘And so the many men returned westwards with no spears.’ [E385.ex.9-286]

Example (10.6) illustrates how *bana* ‘and’ outranks others and appears at the very left edge, followed immediately by a ‘second’ ranked particle.

(10.6)	*Yakuriwuuntha*	*warrajuuntha,*	***bana***	***marrbi***
	jakuɻi+kuu-in̪t̪a-ø	wara-c+kuu-in̪t̪a-ø	pana-ø	marpi-a
	fish-μ̋PROP-μOBL-T	‹go-J›-μ̋PROP-μOBL-T	and-T	maybe-T
	fish-POT-SEJ	‹go›-POT-SEJ	And	maybe
	bijarrbawuuntha	*ngijuwa*	*kabathuunth.*	
	picarpa+kuu-in̪t̪a-ø	ŋicu+pa-ø	kapa-t̪+kuu-in̪t̪a-ø	
	dugong-μ̋PROP-μOBL-T	1sg-μSEJ-T	‹find-TH›-μ̋PROP-μOBL-T	
	dugong-POT-SEJ	1sg-SEJ	‹find›-POT-SEJ	

‘I’ll go to the fish and maybe I’ll find dugong.’ [R2005-aug02a]

Just one particle, the counterfactual *maraka*₁, is attested aligning to the right of the clause as shown in (10.7). *Maraka*₁ may also align at the left, in the ‘last’ rank, to be discussed next.

(10.7)	*Nalkurdalaayarrbawu*	*ngukuwuru*	*diyaju*	***marak.***
	ɳalkuʈalaːjarpa+kuu-ø	ŋuku+kuɻu-ø	ʈia-c+kuu-ø	maɻaka-ø
	(place name)-μ̋PROP-T	water-μ̋PROP-T	‹eat-J›-μ̋PROP-T	CTRFCT-T
	(place name)-FUT	water-FUT	‹eat›-POT	CTRFCT

‘(The horse) should have drunk at Nalkurdalaayarrb.’ [E1987–09-01]

The particles of rank ‘last’ align at the left edge of the clause, except that even further to the left of them can appear a DP labelled $\mathrm{DP}_{\mathrm{LEFT}}$ which typically has a high or emphatic discourse prominence. Similar to particles, $\mathrm{DP}_{\mathrm{LEFT}}$ aligns with the left edge of the clause in the surface syntax, in a rank ‘next-to-last’. This state of affairs is not equivalent to particles of rank ‘last’ appearing as simple second position clitics, since (i) additional particles can appear even further to the left of $\mathrm{DP}_{\mathrm{LEFT}}$, (ii) while particles of rank ‘last’ appear after $\mathrm{DP}_{\mathrm{LEFT}}$, they are not attested after first-position verbs, and (iii) not every clause contains a $\mathrm{DP}_{\mathrm{LEFT}}$ constituent, in which case particles of rank ‘last’ can appear in first position.

In (10.8) both clauses contain counterfactual *mara* in rank 'last'. In the first clause there is no DP_{LEFT} and so *mara* sits at the very left edge of the clause. In the second clause it is preceded by DP_{LEFT}.

(10.8)

Mara	*ngada*	*kiyamanda*[1]	*baaju,*	*danku.*
maɻa-ø	ŋat̪-ta	?kiaman-ta	paː-c+kuu-ø	ʈan+kuu-ø
CTRFCT-T	1sg-T	?	‹bite-J›-μ̋PROP-T	this-μ̋PROP-T
CTRFCT	1sg	?	‹bite›-POT	this-FUT

[$_{DP\text{-}LEFT}$	*Danku*]	***mara***	*kiyamanda*	*ngada*	*baaju,*
	ʈan+kuu-ø	maɻa-ø	?kiaman-ta	ŋat̪-ta	paː-c+kuu-ø
	this-μ̋PROP-T	CTRFCT-T	?	1sg-T	‹bite-J›-μ̋PROP-T
	this-FUT	CTRFCT	?	1sg	‹bite›-POT

kalatharrmathu.
kalat̪arma-t̪+kuu-ø
‹turn over-TH›-μ̋PROP-T
‹turn over›-POT
(Discussing the manufacture of shell knives, made by biting the shell): 'I should bite it, here. I should bite it *here* and then turn it over.' [R2005–jul02]

In (10.9) Kayardild's other counterfactual particle, *maraka*₁, appears after DP_{LEFT}. In (10.10) it appears at the very left edge of a clause which contains no DP_{LEFT}. Example (10.11) shows *bana*, at rank 'first' aligning farther to the left than both DP_{LEFT} and *maraka*₁.

(10.9)

[$_{DP\text{-}LEFT}$	*Danda*	*jardiya*]	***maraka***	*mungurruwa*	*wirdiju.*
	ʈan-ta	caʈi-a	maɻaka-ø	muŋuru-a	wiʈi-c+kuu-ø
	this-T	group-T	CTRFCT-T	knowledgeable-T	‹be-J›-μ̋PROP-T
	this	group	CTRFCT	knowledgeable	‹be›-POT

'That lot should have known.' [R2005–jul08]

(10.10)

Maraka	*riinda*	*wanjiiju*	*ni.*
maɻaka-ø	ɻi-in-ta	waɲciː-c+kuu-a	ɳi-a
CTRFCT-T	east-μABLC-T	‹ascend-J›-μ̋PROP-T	3sg-T
CTRFCT	east-ABLC	‹ascend›-POT	3sg

'He should have come up from the east.' [R2007–may22]

(10.11)

Bana	[$_{DP\text{-}LEFT}$	*ngakulda*]	***maraka***	*kurrijuruya,*
pana-ø		ŋa-ku-l-ta	maɻaka-ø	kuri-c+kuu+ki-a
and-T		1-2-pl-T	CTRFCT-T	‹look-J›-μ̋PROP-μLOC-T
And		1-2-pl	CTRFCT	‹look›-POT-CMP

'And we should go look (at it),' [R2005–jul08]

[1] The meaning of *kiyamanda* is not clear. Presumably it is a manner nominal with the underlying stem /kiaman-/.

Several other particles share this alignment behaviour. Data on *kalala* 'really' (Evans 1995a:384) are scarce, but are consistent with a left aligning particle in the 'last' rank, as in (10.12) where the subject DP is presumably $\mathrm{DP}_{\mathrm{LEFT}}$, and (10.13) with no $\mathrm{DP}_{\mathrm{LEFT}}$.

(10.12)	[DP-LEFT	*Nyingka*]	***kalala***	*kurdalath?*
		ɲiŋ+ka	kalala-ø	kuʈala-t̪-a
		2sg-T	really-T	‹spear-TH›-T
		2sg	really	‹spear›

'Did you really spear (him)?' [E384.ex.9-280]

(10.13)	***Kalala***	*ngumbanda*	*dulka*	*mirraa!*
	kalala-ø	ŋuŋ+paɲ-ta	ʈulk+ka	mira-a
	really-T	2sg-µPOSS-T	country-T	good-T
	really	2sg-POSS	country	good

'Your country really is good!' [R2005–jun28]

The particles *bayambaya* and *namu/numu* are recent borrowings from English (*by-and-by* and *no more*) and also align in the 'last' position. Examples are shown in (10.14)–(10.18).

(10.14)	[DP-LEFT	*Dirrayarbuthiya*]	***bayambaya***	*kurirrwatha*	*kunawalad!*
		ʈira-jaɻput̪+ki-a	pajampaja-ø	kuɻirwa-t̪-a	kuna+palat̪-ta
		‹rain-animal›-µLOC-T	WARNING-T	‹die-TH›-T	child_{NL}-µPL-T
		‹cyclone›-INS	WARNING	‹die›	child-PL

'The children could die in the cyclone.' [R2005–aug02a]

(10.15)	***Bayambay***	*nyingka*	*rayiij,*	*kamarriiwath.*
	pajampaja-ø	ɲiŋ+ka	ɻaː-i-c-a	kamar+kiː-wa-t̪-a
	WARNING-T	2sg-T	spear-‹µMID-J›-T	stonefish-‹µLLOC-µINCH-TH›-t
	WARNING	2sg	spear-‹MID›	stonefish-‹COLL›

'You might get stung by a stonefish.' [E388.ex.9-302]

(10.16)	[DP-LEFT	*Ngada*]	***namu***	*kurrija*	*kakuju.*[2]
		ŋat̪-ta	namuu-ø	kuri-c-a	kakucu-a
		1sg-T	not-T	‹see-J›-T	MoBr-T
		1sg	not	‹see›	MoBr

'I didn't see at my uncle'. [R2005–jun29]

[2] *Namu* is documented before imperative verbs in Evans (1995a:88–9), but also appears before TAMT:actual and TAMT:potential verbs as shown in (10.16)–(10.17).

Table 10.2 Particles aligned with DP edges

Edge	Particle	Function
Left	*bana*$_2$	DP co-ordinator
	birra	'also'
	maraka$_2$	semblative
	marrbi$_2$	'maybe'
	namu, numu$_2$	negator
Right	*bana*$_3$	'also'
	birra	'also'

(10.17)	***Namu***	*kamburiju*	*wirdiju*	*ngakuld.*
	namuu-ø	kampuɻi-c+kuu-ø	wiʈi-c+kuu-ø	ŋa-ku-l-ta
	not-T	‹talk-J›-μ́PROP-T	‹stay-J›-μ́PROP-T	1-2-pl-T
	not	‹talk›-POT	‹stay›-POT	1-2-pl

'We won't stay and talk.' [R2005-jul21]

(10.18)	***Namu***	*jara*	*kuuj!*
	namuu-ø	ca-ɻ-a	kuː-c-a
	not-T	‹foot-INC›-T	‹bathe-J›-T
	Not	‹foot›	‹bathe›

'Don't bathe your feet.' [E1984–05-01]

Particles which align with one of the edges of a DP over which they take scope are listed in Table 10.2. Particles which align at the DP's left edge are shown in (10.19)–(10.24).

(10.19)	*Wungijirrinjiya*	*wurankiya*	***bana***	*ngurruwarrawalathi!*
	wuŋi-c-iriɲ+ki-a	wuɻan+ki-a	pana-ø	ŋuruwara+palat̪+ki-a
	‹steal-J›-μRES-μLOC-T	food-μLOC-T	and-T	fishtrap-μPL-μLOC-T
	‹steal›-RES-CMP	food-CMP	and	fishtrap-CMP

'(Look at this) poached food and fishtraps!' [R2005-jul19a]

(10.20)	*Muthaa*	*ngambu,*	***bana***	*ngarnd,*	***bana***	*wambald.*
	mut̪a-a	ŋampu-a	pana-ø	ŋaɳ-ta	pana-ø	wampal-ta
	many-T	well-T	and-T	beach-T	and-T	bush-T
	many	well	and	beach	and	bush

'There are lots of wells, both beach ones, and bush ones.' [E395.ex.9-335]

(10.21)

Kurrija	*manarri,*	*maraka*	*dangkakarranji,*
kuri-c-a	manar+ki-a	maɻaka-ø	ʈaŋka-karaɲ+ki-a
‹see-J›-T	bark torch-μLOC-T	SEMBL-T	man-μGEN-μLOC-T
‹see›	bark torch-INS	SEMBL	man-GEN-INS

birra	*niwanji .*
pir-ta	ni+paɲ+ki-a
ALSO-T	3sg-μPOSS-μLOC-T
ALSO	3sg-POSS-INS

'(They) saw a bark torch, and wrongly thought it was the man's, that it too was his.' [E379.ex.9-256]

(10.22)

Dathina	*dangkaa*	***maraka***	*ngijinda*	*kanthathu*	*kirrka*	*miburld.*
ʈat̪ina	ʈaŋka-a	maɻaka-ø	ŋicu-iɲ-ta	kan̪t̪at̪u-a	kirk+ka	mipuɻ-ta
that.T	man-T	SEMBL-T	1sg-μPOSS-T	father-T	‹nose-T	eye-T›
that	man	SEMBL	1sg-POSS	father	‹face	›

'That man looks like my father (lit. is like my father's face).' [W1960]

(10.23)

Jathaa	*kunawuna*	*ngaarrngij,*	***marrbi***	*yarbud,*
cat̪a-a	kuna+kuna-ø	ŋaːrŋi-c-a	marpi-a	jaɻput̪-ta
other-T	‹child$_{NL}$-child$_{NL}$›-T	‹presage-J›-T	maybe-T	snake-T
other	‹child›	‹presage›	maybe	snake

marrbi	*balangkali,*	*rijurld.*
marpi-a	palaŋkali-a	ɻicuɻ-ta
maybe-T	brown snake-T	python-T
maybe	brown snake	python

'(The conception of) another child might be shown by a snake, maybe a brown snake, maybe a python.' [E388.ex.9-301]

(10.24)

Ngirringirriya	*ngudiija*	*bild,*	*muthaa*
ŋiri-ŋiri-a	ŋuti-i-c-a	pi-l-ta	mut̪a-a
‹splaying$_{NL}$-splaying$_{NL}$›-T	throw-‹μMID-J›-T	3-pl-T	many-T
‹splaying›	throw-‹MID›	3-pl	many

dangkaa,	***namu***	*warngiida,*	*muthaa*	*dangkaa.*
ʈaŋka-a	namuu-ø	waɻŋiːc-ta	mut̪a-a	ʈaŋka-a
man-T	not-T	one-T	many-T	man-T
man	not	one	many	man

'They (the initiates) are thrown out (into the water), many men, not one, many men.' [R2005-jul21]

Particles that align with the right edge of a DP are shown in (10.25)–(10.26).

(10.25)

(10.25)	*Ngada*	***ban.***
	ŋat̪-ta	pana-ø
	1SG-T	ALSO-T
	1sg	ALSO

‘Me too.’ [E395.ex.9-334]

(10.26)	*Dangkawala*	***birra***	*wirdija,*	*muthaa*	*dangkaa.*
	ʈaŋka+palaa	pir-ta	wiʈi-c-a	mut̪a-a	ʈaŋka-a
	person-µPL.T	ALSO-T	‹be-J›-T	many-T	person-T
	person-PL	ALSO	‹be›	many	person

(Having discussed the stars, the topic turns to their mythological origins): ‘They were people too, many people.’ [R2005-jul21]

The most complex alignment behaviour is exhibited by *maarra* ‘all/only’. In its first function it takes semantic scope over the clausal predicate, yielding a clausal meaning ‘SUBJECT only/all do X’. In this function it aligns with the left edge of the clause in rank ‘last’ and requires the subject to be DP_{LEFT} and therefore (if it is overt) to align further to the left. An example with an overt subject is shown in (10.27) and an elided subject in (10.28).

(10.27)	[$_{DP\text{-}LEFT}$	*Danda*	*dulka*]	***maarra***	*kalathirrind.*
		ʈan-ta	ʈulk+ka	maːra-ø	kala-t̪-iriɲ-ta
		this-T	place-T	all-T	‹cut-TH›-µRES-T
		this	place	all	‹cut›-RES

(Referring to the creation myth in which Rock Cod thrashes across the land, cutting the Wellesley islands apart from one another): ‘This place is all cut-up (land).’ [R2005-jul14b]

(10.28)	***Maarra***	*kurrija*	*ngijinji,*	*kamburijarri.*
	maːra-ø	kuri-c-a	ŋicu-iɲ+ki-a	kampuɻi-c-wari-a
	all-T	‹see-J›-T	1SG-µPOSS-µLOC-T	‹talk-J›-µPRIV-T
	all	‹see›	1SG-ø-INS	‹talk›-NEG.ACT

‘(He) just looked at me without saying anything.’ [E387.ex.9-295]

The example in (10.29) contains two juxtaposed subject DPs which both act as DP_{LEFT} and thus both align further left than *maarra*$_1$.

(10.29)	[$_{DP\text{-}LEFT}$	*Danda*]	[$_{DP\text{-}LEFT}$	*balungka*]	***maarra***	*natharnurruwalathid.*
		ʈan-ta		pat̪-ɻuŋ+ka	maːra-ø	ɳat̪a-ɳuru-walat̪-ic-ta
		here-T		west-µALLC-T	all-T	camp-µASSOC-‹µPL-µSAME›-T
		here		west-ALLC	all	camp-ASSOC-‹EVERY›

‘Here in the west (it) was all camps.’ [R2007-jul12c]

Unlike subject DPs, subject second predicates do not align to the left of *maarra*$_1$, as shown by (10.30).

(10.30) ***Maarra*** *thaliya* *wanjiij.*
maːra-ø ṯali-a waɲciː-c-a
all-T laden-T ‹ascend-J›-T
all laden ‹ascend›
'All (the people) come up carrying something.' [R2007-may15c]

In its second function *maarra*$_2$ 'all' takes semantic scope over a DP. The particle *maarra*$_2$ aligns with the left edge of the clause and also with the left edge of its DP, hence when the DP is overt it appears directly after *maarra*$_2$, as in (10.31).

(10.31) ***Maarra*** *dulka* *kinaajarri.*
maːra-ø ʈulk+ka kinaː-c-wari-a
all-T place-T ‹tell-J›-μPRIV-T
all place ‹tell›-NEG.ACT
'(I) haven't told you about all the places.' [E386.ex. 9-289]

10.2 Particle-like DPs

In addition to true particles Kayardild possesses a small set of nominal words with particle-like meanings which are analysed in Evans (1995a) as particles. Unlike true particles however, these nominal words generally do inflect, and their word order is freer that that of true particles. This is true even of Evans' 'pre-verbal particles' (1995a:298–302), which need not appear in immediately preverbal position. A list of particle-like DPs is given in Table 10.3.

The nominal stems *buth-* and *yuuth-* can be used in a spatial sense as 'behind' and 'ahead' respectively, or in a temporal sense as 'later' and 'already'. I analyse these words as N heads in otherwise empty DPs. In their spatial sense *buth-* and *yuuth-* DPs are daughters of VP$_\gamma$.[3] Accordingly they fail to inherit TAMA:instantiated (which attaches to VP$_\beta$), as shown in (10.32)–(10.33), but do inherit and inflect for TAMA values which attach to VP$_\gamma$ such as TAMA:present (10.34) and TAMA:future (10.35).

[3] There may be some interspeaker variation on this point, with some speakers placing the spatial *buth*-DP as daughter of VP$_\beta$ in which case it inflects for TAMA:instantiated. Sally Gabori produced the sentence in (a), and Dawn Naranatjil has been recorded self-correcting from *buthi* (with inflection for TAMA: instantiated) to *buda* (without it) in a TAMA:instantiated sentence.

(a) *Warngiida* *warraja* ***buthi.***
waɻŋiːc-ta wara-c-a puṯ-ki-a
one-T ‹go-TH›-T behind-μLOC-T
one ‹go› behind-INS
'One (raft) went at the back.' [R2007-jun01]

TABLE 10.3 Particle-like DPs

Particle	Function
buth-	'behind; later'
yuuth-	'ahead; already'
ki-	'part way'
bantharr-	'some; some other(s)'
(?) *minyi-*	'towards'

(10.32)

Niya	***buda***	*rayind,*	*muratha*	*wanjiij.*
ɳi-a	put̪-ta	ɻa-in-ta	muɻa-t̪-a	waɲciː-c-a
3SG-T	behind-T	south-µABLC-T	‹graze-TH›-T	‹ascend-J›-T
3SG	behind	south-ABLC	‹graze›	‹ascend›

'(The dugong) is coming behind from the south, coming up to graze.' [E311. ex.8-59]

(10.33)

Warngiida	*dangkaa*	***yuuda***	*riind.*
waɻŋiːc-ta	ʈaŋka-a	juːt̪-ta	ɻi-in-ta
one-T	person-T	ahead-T	east-µABLC-T
one	person	ahead	east-ABLC

'One man is up ahead coming from the east.' [W1960]

(10.34)

Wankuya	*dathinkiya*	*riinkiya*	***buthurrka***
wanku+ki-a	ʈat̪in+ki-a	ɻi-in+ki-a	put̪+kurka-ø
shark-µLOC-T	that-µLOC-T	east-µABLC-µLOC-T	behind-‹µLOC.µOBL›-T
shark-CMP	that-CMP	east-ABLC-CMP	behind-‹PRES-SEJ›

jinkajurrka	*biluwanjurrk!*
cinka-c+kurka-ø	pi-lu+paɲ+kurka-ø
‹follow-J›-‹µLOC.µOBL›-T	3-pl-µPOSS-‹µLOC.µOBL›-T
‹follow›-‹IMM-SEJ›	3-pl-ø-‹PRES-SEJ›

'A shark there coming from the east is following behind them!' [W1960]

(10.35)

Yuuthu	*jirrkarawu*	*kurriju*	*ngakuld.*
juːt̪+kuu-ø	cirkaɻa+kuu-ø	kuri-c+kuu-ø	ŋa-ku-l-ta
ahead-µ́PROP-T	north-µ́PROP-T	‹look-J›-µ́PROP-T	1-2-pl-T
ahead-FUT	north-FUT	‹look›-POT	1-2-pl

'We'll look in the north first.' [E299.ex.8–5]

In their temporal sense *buth-* and *yuuth-* DPs position higher in the non-surface clause and so do not inflect for TAMA:future or TAMA:prior, as illustrated in (10.36)–(10.37). Regarding their surface syntax, these DPs need not immediately precede the verb, as shown in (10.38), or precede it at all, as in (10.36).

(10.36)	*Niya*	*daliju*	***bud,***	*warrkuntha*	*thulathuuntha.*
	ɳi-a	ʈali-c+kuu-ø	put̪-ta	warku-in̪t̪a-ø	t̪ula-t̪+kuu-in̪t̪a-ø
	3sg-T	‹come-J›-μ́PROP-T	later-T	sun-μOBL-T	‹descend-TH›-μ́PROP-μOBL-T
	3sg	‹come›-POT	later	sun-SEJ	‹descend›-POT-SEJ

‘He will come later, when the sun goes down.’ [W1960]

(10.37)	*Jathaa*	*dangkaa*	***yuuda***	*jaajarra*	*widana.*
	cat̪a-a	ʈaŋka-a	juːt̪-ta	caː-c+ŋara-ø	wita+ki-naa-ø
	other-T	person-T	already-T	‹enter-J›-μ́CONS-T	hole-‹μLOC-μ́ABL›-T
	other	person	already	‹enter›-PST	hole-‹PRIOR›

‘Someone else has already checked this hole (for fish).’ [E299.ex.8–3]

(10.38)	*Kirrka*	*ngarrkuwath,*	*bardaka*	*naaj,*
	kirk+ka	ŋarku-wa-t̪-a	paʈaka-ø	ɳaː-c-a
	nose-T	hard-‹μINCH-TH›-T	belly-T	‹burn-J›-T
	nose	hard-‹INCH›	belly	‹burn›
	yuuda	*ngada*	*wirdija*	*bayi.*
	juːt̪-ta	ŋat̪-ta	wiʈi-c-a	pai-a
	already-T	1sg-T	‹be-J›-T	angry-T
	already	1sg	‹be›	angry

‘My face becomes stern, my stomach burns, already I am becoming angry.’ [E650]

Particle-like DPs whose N head of NP is *ki-* ‘partway’ (Evans 1995a:300–1) inflect for TAMA (10.39) and need not be immediately pre-verbal (10.40).

(10.39)	*Ngada*	***kiina***	*thaatharr,*	*kabatharri*
	ŋat̪-ta	ki+ki-naa-ø	t̪aa-t̪+ŋara-ø	kapa-t̪+wari-a
	1sg-T	partway-‹μLOC-μ́ABL›-T	‹return-TH›-μ́CONS-T	‹find-TH›-μPRIV-T
	1sg	partway-‹PRIOR›	‹return›-PST	‹find›-NEG.ACT

‘I came back partway, but still couldn’t find any (yams).’ [E301.ex.8-12]

(10.40)	***Kiya***	*dathina*	*barnkaldij.*
	ki-a	ʈat̪ina	paɳkalti-c-a
	partway-T	there.T	‹sit-J›-T
	partway	there	‹sit›

‘(They) sat down there, halfway here.’ [E301.ex.8-13]

The nominal *bantharr-* 'some; some other(s)' (Evans 1995a:387) is a determiner and inflects along with the rest of the DP as shown in (10.41).

(10.41)	***Bantharru***	*ngunguku*	*marriju*	*ngakuluwanju.*
	pan̪t̪ar+kuu-ø	ŋuŋuk+kuu-ø	mari-c+kuu-ø	ŋa-ku-lu+paɲ+kuu-ø
	some-µ̋PROP-T	story-µPROP-T	‹listen-J›-µ̋PROP-T	1-2-pl-µPOSS-µ̋PROP-T
	some-FUT	story-FUT	‹listen›-POT	1-2-pl-POSS-FUT

'We'll listen to some other stories of ours.' [R2005-jul21]

Evans (1995a:298) reports that *minyi* 'towards' does not inflect for TAMA (Evans' MODAL CASE) but the three examples provided (1995a:302) are inconclusive, as each clause associates with TAMA:instantiated which is realized by µLOC, and the µLOC inflection of /i/-final stems such as *minyi* /miɲi/ is identical to the uninflected form. I have no instances in my corpus which shed further light on its inflectional behaviour, but judging from attested word order (before and after the verb, and interior to the clause), *minyi* behaves like a DP rather than a particle.

10.3 Roots with dual behaviour

There are two roots which function both as true particles and as N heads in a particle-like DPs which inflect. The first is *kada-* 'again', which usually inflects (see Appendix B, §§B.2.4; B.6.4). In (10.42) however *kada* escapes all inflection including for +COMP. Such inflectional behaviour should not be possible for any DP other than a topicalized DP. However, only DPs which are usually sisters of V can be topicalized and there is no reason to believe that *kada* 'again' is ever a sister of V. I conclude, therefore, that *kada* functions in (10.42) as a particle. In (10.43) *kada* avoids inflection for TAMA:future and appears again to be functioning as a particle aligned at the left edge of the clause.

(10.42)	***Kada***	*marrijuruy.*
	kata-ø	mari-c-kuɻu+ki-a
	again-T	‹listen-J›-µ̋PROP-µLOC-T
	again	‹listen›-POT-CMP

'We should listen again.' [R2007-may21]

(10.43)	***Kada***	*rabinangku,*	*dulkuru*	*diiju.*
	kata-ø	ɻapi-c-ɳaŋ+kuu-ø	ʈulk+kuɻu-ø	ʈiː-c+kuu-ø
	again.T	‹arise-J›-µNEG-µ̋PROP-T	ground-µ̋PROP-T	‹sit-J›-µ̋PROP-T
	again	‹arise›-NEG-POT	ground-FUT	‹sit›-POT

'He won't get up again, he'll stay on the ground.' [W1960]

The root *nginja-* 'FRUSTRATED' expresses that an event goes against some purpose or reason (Evans 1995a:382–4) and like *kada* it exhibits dual behaviour. DPs built on *nginja* can be daughters of VP_{γ}, inflecting for TAMA:future as in (10.44) but never for TAMA:directed or TAMA:instantiated as illustrated in (10.45).

(10.44)	*Ngakurra*	***nginjawu***	*warraju,*
	ŋa-ku-r-ta	ŋiɲca+kuu-ø	wara-c+kuu-ø
	1-2-pl-T	FRUSTRATED-μ̋PROP T	‹go-J›-μ̋PROP-T
	1-2-pl	FRUSTRATED-FUT	‹go›-POT

	kabanangku	*kumbunawu.*
	kapa-t̪-ɳaŋ+kuu-ø	kumpuna+kuu-ø
	‹find-TH›-μNEG-μ̋PROP-T	rat-μ̋PROP-T
	‹find›-NEG-POT	rat-FUT

‘We’ll go for nothing, we won’t find the mangrove rat.’ [E383.ex.9-273; W1960]

(10.45)	*Ngaakawuru*	***nginja***	*wungija*	*ngijinda*	*kakuju?*
	ŋaaka+kuɻu-ø	ŋiɲca-ø	wuŋi-c-a	ŋicu-iɲ-ta	kakucu-a
	‹what-μPROP›-T	FRUSTRATED-T	‹steal-J›-T	1sg-μPOSS-T	MoBr-T
	why	FRUSTRATED	‹steal›	1sg-POSS	MoBr

‘Why did my uncle steal?’ [E1984–3-01]

When acting as a particle *nginja* escapes all inflection including for +SEJ as in (10.46) and is aligned with the left edge of the clause, ranked ‘second’ as seen in (10.47) where it appears after the interrogative particle *kara*.

(10.46)	***Nginja***	*diyajurrka*	*mankinmankinjurrka*
	ŋiɲca-ø	t̪ia-c+kurka-ø	mankiɲ-mankiɲ+kurka-ø
	FRUSTRATED-T	‹eat-J›-‹μLOC.μOBL›-T	‹other’s-other’s›-‹μLOC.μOBL›-T
	FRUSTRATED	‹eat›-‹IMM-SEJ›	‹others’›-‹PRES-SEJ›

	wurankurrk	*wajbalakarranjurrk.*
	wuɻan+kurka-ø	wacpala-karaɲ+kurka-ø
	food-‹μLOC.μOBL›-T	white man-μGEN-‹μLOC.μOBL›-T
	food-‹PRES-SEJ›	white man-GEN-‹PRES-SEJ›

‘They foolhardily ate someone else’s food, the white man’s.’ [E1988–3]

(10.47)	***Kara***	*nginja*	*wuuju?*
	kaɻa-ø	ŋiɲca-ø	wuː-c+kuu-ø
	INTERROG-T	FRUSTRATED-T	‹put-J›-μ̋PROP-T
	INTERROG	FRUSTRATED	‹put›-POT

‘Will you give her (in marriage) to no good end?’ [R2005-jun29]

11

Constraint-based realizational morphology

A central organizing principle in the analysis of Kayardild morphology has been an assumption that between the morphosyntactic representation of a word and its underlying phonological representation there exists another, morphomic representation. As a shorthand, it will be convenient to label these three levels Σ (morphosyntactic), M (morphomic), and Φ (underlying phonological). Chapters 5–9 explored the mapping between syntactic structures and Σ. This chapter presents an analysis of the mappings between Σ and M, and M and Φ. The general nature of the analysis and issues involved in its formalization are outlined in §11.1 and §11.2. Mappings from Σ to M are formalized in §11.3, and from M to Φ in §11.4. Allomorphy which is conditioned by surface phonological structure is formalized in §11.5.

11.1 Mappings between levels in constraint-based grammar

In addition to an adequate set of representational levels, we require a method of relating representations to one another across those levels. To this end I will employ an approach based on Optimality Theory (OT, Prince and Smolensky 2004 [1993]). Some of the specific assumptions of OT will be set aside but the general, constraint-based architecture of the grammar is essentially the same. The basic elements of the constraint-based approach are covered in §11.1 and the reader who is well versed in Optimality Theory may wish to glance at the list of constraint types at the end of §11.1 and otherwise skip ahead to §11.2. In §11.2 I introduce a novel family of 'Lexical Grounding' constraints which robustly provide for mappings across representational levels whose constitutive elements (such as features, morphomes, phonological strings) are different from one another.

A constraint-based grammar is divided into one or more levels, at each of which one representation, the **input**, is mapped to another, the **output**. The mapping is achieved via the selection, given an input, of an **optimal output candidate**, chosen from amongst a large candidate set.

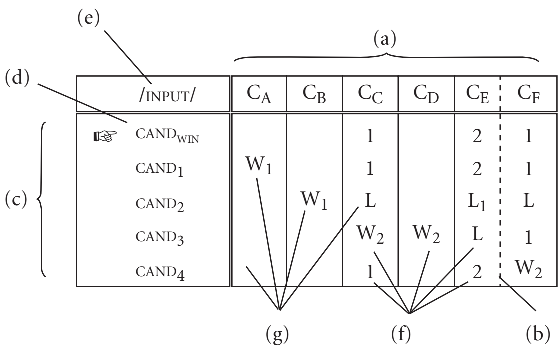
The process of selecting an optimal output candidate is fundamentally comparative. Each candidate is evaluated in terms of its possession of desirable traits and the candidate which performs better than all others is the **winning candidate**. The desirable traits may be expressed purely in terms of the output candidate itself (for example, 'the output must not contain the sequence *AB*') or they may be expressed in terms of both the output candidate and the input (for example, 'the element *C* in the input must have a realization *D* in the output'). Such demands on candidates are formalized in terms of **constraints**. All constraints are expressed in absolute terms, for example '*x* has property *p*' and not '*x* prefers/tends to have property *p*', and candidates are evaluated in terms of whether they **satisfy** each constraint or **violate** it, and if they violate it, to what degree. This gives us in effect a large array with constraints along one dimension, candidates along another, and cells filled with the evaluation of each candidate by each constraint.

Constraints are **ranked** with respect to one another. This ranking is crucial to the process of selecting a **winning** candidate. First we can note that given a ranking of constraints, it is possible to take any pair of candidates, *a* and *b*, and to determine which (if either) is **more harmonic** that the other: *a* is more harmonic than *b* if it better satisfies the highest ranking constraint which evaluates the two differently. As such, a pair of candidates will always be distinguished into a more harmonic and less harmonic member unless every last constraint evaluates both candidates identically.

In the overall selection of an output, the winning output candidate is simply that candidate which, in each of its pairwise comparisons with all other candidates, is always the more harmonic. Given that the relationship 'more harmonic than' depends crucially on the ranking of constraints, it follows that the ranking of constraints plays a crucial role in selecting the winning candidate, that is, the output form.

The standard tool for visualizing candidates' evaluations by a given ranking of constraints is the **tableau**. The tableaux to be used here are of the comparative type (Prince 2002), which possess a number of advantages over earlier tableau formats in terms of the clarity with which they present information that is most pertinent to arguments about constraint ranking. A schematic example is shown in (11.1).

(11.1)



Constraints are arrayed in columns (11.1a) from highest ranking at the left to lowest ranking at the right. Adjacent columns that contain constraints which are not crucially ranked with respect to one another are separated by a dashed line (11.1b). Candidates are arrayed in rows (11.1c). The winning candidate (11.1d) is set above all others, with a '☞' symbol pointing to it. The input is placed in the top, left hand corner (11.1e). Individual evaluations, measured in terms of the number of violations of a constraint which a candidate incurs, are placed in the cells of the table as subscripted roman numerals (11.1f); if a candidate fully satisfies a constraint no numeral is entered. On the row corresponding to any losing candidate the comparative performance of that candidate against the winner is shown in the appropriate column for each constraint: 'W' indicates that the winner better satisfies the constraint in question, 'L' indicates that the loser does so, and blank indicates that neither performs better.

The distribution of Ws and Ls in a comparative tableau highlights the relevance possessed by individual losing candidates for the ranking of various constraints. Recall that in each pairwise comparison the winning candidate must better satisfy the highest ranking constraint which distinguishes it from another candidate. In terms of the tableau this means that the leftmost unequal comparison (i.e. W or L) in every loser's row must be W—this corresponds to the winner better satisfying the highest ranking constraint which distinguishes it from the loser. For example, in tableau (11.2), the comparative evaluation of CAND$_2$ shows that constraint C_B must outrank constraint C_C.

(11.2)

/INPUT/	C_A	C_B	C_C
☞ CAND$_{WIN}$			$_1$
CAND$_1$	W$_1$		$_1$
CAND$_2$		W$_1$	L

In terms of their ranking, constraints can be divided into those which are never violated by winning output candidates, termed **undominated** constraints on the assumption that no other constraint crucially dominates them; and those which are crucially dominated and therefore violated by at least some winning candidates, in order that a higher ranking constraint be satisfied. In addition to their appearance in tableaux, constraint rankings can be displayed linearly as illustrated in (11.3), or as a Hasse diagram (a standard visualization tool used to represent partially ordered sets), as illustrated in Figure 11.1, where any two constraints joined by a vertex are crucially ranked, and the uppermost is ranked higher.

(11.3) $\|\ C_A \gg C_B \gg C_C, C_D \gg C_E\ \|$

For the analysis of Kayardild the mappings from Σ to M and from M to Φ will be analysed in terms of one constraint-based grammar each. Since many constraints will be defined so as to compare elements in the output with matching elements in input,

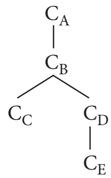


Figure 11.1 Hasse diagram corresponding to the ranking in (11.3)

the Optimality Theoretic notion of **correspondence** will be used to ensure technically that the correct elements are compared with one another. According to correspondence theory (McCarthy and Prince 1999) a pair of elements in the input and output may stand in correspondence with one another, or not. Constraints can then evaluate matters such as whether a given element possesses a correspondent, or how an element compares to its correspondent in some respect. For example, what is traditionally termed 'deletion' can be regarded as a case in which an input element lacks a correspondent in the output. Constraints may refer to output elements in and of themselves; to the pairing of input and output elements that are in correspondence; or to classes of output elements defined in terms of their corresponding inputs. An example of the latter would be the class of morphomes which realizes tama, which will be written as tama′, with the prime symbol indicating 'realization of'. Four types of constraint will be used, as follows.

Wellformedness constraints express demands in terms of outputs.[1] Typically they are formulated as prohibitions on certain structures. For example the constraint *μloc>μinst states that the output of the ΣM grammar may not contain a μloc morphome immediately followed by μinst.

Alignment constraints demand that the right or left edges of certain constituents align with one another. For example, the constraint RL-Align(μobl,t) demands that the right edge of μobl align with the left edge of the termination t.

Faithfulness constraints directly evaluate correspondences. For example the constraint Maximality demands that input elements have corresponding outputs, while Dependency demands that output elements have corresponding inputs.

The final constraint type, which I call **Lexical Grounding**, is a novel proposal which allows correspondences to be evaluated indirectly via reference to a lexicon of input–output pairings.

[1] Wellformedness constraints will differ from Optimality Theoretic 'markedness' constraints insofar as they cannot be considered universal, and they refer not solely to structures in the output, but also to outputs-as-realizations (such as tama′) which inherently make reference to both output and input.

11.2 Lexical Grounding

In many ways Lexical Grounding serves as the constraint-based grammar's answer to the realization rules which occupy a central place in many rule-based theories of morphological realization. Lexical Grounding takes its impetus from OT approaches to phonologically conditioned allomorphy (Drachman *et al.* 1996; Kager 1996; Mascaró 1996a, 1996b; Tranel 1996; Bonet *et al.* 2007; Kager 2009) and from rule-based, realizational theories of morphology such as A-Morphous Morphology (Anderson 1992) and Paradigm Function Morphology (Stump 2001). Lexical Grounding is predicated on two main elements: a **lexicon** of correspondences between input and output elements at two distinct representational levels, *J* and *K*, and a family of violable LexicalGrounding (or Lex) constraints.

The lexicon pertaining to a pair of levels *J,K* contains a list of input–output correspondences such as those shown in the rightmost column of Table 11.1. Although these correspondences are not rules in a classic sense, they can be understood as encapsulating the same content as a realization rule in a rule-based theory, but without the backing of a rule's transformational component that actually applies that content to a representation. In Lexical Grounding, the content of the lexicon is brought to bear on the derivation of representations within the constraint-based grammar by virtue of the LexicalGrounding constraints.

In a grammar that maps level *J* inputs onto level *K* outputs, a constraint Lex-*JK* evaluates candidates by taking an input a and scanning the *JK* lexicon for correspondences of the form $a :: x'$ for any value of x'. It then compares the actual output correspondent of a, which we can call a', with the outputs x' in the lexicon, and demands that a' match at least one of these x' outputs in some certain way. The inputs a and outputs a' might be individual elements such as a single morphosyntactic features value or a single morphome, or they can be sets (of features values) or strings (of morphomes or phonological segments). By ranking Lex-*JK* appropriately the output correspondent for a will be constrained at least partly by what is in the lexicon. The definition of a basic, Lex-ΣM constraint (for use in the ΣM grammar) is presented in (11.4), and a parameterized version in (11.5).

Table 11.1 Mappings between elements of dissimilar types

Grammar	Mapping type	Example
ΣM	morphosyntactic F:V :: morphome	CASE:locative :: μLOC
MΦ	morphome :: morph	μLOC :: /+ki/

(11.4) LEX-ΣM 'no unlicensed mappings'
Where a correspondence exists between a set *a* of level Σ input elements and a string *a′* of level M output elements, the mapping *a* :: *a′* is present in the ΣM lexicon.

(11.5) LEX(μα)-ΣM 'no unlicensed mappings, wrt. primary morphome'
Where a correspondence exists between a set *a* of level Σ input elements and a string *a′* of level M output elements, a mapping *a* :: *x′* is present in the lexicon, such that *a′* and *x′* share their primary morphome(s).

A significant consequence of the definition of Lexical Grounding is that even if the lexicon contains only one correspondence, *a* :: *a′*, for an input *a*, it is not the case that *a* must always be realized exactly as output *a′*, rather other constraints in the grammar, particularly wellformedness constraints, can cause the realization of *a* in a winning candidate to resemble the output *a′* provided by the lexicon, but nevertheless depart from it in some respects, and we will see this in practice in the individual grammars below.

A final part of Lexical Grounding is the use of prioritization. This pertains to cases where the lexicon lists multiple correspondences for one and the same input, which is how the lexicon represents allomorphy for example. In a phonological analysis of allomorphy Bonet *et al.* (2007) demonstrate the utility of marking some lexical entries as prioritized and then employing a constraint which penalizes the use of non-prioritized lexical entries. The Lexical Grounding equivalent is the constraint LEXICALPRIORITY in (11.6). Prioritization will also play a role in the individual grammars below.

(11.6) LEX-PRIOR-ΣM 'no unprioritized mappings'
Where a correspondence exists between a set *a* of level Σ input elements and a string *a′* of level M output elements, the mapping *a* :: *a′* is present in the ΣM lexicon and is the prioritized mapping for *a*.

Lexical Grounding possesses some advantages over similar approaches to constraint-based morphological realization. A significant approach in OT to morphological realization is the deployment of **realizational constraints** (Kager 1996; Yip 1998; MacBride 2004; Xu 2007). These are prototypically of the type '$a_J \rightarrow a'_K$', demanding that representation *a* on level J correspond to representation *a′* on level K. A limitation of this formalism is that it stipulates a realization for the input *a* in all-or-nothing terms. The realizational constraint will equally penalize any deviation of *a*'s output correspondent from the designated form *a′*. If control needs to be exercised over a range of variant realizations for *a* then multiple realizational constraints will be required (MacBride 2004). Because each realizational constraint is independent from others, no principled distinction will be made between constraints which licence a set of minor variants $a \rightarrow a'$, $a \rightarrow a''$ and constraints which licence entirely different forms $a \rightarrow a'$, $a \rightarrow z'$. Lexical Grounding allows the grammar to express and to enforce consistencies of form in addition to points of variation.

The use of a 'lexicon' also has some predecessors. Wolf (2008) makes use of an external 'lexicon' of correspondences afforded by the lexical insertion rules of Distributed Morphology (Halle and Marantz 1993, 1994). The constraint MAX-M(FS)$_{listed}$ demands that a mapping between input features structures (FS) and the output surface form of a morpheme conform to a listing in the lexicon. Zuraw (2000) proposes a constraint USELISTED which demands that the input–output correspondences of an entire word conform to a listing in the lexicon. Steriade's (1999) theory of Lexical Conservatism aims to account for the phonological form of neologisms and also relies upon a 'LEX' constraint to ensure that the surface form of a morpheme in a neologism conforms to one of its surface forms listed in the lexicon. A significant difference between each of these previous proposals and Lexical Grounding is that Lexical Grounding does not directly control surface forms. Rather, since it is inherently designed to handle variation it allows room for other constraints (such as those which regulate normal phonological alternations) to also play their part in determining the output. Secondly, the outputs it deals with need not be surface forms. Lexical Grounding is a significantly more general module which can implement constraint-based mappings between any pair of representational levels whose characteristic elements are not of the same kind.

11.3 ΣM grammar

We turn now to the ΣM grammar, beginning with some simple tableaux. The tableau (11.7) shows the trivial derivation of the word *dan-da* 'here-T'. No inflectional features are involved so the morphosyntactic input consists merely of the stem's lexical representation shown here as DAN and the empty feature value collection ⟨{∅}⟩. In the tableau these appear in the top left hand corner along with an indication of their representational level, Σ.

(11.7)

Σ: DAN; ⟨{∅}⟩	R-ALIGN (ω,T)	R-ALIGN (T,ω)
☞ M: √>T		
a. M: √	W_1	
b. M: √>T>T		W_1

The candidates are each displayed as a string of ordered morphomic elements separated by an ordering sign '>' and beginning with the stem, which for brevity will be indicated simply as '√' (it will be assumed here that stems are always realized correctly in the output as one contiguous element[2]). An indication is also given of outputs' representational level, M. The winning candidate in this case consists of the stem followed by the termination, T. Just two constraints are shown in (11.7). These are the constraints defined in (11.8) and (11.9) which demand that every output word (ω) end with T, and that every T appear at the end of an output word. Losing candidate (11.7a), with no T, violates the first constraint while losing candidate (11.7b), with two T's, violates the second.

(11.8) R-ALIGN (ω,T) 'All words ends with T'
The right edge of all words aligns with the right edge of a T morphome.

(11.9) R-ALIGN (T,ω) 'All T's appear at the end of a word'
The right edge of all T morphomes aligns with the right edge of a word.

The constraints in (11.8) and (11.9) are undominated in the grammar and are never violated by a winning candidate. To economize on space all tableaux below will omit any reference to candidates which violate (11.8) and (11.9) and the constraints will not be displayed in the tableaux.

A more interesting tableau is (11.10) which shows the derivation of *danurruwa* 'here-ASSOC-T', inflected for the feature collection ⟨{CASE:associative}⟩. In this tableau and in the tableaux to follow we will need to keep track of correspondences between input feature values and output morphomic elements. This is done through the use of subscripts. Co-subscripted elements in the input and output are in correspondence. Elements in either the input or output which lack a correspondent are unsubscripted.

(11.10)

	Σ: DAN; {CASE:assoc$_1$}	DEP-ΣM	MAX-ΣM	LEX-ΣM
☞	M: √>μASSOC$_1$>T	$_1$		
a.	M: √>μASSOC>T	W$_2$	W$_1$	
b.	M: √>μPROP$_1$>T	$_1$		W$_1$

CASE:assoc :: μASSOC

Tableau (11.10) illustrates the faithfulness constraints DEPENDENCY-ΣM 'each output element in M has an input correspondent in Σ' and MAXIMALITY-ΣM 'each input element in Σ has an output correspondent in M', and the general Lexical Grounding constraint LEX-ΣM 'a ΣM input–output correspondence matches a correspondence listed in the ΣM lexicon'. The relevant part of the ΣM lexicon is shown beneath the tableau. Definitions of the constraints are given in (11.12), (11.11), and (11.4). The

[2] This could be formalized via unviolated contraints on stem integrity. See Round (2011a) regarding the morphomic nature of stems.

winning candidate violates Dep-ΣM just once because the word final T in the output has no input correspondent. (As mentioned above, we need not consider candidates which do not end with T.) Candidate (11.10a) differs from the winner by not placing input CASE:assoc and output μASSOC in correspondence, thereby incurring two violations of Dep-ΣM (one for μASSOC and one for T) and one of Max-ΣM (for CASE:assoc). Losing candidate (11.10b) provides input CASE:assoc with an output correspondent so fares equally as well as the winner against Dep-ΣM and Max-ΣM, but it contains a correspondence not listed in the ΣM lexicon and hence violates Lex-ΣM.

(11.11) Max-ΣM 'realize morphosyntactic feature values'
Each element in the Σ-level input has a correspondent in the M-level output.

(11.12) Dep-ΣM 'no vacuous morphomes'
Each element in the M-level output has a correspondent in the Σ-level input.

11.3.1 The ΣM lexicon

The lexicon for ΣM correspondences in given in Table 11.2. Correspondences are organized by morphosyntactic features, which are listed at the far left, and values, given to the left of the each '::' sign in the bulk of the table. At the M level, some few morphomes will already be assigned a phonological juncture feature which appears as '-' and '+' to the left of the primary morphome, and some will carry a positive allomorphy feature shown as a double acute accent over the morphome's μ prefix.

11.3.2 Default linearization in M

Feature percolation passes to the realizational morphology a collection of features which includes an ordering between any pairs of CASE or NUMBER features associated with different, hierarchically ordered DPs, and between any pairs of TAMA, TAMT, and +NEG features associated with different, hierarchically ordered clauses including embedded VPs. In the default case these orderings, present in the Σ input, will be maintained in the M output by virtue of the constraint Linearity-ΣM, adapted from the standard Linearity constraint of correspondence theory (McCarthy and Prince 1999) and defined in (11.13).

(11.13) Lin-ΣM 'no metathesis'
For two elements a,b in Σ such that a is ordered before b, and the elements a', b' in M, where a corresponds to a' and b to b', a' is ordered before b'.

Tableau (11.14) illustrates the derivation of *makurnurruwalada* 'woman-ASSOC-PL', inflected for the ordered collection of feature values ⟨{CASE:assoc}>{NUM:pl}⟩. In the winning candidate the pairwise ordering between the input elements CASE:assoc and

TABLE 11.2 Lexicon of ΣM correspondences

CASE	^ablative :: μLOC>μ́ABL	dative :: μDAT>TH
	ablative :: μLOC>μABL	donative :: -μDON>J
	allative :: μLOC>μALL	human allative :: μALLH>J
	associative :: μASSOC	collative :: μLLOC>μINCH>TH
	consequential :: -μCONS	objective ablative :: μABLO>TH
	denizen :: μDEN>J>μN	objective evitative :: μEVITO>TH
	genitive :: μGEN	purposive :: μALLH>μMID>J
	instrumental :: μINST	subj. ablative :: μABLO>μMID>J
	locative :: μLOC	subj. evitative :: μEVITO>μMID>J
	oblique :: μOBL	translative :: μDAT>μMID>J
	origin :: μORIG	
	privative :: -μPRIV	
	^proprietive :: μ́PROP	
	proprietive :: μPROP	
	utilitive :: μUTIL	
NUM	dual :: μDU	plural :: μPL
TAMA	antecedent :: -μCONS	instantiated :: μLOC
	continuous :: μOBL	negatory :: -μPRIV
	directed :: μLOC>μALL	precondition :: μLOC>μABL
	emotive :: μOBL	present :: μLOC
	functional :: μUTIL	prior :: μLOC>μ́ABL
	future :: μ́PROP	functional :: μUTIL
	incipient :: μDAT>μMID>J	
NEG	+NEG :: μNEG	
TAMT	antecedent :: μN>-μCONS	past :: +μ́CONS
	apprehensive :: μAPPR	potential :: μ́PROP
	desiderative :: μDES	precondition :: +μCONS
	directed :: μLOC>μALL	progressive :: μN
	hortative :: μOBL	resultative :: μRES
	immediate :: μLOC	nonveridical :: μN>-μPRIV
	incipient :: μN>μDAT>μMID>J	
COMP	+COMP :: μOBL	
SEJ	+SEJ :: μLOC	
NEG&TAMT	{+NEG, TAMT:actual} :: +μPRIV	{+NEG, TAMT:imperative} :: μNEG

num:plural is faithfully reflected in the ordering of their output correspondents. In losing candidate (11.14a) it is not, and Lin-ΣM is violated.

(11.14)

Σ: maku; ⟨{case:assoc$_1$}>{num:pl$_2$}⟩	Dep-ΣM	Lin-ΣM
☞ M: √>μassoc$_1$>μpl$_2$>T	1	
a. M: √>μpl$_2$>μassoc$_1$>T	1	W$_1$

case:assoc :: μassoc , num:pl :: μpl

Although the feature value collections derived by percolation contain some ordering information, they do not contain ordering between values of +comp, +sej, tama, tamt, and +neg associated with the same clause, or between case and number associated with the same DP. The default orderings we require are +neg>tamt> +comp/+sej and tamt>+comp/+sej as well as num>case. These can be generated using alignment constraints of the kind LR-Align(f′,√) 'align the left edge of all realizations of feature f with the right edge of a stem'. Each alignment constraint of this type will demand that the realization of a feature's value be ordered directly after the stem, and one violation is incurred for each other feature's realization which interposes between them. Because the number of violations increases with the distance between the stem and the feature's realization, these constraints ensure that realizations appear as close as possible to the stem even if they are prevented from being immediately adjacent to it. By ranking the constraints which pertain to each feature we establish a ranking of priorities in terms of whose realization gets closer to the stem. Thus the rankings we require are those in Figure 11.2 (the reason for placing Lin-ΣM at the top will be explained below).

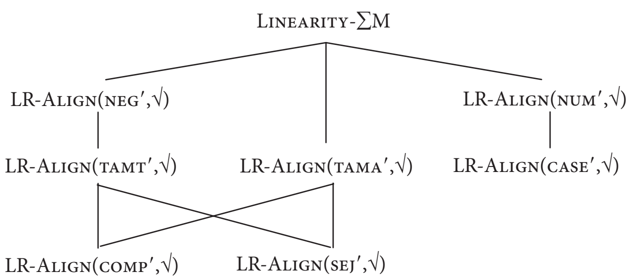


Figure 11.2 Constraint ranking for default linearization

Tableau (11.15) illustrates the ranking of LR-Al(neg′,√) and constraints dominated by it. The word derived is *kamburinangkuuntha* 'talk-neg-pot-sej' inflected for the unordered collection ⟨{+neg, tamt:potential, tama:future, +sej, +comp}⟩. (To economize on space below I will omit mention of the +comp feature which accompanies every +SEJ, since due to antagonism it is never realized (§5.1). Antagonism of +COMP/+SEJ and of TAMA/TAMT/NEG is formalized in §11.3.5.)

(11.15)

	Σ: KAMBURIJ; ⟨{+NEG$_1$, TAMT:potential$_2$, TAMA:future$_3$, +SEJ$_4$}⟩	LR-ALIGN (NEG′,√)	LR-ALIGN (TAMT′,√)	LR-ALIGN (COMP′,√)	LR-ALIGN (SEJ′,√)
☞	M: √>μNEG$_1$>μ̋PROP$_2$>μOBL$_4$>T		1		2
a.	M: √>μ̋PROP$_2$>μNEG$_1$>μOBL$_4$>T	W$_1$	L		2

+NEG :: μNEG, TAMT:pot :: μ̋PROP, TAMA:fut :: μ̋PROP, +SEJ :: μOBL

The winning candidate incurs no violations of the highest-ranking LR-ALIGN(F′,√) constraint because the realization of +NEG is situated immediately after the stem. It incurs one violation of LR-ALIGN(TAMT′,√) because the realization of TAMT:potential is one step removed from the stem, and two violations of LR-ALIGN(SEJ′,√) because the realization of +SEJ is two steps removed. Any other ordering of the realizations of features may lessen the violations of some constraints but only at the expense of raising the number of violations of higher-ranked constraints.[3] This is illustrated by losing candidate (11.15a) which has fewer violations of LR-ALIGN(TAMT′,√) but at the cost of increasing the violations of the higher-ranked constraint LR-ALIGN(NEG′,√).

The LR-ALIGN(F′,√) constraints must be ranked below LIN-ΣM in order not to override the ordering represented in the feature collection. This is illustrated in (11.16) which also shows the constraints LR-ALIGN(NUM′,√) and LR-ALIGN(CASE′,√). The word being derived is *natharnurruwalathina* 'camp-ASSOC-PL-ABL', inflected for ⟨{CASE:associative}>{NUM:pl, CASE:ablative}⟩.

(11.16)

	Σ: NATHA; ⟨{CASE:associative$_1$}> {NUM:pl$_2$, CASE:ablative$_3$}⟩	MAX-ΣM	LIN-ΣM	LR-ALIGN (NUM′,√)	LR-ALIGN (CASE′,√)
☞	M: √>μASSOC$_1$>μPL$_2$>μ̋ABL$_3$>T			1	2
a.	M: √>μASSOC$_1$>μ̋ABL$_3$>μPL$_2$>T			W$_2$	L$_1$
b.	M: √>μPL$_2$>μASSOC$_1$>μ̋ABL$_3$>T		W$_1$	L	W$_{1+2}$
c.	M: √>μASSOC$_1$>μ̋ABL$_3$>T	W$_1$		L	2

CASE:assoc :: μASSOC, NUM:pl :: μPL, CASE:abl :: μ̋ABL

The winning candidate preserves the input ordering in the output and having done that, also places the realization of NUM closer to the stem than the realization of CASE.

[3] An assumption here is that all output elements are ordered with respect to one another. This could be implmented with an undominated constraint which penalizes any lack of ordering.

Loser (11.16a) preserves the input ordering but orders NUM after CASE. Loser (11.16b) fares better than the winner against the highest-ranked LR-Align(F′,√) constraint, LR-Align(NUM′,√) by placing the realization of NUM first after the stem. In doing so though it violates Lin-ΣM by failing to preserve input ordering. The fact that this candidate is not the winner demonstrates the need for Lin-ΣM to rank above the LR-Align(F′,√) constraints (given the ranking of the LR-Align(F′,√) constraints, established by loser (11.16a)). Loser (11.16c) is included to illustrate that Max-ΣM also ranks above the LR-Align(F′,√) constraints: it is not sufficient in order to reduce violations of LR-Align(F′,√) simply to leave a feature unrealized. Candidate (11.16c) does this and thus incurs a violation of higher-ranked Max-ΣM.

11.3.3 Linearization of specific morphomes

Beyond the default principles of linearization, the morphomes μOBL, μDES (morphomic desiderative), and μLOC all have particular restrictions on their linear arrangement within the word which are analysed now in turn.

In the default case, when two TAM features are ordered with respect to one another in an input feature value collection then the ordering of their realizations in the output will be the same, due to the influence of Lin-ΣM. Restrictions on μOBL can overrule that default (Evans 1995a:129–33, 1995b). A μOBL morphome must always appear to the immediate left of the termination T even at the expense of contradicting ordering in the input feature collection and violating Lin-ΣM. This can be seen in (11.17) where the final two words inflect for matrix TAMA:prior and embedded TAMA:continuous, but do so in a linearly unusual order: the realization of matrix TAM appears *inside* that of embedded TAM, in order that μOBL, which realizes embedded TAMA:continuous, can appear directly before T.

(11.17)	[*Ngada*	*kurrijarra*	*niwanjina,*
	ŋat̪-ta	kuri-c+ŋara	ɳi+paɲ+ki-naa-∅
	1sg-T	‹see-J›-μ̋CONS-T	3sg-μPOSS-‹μLOC-μ̋ABL›-T
	1sg	‹see›-PAST	3sg-∅-‹PRIOR›

[*kurdamankina*	***ngukunaantha***
kuʈama-t̪-n+ki-naa-∅	ŋuku-ki-naa-in̪t̪a-∅
‹drink-TH›-μN-‹μLOC-μ̋ABL›-T	water-‹μLOC-μ̋ABL›-μOBL-T
‹drink›-PROG-‹PRIOR›	water-**‹PRIOR›-CONT**-T

wurumanurrunaanth. CONT,PROG] PST,PRIOR]
wuɻuman-ɳuru-ki-naa-in̪t̪a-∅
billy-μASSOC-‹μLOC-μ̋ABL›-μOBL-T
water-ASSOC-**‹PRIOR›-CONT**-T
'I saw him drinking the water in the billy.' [W1960, E112–13.ex.3-44]

The derivation of *wurumanurrunaanth* is illustrated in tableau (11.18). The constraint which enforces the linearization of μobl is RL-Align(μobl,t) 'all μobl morphemes must align immediately before t'.

(11.18)

	Σ: wuruman; ⟨{case:assoc$_1$}> {tama:cont$_2$, tamt:prog$_3$} >{tama:prior$_4$, tamt:pst$_5$}⟩	RL-Align (μobl,t)	Max -ΣM	Lin -ΣM
☞	M: √>μassoc$_1$>μloc$_4$>μ̋abl$_4$>μobl$_2$>t			1
a.	M: √>μassoc$_1$>μobl$_2$>μloc$_4$>μ̋abl$_4$>t	W$_1$		L
b.	M: √>μloc$_4$>μ̋abl$_4$>μassoc$_1$>μobl$_2$>t			W$_2$
c.	M: √>μassoc$_1$>μloc$_4$>μ̋abl$_4$>t		W$_1$	L

case:assoc :: μassoc, tama:cont :: μobl, tama:prior :: μloc>μ̋abl

The winning candidate orders the realization of matrix tama before that of embedded tama. In doing so it violates Lin-ΣM once, for having reversed the ordering of one pair of features; however it does not violate RL-Align(μobl,t). Losing candidate (11.18a) orders all realizations isomorphically with their inputs. It avoids violating Lin-ΣM but in doing so violates the more highly-ranked RL-Align(μobl, t). The fact that candidate (11.18a) fails to win shows that RL-Align(μobl,t) outranks Lin-ΣM. Loser (11.18b) gratuitously reorders the realization of case and so incurs an additional violation of Lin-ΣM. Loser (11.18c) provides our first positive evidence that Max-ΣM outranks Lin-ΣM. It avoids the winner's violation of Lin-ΣM without incurring a violation of RL-Align(μobl,t) by leaving tama:cont unrealized, but in doing so Max-ΣM is violated.

Kayardild does not permit sequences μobl-μobl.[4] When two features which are usually realized by μobl appear in the same feature value collection only one μobl surfaces. This occurs in (11.19). The clause is complementized and sejunct, with the final DP a topic. The tama value is emotive, which like +sej is realized by μobl. All else equal the word *balmbinja* ought to inflect overtly for tama and +sej but only one copy of μobl appears. (Regarding the inflection of the tamt:desiderative verb *kurrid*, see discussion further below.) The derivation of *balmbinj* appears in tableau (11.20).

[4] This might appear to be due to 'morphological haplology', that is, morphological deletion motivated by a ban on adjacent, formally identical morphs. Such phenomena have been discussed by Yip (1998) with respect to realizational morphology in OT, and by Austin (1995) with respect to the Australian language Jiwarli. In the general case though Kayardild does permit adjacent, identical morphs (Evans 1995a:132), as in sentence (11.22). The ban on μobl-μobl is more parsimoniously analysed in terms of every μobl needing to be adjacent to t.

(11.19) *Ngijuwa* **balmbinja** *kurrida* *ngijinda* *kunaa.*
ŋicu+pa-ø palmpi-in̪t̪a-ø kuri-c-ta ŋicu-iɲ-ta kuna-a
1sg-μSEJ-T tomorrow-μOBL-T ‹see-J›-μDES 1sg-μPOSS-T father in law-T
1sg-SEJ tomorrow-EMO|SEJ ‹see›-DES 1sg-POSS father in law
'Tomorrow I should go see my father in law.' [Wurm 1960]

(11.20)

	Σ: BALMBI; ⟨{TAMA: emo_1, TAMT:$appr_2$, +SEJ_3}⟩	RL-ALIGN (μOBL,T)	LEXUNIF -ΣM	MAX -ΣM
☞	M: √>$μOBL_1$>T			2
☞	M: √>$μOBL_3$>T			2
a.	M: √>$μOBL_1$>$μOBL_3$>T	W_1		L_1
b.	M: √>$μOBL_{1,3}$>T		W_1	L_1

TAMA:emotive :: μOBL, +SEJ :: μOBL

Tableau (11.20) displays two winning candidates whose form is identical. Both incur two violations of MAX-ΣM due to the lack of realization of TAMT, and one of either TAMA or +SEJ. Loser (11.20a) realizes both TAMA and +SEJ thus incurring one fewer violation of MAX-ΣM but violating RL-ALIGN(μOBL,T) in the process. Loser (11.20b) realizes both TAMA and +SEJ on the same output μOBL morphome. This conflation of multiple inputs onto a single output violates the undominated constraint LEXICALUNIFORMITY-ΣM, defined in (11.21). LEXUNIF-ΣM is adapted from the standard UNIFORMITY constraint of correspondence theory (McCarthy and Prince 1999).

(11.21) LEXUNIF-ΣM 'no multiple inputs for an output'
An output string *a*′ of level M output elements has no more than one corresponding input set *a* of level Σ input elements, where the mappings *a* :: *a*′ are present in the lexicon.

Without LEXUNIF-ΣM the grammar would realize with just one copy of a morphomic string any combination of (sets of) feature values which map to the same string type. Although this would not be problematic in the case of (11.20b), it is not how Kayardild inflection operates in general. This is illustrated in (11.22) where CASE: proprietive and TAMA:future are each realized by a separate instance of μPROP.

(11.22) *Ngada* *balathu* *kirrwanju* ***ngijinjuruwuruwa***
ŋat̪-ta pala-t̪+kuu-ø ki-r-waɲ+kuu-ø ŋicu-iɲ+kuɻu+kuɻu-ø
1sg-T ‹hit-TH›-μ̋CONS-T 2-du-μPOSS-μ̋PROP-T 1sg-μPOSS-μPROP-μ̋PROP-T
1sg ‹hit›-PST 2-du-ø-FUT 1sg-ø-PROP-FUT

karwawuruwuru.
kaɻwa+kuɻu+kuɻu-ø
club-μprop-μ̋prop-t
club-prop-fut
'I will hit you two with my club.' [W1960]

The second morphome with idiosyncratic linearization behaviour is μdes, the morphomic desiderative. The μdes morphome realizes just one feature value, tamt: desiderative. For reasons which are currently unclear, clauses with tamt:des are often complementized in my corpus, but only in sejunct clauses such as (11.19). The feature +sej is usually realized by μobl, however on words which would be expected to inflect for tamt:des and +sej the output combination *μdes-μobl is not found. I will attribute absence of that sequence to an undominated constraint RL-Align(μdes,t) which demands that μdes appear directly before t. What is found instead of *μdes-μobl is simply μdes, as on the verb *kurrida* in (11.19). To account for the fact that μdes appears at the expense of μobl and not vice versa, the constraint *μobl 'the output does not contain μobl' is ranked above over *μα, a constraint which penalizes every primary morphome in the output (in tableaux I indicate counts only of suffixal morphomes). This is shown in tableau (11.23) for *kurrida*, inflected for the feature collection ⟨{tama:emotive, tamt:desiderative, +sej}⟩.

(11.23)

Σ: kurrij; ⟨{tama: emo$_1$, tamt:des$_2$, +sej$_3$}⟩	RL-Align (μobl,t)	RL-Align (μdes,t)	Max -ΣM	*μobl	*μα
☞ M: √j>μdes$_2$>t			2		1
a. M: √j>μdes$_2$>μobl$_3$>t		W$_1$	L$_1$	W$_1$	W$_2$
b. M: √j>μobl$_3$>μdes$_2$>t	W$_1$		L$_1$	W$_1$	W$_2$
c. M: √j>μobl$_3$>t			2	W$_1$	1
d. M: √j>t			W$_3$		L

tamt:des :: μdes, +sej :: μobl

The winner in (11.23) violates Max-ΣM twice, once for tama and once for +sej. Losers (11.23a,b) both fare better against Max-ΣM but violate either of the more highly-ranked constraints RL-Align(μdes,t) or RL-Align(μobl,t) to do so. Loser (11.23c) realizes +sej rather than tama and in doing so incurs an extra violation of *μobl. The winner also violates *μα. Loser (11.23c) shows the importance of ranking *μobl and *μα low. It violates neither of them, but in doing so it incurs an extra violation of Max-ΣM which is more highly-ranked.

The third morphome with idiosyncratic linearization behaviour is μloc. It may appear only before μabl, μall, or t, or be realized cumulatively with μobl. The cumulative realization of μloc and μobl will be taken care of in the MΦ grammar; in the ΣM grammar it will be sufficient to ensure that μLOC only appears directly before one of μABL, μALL, T, or μOBL. That restriction will be implemented here by use of the undominated cover constraint μLOC-CONDITION in (11.24).

(11.24) μLOC-COND cover constraint
Cover constraint for all constraints *μLOC>*m*, for all morphomes *m* ∈ L, where L is the set of all primary morphomes except for μABL, μALL, μOBL, and T.

It will be necessary to ensure that the satisfaction of μLOC-COND is achieved in the desired manner. In addition to ruling out the insertion of extra morphomes (which will be handled by DEP-ΣM and undominated LEX(μα)-ΣM), we must ensure that μLOC-COND is satisfied through the failure of μLOC to appear, rather than any other morphome's failure to appear. This is achieved by ranking *μLOC over *μα. We must also ensure that μLOC-COND is not satisfied by shuffling the order of morphomes. Previously, the ranking of MAX-ΣM over LIN-ΣM allowed μOBL to shift position rather than be deleted in order to satisfy its own high-ranking constraint RL-ALIGN (μOBL,T). The behaviour of μLOC is the opposite: in order to satisfy its high-ranking constraint μLOC-COND, it will delete rather than shift. For this to occur it will suffice to rank a special linearization constraint LIN(μLOC)-ΣM above MAX-ΣM. LIN(μLOC)-ΣM is undominated, and is defined in (11.25).

(11.25) LIN(μLOC) 'no pairwise reorderings involving μLOC'
For two elements *a,b* in Σ such that *a* linearly precedes *b*, and the elements *a′,b′* in M of which one is μLOC, and where *a* corresponds to *a′* and *b* to *b′*, *b′* does not precede *a′*.

Tableau (11.27) shows the derivation of *kaburrbawu* in (11.26) which must be inflected for CASE:locative (cf §6.8) whose μLOC realization cannot appear due to the following μPROP which realizes TAMT:future.

(11.26)

Ngada	*dathinku*	*wuuju,*	*ngurrumanjiwu*	***kaburrbawu*.**
ŋat̪-ta	ʈat̪in+kuu-ø	wuː-c+kuu-ø	ŋurumaɲci+kuu-ø	kapurpa+kuu-ø
1SG-T	that-μ̋PROP-T	‹put-J›-μ̋PROP-T	billy can-μ̋PROP-T	fire-μ̋PROP-T
1SG	that-FUT	‹put›-POT	billy can-FUT	fire-FUT (LOC)

'I'll put that thing, the billy can, on the fire.' [W1960]

(11.27)

Σ: KABURRBA; ⟨{CASE:loc$_1$} >{TAMA:fut$_2$, TAMT:pot$_3$}⟩	μLOC-COND	LEX(μα)-ΣM	LIN(μLOC)-ΣM	DEP-ΣM	MAX-ΣM	LIN-ΣM	*μLOC	*μα
☞ M: √>μ̋PROP$_2$>T				1	2			1
a. M: √>μ̋PROP$_2$>μLOC$_1$>T			W$_1$	1	L$_1$	W$_1$	W$_1$	1
b. M: √>μLOC$_1$>μALL>μ̋PROP$_2$>T				W$_2$	L$_1$		W$_1$	1
c. M: √>μLOC$_1$>μALL$_1$>μ̋PROP$_2$>T		W$_1$		1	L$_1$		W$_1$	1
d. M: √>μLOC$_1$>μ̋PROP$_2$>T	W$_1$			1	L$_1$		W$_1$	W$_2$
e. M: √>μLOC$_1$>T				1	2		W$_1$	1

CASE:locative :: μLOC, TAMA:future :: μ̋PROP

The winner in (11.27) violates MAX-ΣM twice because CASE:locative is unrealized as well as TAMT:potential. Losers (11.27a–d) all fare better against MAX-ΣM. Loser (11.27a) realizes both TAMA and CASE by ordering the realization of CASE second, but this contradicts the input ordering and violates LIN(μLOC)-ΣM (note that due to its ranking, a violation of general constraint LIN-ΣM would not be sufficient on its own to rule out candidate (11.27a)). Loser (11.27b) epenthesizes a μALL morphome after μLOC, thus continues to satisfy μLOC-COND but incurs an extra violation of DEP-ΣM because the μALL has no input correspondent. Loser (11.27c) also includes a μALL morphome, this time in correspondence with CASE:locative, but no such correspondence exists in the lexicon and so LEX(μα)-ΣM is violated. Loser (11.27d) simply realizes CASE and TAMA in order but that violates μLOC-COND. Finally (11.27e) suppresses the realization of TAMA and thereby gets μLOC directly before T; however this incurs an additional violation of *μLOC compared to the winner.

The constraint rankings established in this section are summarized in Figure 11.3.

11.3.4 Antagonism

The undominated constraint ANTAGONISM (11.28) will ensure that antagonistic pairs of features or feature values are not both realized. As mentioned in §4.3.1 a notion of antagonism, disjunctive ordering, or blocking has long played a role in formal morphology and so the constraint in (11.28) has been formulated to be universal, and found in all grammars. Its operation then makes reference to a language-specific list of antagonistic pairs (or sets). In Kayardild it is undominated.

(11.28) ANTAG 'Do not realize both features in an antagonistic pair'
For two elements *a,b* which are unordered in the input and which are defined language-specifically as antagonistic: *a*, or *b*, or both, lack a correspondent in the output.

Undominated:

Lex(μα)-ΣM, RL-Align(μobl,t), RL-Align(μdes,t), μloc-cond, Lin(μloc)-ΣM, LexicalUniformity

Dominated:

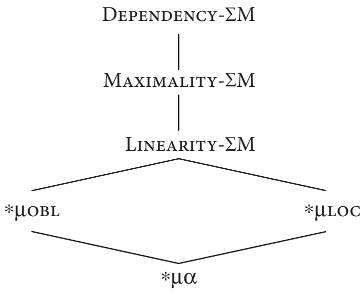


Figure 11.3 Constraint rankings established in §11.3.3

A second constraint, AntagonismPriority is defined in (11.29). It ensures that in cases of antagonism where one antagonist has priority over the other, the prioritized one is realized.

(11.29) Antag-prior 'Do not realize the low-priority feature in an antagonistic pair'
For two elements *a,b* which are unordered in the input and which are defined language-specifically as antagonistic: where *a* is defined as having priority over *b*, *b* lacks a correspondent in the output.[5]

Tableau (11.30) derives the word *malantha* 'sea-sej(comp)' from sentence (5.43). It inflects for ⟨{+comp, +sej}⟩, of which +sej, but not its antagonist +comp, is realized.

(11.30)

Σ: mala; ⟨{+comp$_1$, +sej$_2$}⟩	Antag	Max-ΣM	Antag-prior
☞ M: √>μobl$_2$>t		^{1}	
a. M: √>μloc$_1$.μobl$_2$>t	W$_1$	L	W$_1$
b. M: √>μloc$_1$>t		$_1$	W$_1$

+comp :: μloc, +sej :: μobl

[5] I define Antag-prior as blocking the realization of the lower priority feature so that in a set of antagonistic features with a large set of pairwise priority relationships, all of the lower-priority antagonists are blocked (as opposed to all of the pairwise higher-priority antagonists being granted a realization).

The winning candidate only realizes one of the two input feature values. As such it incurs one violation of MAX-ΣM, but it avoids violating the high-ranked ANTAG constraint. Loser (11.30a) realizes both features and so performs better against MAX-ΣM but in doing so violates ANTAG. Loser (11.30b) realizes only one of the two antagonists so satisfies ANTAG, but it realizes the unprioritized +COMP, and so violates ANTAG-PRIOR.

11.3.5 Wellformedness, thematics, and TAM

The feature TAMA is antagonistic with both TAMT and +NEG, and none of them has absolute priority.[6] Realizations of TAMA are unable to appear after a thematic (TH or J); realizations of +NEG can only appear after TH or J; and realizations of TAMT can only appear after TH or J, or after μNEG (the realization of +NEG). Let us therefore class TH, J, and μNEG as [+θ] and all other morphomic elements as [−θ]. The wellformedness constraints defined in (11.31–11.33) will then prohibit any of the illicit sequences from appearing in the output. These constraints are undominated and never violated by a winning candidate.

(11.31) *[+θ]>TAMA′
The output contains no [+θ] elements followed by a realization of TAMA

(11.32) *[−θ]>TAMT′
The output contains no [−θ] elements followed by a realization of TAMT

(11.33) *[−θ]>NEG′
The output contains no [−θ] elements followed by a realization of NEG.

To economize on space I will use a cover constraint THEM(ATICITY) in tableaux, which stands in for all three of (11.31–11.33). Tableau (11.34) shows the derivation of the place name *Rukuthina* from sentence (5.20) where it inflects for ⟨{TAMA:prior, TAMT:past}⟩, of which TAMA but not TAMT is realized. The lexical stem in this case is a nominal. It does not end in TH or J and so counts as [−θ] and is shown as $\surd_{-\theta}$. Loser (11.34a) realizes both features and so violates ANTAG. Loser (11.34b) realizes TAMT after the [−θ] stem and so violates THEM.

[6] A subtly different analysis is this: TAMA has priority but cannot appear after TH or J; TAMT has a lower priority and appears wherever it can, which will be only when TAMT is not realized, due to antagonism. This analysis makes a false prediction however in the case when the realization of a TAMA value is zero on non-thematic stems, as is the case for TAMA:∅. In such cases we would then expect low priority TAMT to be realized because there is no competing TAMA realization, even after a non-thematic stem. A similar problem besets an analysis in which the roles of TAMA and TAMT is reversed, so that TAMT has priority. The difficulty again lies with values of the prioritized feature (now TAMT) whose realization is zero, such as TAMT:actual.

(11.34)

	Σ: RUKUTHI; ⟨{TAMA:prior$_1$, TAMT:past$_2$}⟩	ANTAG	THEM	MAX-ΣM
☞	M: $\surd_{-\theta}$>μLOC$_1$>μ̋ABL$_1$>T			1
a.	M: $\surd_{-\theta}$>μLOC$_1$>μ̋ABL$_1$>μ̋CONS$_2$>T	W$_1$		L
b.	M: $\surd_{-\theta}$>μ̋CONS$_2$>T		W$_1$	1

TAMA:prior :: μLOC>μ̋ABL, TAMT:past :: μ̋CONS

Tableau (11.35) shows the derivation of *warrajarra* 'go-PST(PRIOR)' from the same sentence which inflects for ⟨{TAMA:prior, TAMT:past}⟩, of which TAMT but not TAMA is realized. The stem in this case is a lexical verb stem which ends in the thematic J, shown in the tableau as √J.

(11.35)

	Σ: WARRAJ; ⟨{TAMA:prior$_1$, TAMT:past$_2$}⟩	ANTAG	THEM	MAX-ΣM
☞	M: √J>μ̋CONS$_2$>T			1
a.	M: √J>μ̋CONS$_2$>μLOC$_1$>μ̋ABL$_1$>T	W$_1$		L
b.	M: √J>μLOC$_1$>μ̋ABL$_1$>T		W$_1$	1

TAMA:prior :: μLOC>μ̋ABL, TAMT:past :: μ̋CONS

Loser (11.35a) realizes both TAMA and TAMT so violates ANTAG. Loser (11.35b) contains a realization of TAMA directly after the thematic stem so violates THEM.

Tableau (11.36) shows the realization of TAMT and NEG, and not TAMT in *kurri-nangku* 'see-NEG-POT(FUT)' from sentence (8.4) which inflects for ⟨{+NEG, TAMT: potential, TAMA:future}⟩.

(11.36)

	Σ: KURRIJ; ⟨{+NEG$_1$, TAMT:pot$_2$, TAMA:fut$_3$}⟩	ANTAG	THEM	MAX-ΣM
☞	M: √J>μNEG$_1$>μ̋PROP$_2$>T			1
a.	M: √J>μ̋PROP$_2$>μNEG$_1$>T		W$_1$	1
b.	M: √J>μ̋PROP$_3$>T		W$_1$	W$_2$
c.	M: √J>μ̋PROP$_2$>T			W$_2$
d.	M: √J>μNEG$_1$>T			W$_2$
e.	M: √J>μNEG$_1$>μ̋PROP$_2$>μ̋PROP$_3$>T	W$_2$		L

+NEG :: μNEG, TAMT:pot :: μ̋PROP, TAMA:fut :: μ̋PROP

The winner realizes +NEG and TAMT and places them in the correct order. It incurs one violation of MAX-ΣM because TAMA is unrealized. Loser (11.36a) realizes +NEG and TAMT in the other order, which places the realization of NEG after the [−θ] µPROP morphome, incurring a violation of THEM. Loser (11.36b) realizes TAMA after the [+θ] stem so also violates THEM. Losers (11.36c,d) realize only one feature so incur an additional violation of MAX-ΣM. Loser (11.36e) realizes all features and so violates ANTAG twice—once for each antagonistic pairing of TAMA with +NEG and TAMT.

The grammar will need to penalize candidates which avoid illicit sequences by shuffling the positions of their output elements. I will use the cover constraint ORDER to stand in for all of the constraints from §11.3.2 which ensure the default ordering of output elements. Tableau (11.37) illustrates the inflection of a nominal inflected for the thematic CASE value human-allative: *ngumbanjanijarr* '2sg-ALLH-PST(PRIOR)' from sentence (5.23), inflected for ⟨{CASE:human-allative}>{TAMA:prior, TAMT:past}⟩. The realization of CASE: human-allative ends with a thematic and therefore cannot be followed by a realization of TAMA.

(11.37)

	Σ: NGUMBAN; ⟨{CASE:human-allative$_1$}> {TAMA:prior$_2$, TAMT:past$_3$}⟩	THEM	MAX-ΣM	ORDER
☞	M: √>µALLH$_1$>J$_1$>µ̋CONS$_3$>T		1	
a.	M: √>µALLH$_1$>J$_1$>µLOC$_2$>µ̋ABL$_2$>T	W$_1$	1	
b.	M: √>µLOC$_2$>µ̋ABL$_2$>µALLH$_1$>J$_1$>T		1	W$_1$
c.	M: √>µLOC$_2$>µ̋ABL$_2$>T		W$_2$	

CASE:allh :: µALLH>J, TAMA:prior :: µLOC>µ̋ABL, TAMT:past :: µ̋CONS

The winner in (11.37) realizes TAMT and not TAMA so violates MAX-ΣM once. Loser (11.37a) realizes TAMA and not TAMT after the realization of CASE and thus violates THEM. Loser (11.37c) also realizes TAMA rather than TAMT and avoids violating THEM by reordering the realizations of TAMA and CASE, but in doing so it violates ORDER. Loser (11.37b) realizes TAMA rather than TAMT and does so by simply leaving CASE unrealized, thus incurring an extra violation of MAX-ΣM.

Tableau (11.38) now illustrates the lack of antagonism between TAM features which are ordered in the input. The word derived is *diyanngarrbawu* 'eat-ANTT(ANTA)-FUT (POT)' from (5.46) which overtly inflects for embedded clause TAMT (and not TAMA) and matrix clause TAMA (and not TAMT). Antagonism pertains only to pairs of features which are unordered with respect to one another in the feature collection ⟨{TAMT:antt,TAMA:anta}>{TAMA:fut,TAMT:pot}⟩. The lexical stem is a verb, so ends in a thematic.

(11.38)

	Σ: DIYAJ; ⟨{TAMT:antt$_1$,TAMA:anta$_2$} >{TAMA:fut$_3$,TAMT:pot$_4$}⟩	ANTAG	THEM	MAX-ΣM	ORDER
☞	M: √J>μN$_1$>μCONS$_1$>μ̋PROP$_3$>T			2	
a.	M: √J>μCONS$_2$>μ̋PROP$_4$>T		W$_1$	2	
b.	M: √J>μN$_1$>μCONS$_1$>μCONS$_2$>μ̋PROP$_3$>T	W$_1$		L$_1$	

TAMT:antt :: μN>μCONS, TAMA:anta :: μCONS, TAMT:pot :: μ̋PROP, TAMA:fut :: μ̋PROP

The winner realizes TAMT:antecedent followed by TAMA:future, and because those features are ordered in the input their realization does not trigger a violation of ANTAG. It violates MAX-ΣM twice on account of the two features not realized. Loser (11.38a) realizes TAMA:antecedent instead of TAMT:antecedent and violates THEM. Loser (11.38b) realizes both TAMT:antecedent and TAMA:antecedent and thus fares better against MAX-ΣM but violates ANTAG.

11.3.6 Null and cumulative exponence of TAMT:actual and TAMT:imperative

In the ΣM lexicon the feature values TAMT:actual and TAMT:imperative do not appear in any simple correspondence *a*::*b*. As a consequence they generally receive no overt realization. Tableau (11.39) shows how candidates which would provide TAMT:actual with an overt realization fail. The word derived is *kurrija* 'see(ACT,INS)' for (7.10). The winning candidate violates MAX-ΣM twice because neither TAM feature is realized. Losing candidate (11.39a) realizes TAMT:act as μPROP but violates the undominated constraint LEX(μα)-ΣM in doing so.[7] Loser (11.39b) realizes TAMT:act as T and again violates LEX(μα)-ΣM. Loser (11.39c) realizes TAMA and violates THEM. The analysis for TAMT:imperative is entirely parallel.

(11.39)

	Σ: KURRIJ; ⟨{TAMA:ins$_1$, TAMT:act$_2$}⟩	THEM	LEX(μα)-ΣM	MAX-ΣM
☞	M: √J>T			2
a.	M: √J>μPROP$_2$>T		W$_1$	L$_1$
b.	M: √J>T$_2$		W$_1$	L$_1$
c.	M: √J>μLOC$_1$	W$_1$		L$_1$

TAMA:ins ::μLOC

The ΣM lexicon does contain the cumulative correspondences {+NEG, TAMT:actual} :: +μPRIV and {+NEG, TAMT:imperative} :: μNEG. Tableaux (11.40) and (11.41) illustrate

[7] The losing candidates (11.39a,b) also violate the constraint LEX-ΣM. However, in tableau (11.50) we will find evidence for ranking LEX-ΣM below MAX-ΣM. The constraint which is doing the crucial work here is therefore undominated LEX(μα)-ΣM.

derivations of feature structures containing +neg and tamt:actual or tamt: imperative.

(11.40)

	Σ: kurrij; ⟨{+neg$_1$, tama:ins$_2$, tamt:act$_3$}⟩	LexInteg-ΣM	Max-ΣM
☞	M: √j>+μpriv$_{1,3}$>t		1
a.	M: √j>μneg$_1$>t		W$_2$
b.	M: √j>μneg$_1$>+μpriv$_{1,3}$>t	W$_1$	1

{+neg, tamt:actual} :: +μpriv, +neg :: μneg

(11.41)

	Σ: kurrij; ⟨{+neg$_1$, tama:ins$_2$, tamt:imp$_3$}⟩	LexInteg-ΣM	Max-ΣM
☞	M: √j>μneg$_{1,3}$>t		1
a.	M: √j>μneg$_1$>t		W$_2$
b.	M: √j>μneg$_1$>μneg$_{1,3}$>t	W$_1$	1

{+neg, tamt:imperative} :: +μneg, +neg :: μneg

In contrast to (11.39) where the winning candidate violated Max-ΣM twice, in (11.40) and (11.41) the winner violates Max-ΣM just once. The winners' correspondence is between a set of two input features and one output morphome. The losing (a) candidates are based on the correspondence {+neg} :: μneg which also appears in the lexicon but which only provides a correspondent for the neg feature, not to tamt, and thus they incur a second violation of Max-ΣM.

In cases where the lexicon provides multiple correspondences for an input feature value the grammar must also ensure that they are not all used at once.[8] The losing (b) candidates in (11.40) and (11.41) include multiple realizations of +neg. Rampant exponence of this kind is mitigated by the undominated constraint LexicalIntegrity-ΣM, adapted from the standard Integrity constraint of correspondence theory (McCarthy and Prince 1999).

(11.42) LexInteg-ΣM 'no multiple outputs for an input'
An input set *a* of level Σ input elements has no more than one corresponding output string *a′* of level M output elements where the mappings *a* :: *a′* are present in the lexicon.

[8] Actually the same issue arises even where there is just one correspondence in the lexicon and we wish to penalize its being used to realize the same feature value more than once.

Table 11.3 Correspondences involving case with μprop and μabl

a.	^case:proprietive :: μ̋prop	c.	^case:ablative :: μloc>μ̋abl
b.	case:proprietive :: μprop	d.	case:ablative :: μloc>μabl

11.3.7 Allomorphy

The primary morphomes μcons, μprop, and μabl have strong and weak allomorphs (§2.5). Sometimes the phonology determines which is used. A formalization of that process is covered in §11.5 below, and what it requires is that the morphology sometimes passes to the phonology just one allomorph, the strong allomorph, and other times it passes to the phonology both allomorphs, between which the phonology chooses. The morphology, therefore, is not concerned so much with strong and weak allomorphs as it is with the number of allomorphs which the phonology will be given to choose from: one or two. This will be formalized in terms of an allomorphy feature: [+A] for a choice between two allomorphs and [–A] for just one (which will always be the strong allomorph). In glosses the [+A] value is denoted here, as throughout the book, by a double acute accent over the μ prefix of a morpheme, as in μ̋cons.

The feature values case:proprietive and case:ablative are realized with [+A] morphomes, as μ̋prop and μloc>μ̋abl respectively, when they appear in a word immediately before the termination t, but with [–A] morphomes elsewhere. This will be formalized by positing multiple lexical correspondences as shown in Table 11.3 in conjunction with constraints which demand morphomes to be [–A] under the necessary conditions. In the lexicon, the correspondences involving [+A] morphomes are marked as prioritized (shown with a carat '^').

Taking the example of the proprietive case, the constraint RL-Align(μ̋,t) will demand that if a [+A] morphome appears in the output, it must immediately precede t. As discussed in §11.2, the constraint LexPrior-ΣM is violated if a lexical correspondence is used which is unprioritized; as always Lex-ΣM is violated if an input–output correspondence is not identical to one listed in the lexicon. Tableau (11.43) now shows the derivation of a stem inflected for case:proprietive. The realization of the case feature in such a word will occur before t and meets the conditions under which should appear as [+A].

(11.43)

	Σ: stem; ⟨{case:prop$_1$}⟩	Lex-ΣM	RL-Al(μ̋,t)	LexPrior-ΣM
☞	M: √>μ̋prop$_1$>t			
a.	M: √>μprop$_1$>t			W$_1$

^case:proprietive :: μ̋prop, case:proprietive :: μprop

The winning candidate in (11.43) satisfies all relevant constraints, while the loser violates LexPrior because its input–output correspondence does not match the preferred lexical correspondence. Tableau (11.44) shows the realization of a stem inflected for ⟨{case:prop}>{+sej}⟩. In this word, the realization of case will not occur immediately before t and so must be [–A].

(11.44)

	Σ: stem; ⟨{case:prop$_1$} > {+sej$_2$}⟩	Lex-ΣM	RL-Al(μ̋,t)	LexPrior-ΣM
☞	M: √>μprop$_1$>μobl$_2$>t			1
a.	M: √>μ̋prop$_1$>μobl$_2$>t		W$_1$	L

^case:proprietive :: μ̋prop, case:proprietive :: μprop

The winning candidate in (11.44) violates LexPrior-ΣM but satisfies the higher-ranked constraint RL-Align(μ̋,t). The loser (11.44a) satisfies LexPrior but then contains a [+A] μ̋prop morphome which is not adjacent to t. The analysis of case:ablative and its realizations as μloc>μ̋abl and μloc>μabl is parallel; tableaux are in (11.45) and (11.46).

(11.45)

	Σ: stem; ⟨{case:abl$_1$}⟩	Lex-ΣM	RL-Al(μ̋,t)	LexPrior-ΣM
☞	M: √>μloc$_1$>μ̋abl$_1$>t			
a.	M: √>μloc$_1$>μabl$_1$>t			W$_1$

^case:ablative :: μloc>μ̋abl, case:ablative :: μloc>μabl

(11.46)

	Σ: stem; ⟨{case:abl$_1$}>{+sej$_2$}⟩	Lex-ΣM	RL-Al(μ̋,t)	LexPrior-ΣM
☞	M: √>μloc$_1$>μabl$_1$>μobl$_2$>t			1
a.	M: √>μloc$_1$>μ̋abl$_1$>μobl$_2$>t		W$_1$	L

^case:ablative :: μloc>μ̋abl, case:ablative :: μloc>μabl

We turn next to tama:future, tamt:potential and tama:prior. These are realized with [+A] μ̋prop and μ̋abl even if the realization is not adjacent to t. To achieve this they are each given only one lexical correspondence, with μ̋prop or μloc>μ̋abl. Tableau (11.47) shows how a word which inflects overtly for tama:future contains a [+A] μ̋prop even if the μ̋prop is not adjacent to t. Tableaux (11.48) is an equivalent for tama:prior.

(11.47)

	Σ: stem; ⟨{tama:fut$_1$, tamt:pot$_2$,+sej$_3$}⟩	Lex-ΣM	RL -Al(μ̋,t)	LexPrior -ΣM
☞	M: √>μ̋prop$_1$>μobl$_3$>t		1	
a.	M: √>μprop$_1$>μobl$_3$>t	W$_1$	L	

tama:future :: μ̋prop, +sej :: μobl

(11.48)

	Σ: STEM; ⟨{TAMA:prior$_1$, TAMT:past$_2$, +SEJ$_3$}⟩	LEX -ΣM	RL -AL(μ̋,T)	LEXPRIOR -ΣM
☞	M: √>μLOC$_1$>μ̋ABL$_1$>μOBL$_3$>T		1	
a.	M: √>μLOC$_1$>μABL$_1$>μOBL$_3$>T	W$_1$	L	

TAMA:prior :: μLOC>μ̋ABL, +SEJ :: μOBL

The winners violate RL-ALIGN(μ̋,T) but satisfy LEX-ΣM because their input–output correspondence exactly matches a correspondence in the lexicon. The losers fare better against RL-ALIGN(μ̋,T) but in doing so violate the higher-ranked LEX-ΣM constraint.

In Kayardild song, the strong–weak allomorphy found in spoken Kayardild is absent (§3.2.6) so all song form outputs contain only [–A] morphomes. This is formalized here using the undominated constraint *μ̋/SONG which penalizes any [+A] morphome in a song word, and undominated LEX(μα)-ΣM which is similar to LEX-ΣM, in requiring input–output correspondences to have a match in the lexicon, but it pays attention only to the primary morphome. Tableaux (11.49) and (11.50) show the derivations of song words inflected respectively for ⟨{CASE:proprietive}⟩ and ⟨{TAMA:future, TAMT:potential, +SEJ}⟩ (cf (11.43) and (11.47) above for the spoken register equivalents). Crucially, in song the losing (a) candidates contain μ̋PROP and so violate *μ̋/SONG.

(11.49)

Song	Σ: STEM; ⟨{CASE:prop$_1$}⟩	LEX(μα) -ΣM	*μ̋/ SONG	LEX -ΣM	RL-AL (μ̋,T)	LEXPRIOR -ΣM
☞	M: √>μPROP$_1$>T					1
a.	M: √>μ̋PROP$_1$>T		W$_1$			L

^CASE:proprietive :: μ̋PROP, CASE:proprietive :: μPROP

(11.50)

Song	Σ: STEM; ⟨{TAMA:fut$_1$, TAMT:pot$_2$,+SEJ$_3$}⟩	LEX(μα)- ΣM	*μ̋/ SONG	MAX-ΣM	LEX-ΣM	RL-AL (μ̋,T)	LEXPRIOR -ΣM
☞	M: √>μPROP$_1$>μOBL$_3$>T				1		
a.	M: √>μ̋PROP$_1$>μOBL$_3$>T		W$_1$		L		
b.	M: √>μASSOC$_1$>μOBL$_3$>T	W$_1$			1		
c.	M: √>μOBL$_3$>T			W$_1$	L		

TAMA:future :: μ̋PROP, +SEJ :: μOBL

In (11.50) loser (b) illustrates the need for the LEX(μα)-ΣM constraint. The winner violates LEX-ΣM because its input–output correspondence does not match a mapping in the lexicon. The same is true of candidate (11.50b). The difference though is that the input–output correspondence of the winner does match a mapping in the lexicon in terms of the primary morphome involved, and this is not true of (11.50b). Derivations such as this highlight the advantage of using Lexical Grounding: LEX constraints can ensure that input–output correspondences mimic selected aspects of lexically listed mappings without demanding adherence in an all-or-nothing fashion. Loser (11.50c) fails to realize TAMA at all, thus fares better against LEX-ΣM but in doing so violates MAX-ΣM. The fact that (11.50c) does not win indicates that MAX-ΣM must outrank LEX-ΣM.

The analysis of song forms above applies similarly to μABL, and also to μCONS. The μCONS morphome is only ever [+A] when realizing TAMT:past. This is shown in (11.51) where the stem is verbal and hence ends in a thematic. In song, as shown in (11.52) μCONS must be [−A].

(11.51)

	Σ: STEM; ⟨{TAMA:prior$_1$, TAMT:past$_2$}⟩	LEX(μα) -ΣM	*μ̋/ SONG	LEX -ΣM	RL-AL (μ̋,T)	LEXPRIOR -ΣM
☞	M: √J>+μ̋CONS$_2$>T					
a.	M: √J>+μCONS$_2$>T			W$_1$		

TAMT:past :: +μ̋CONS

(11.52)

	Song Σ: STEM; ⟨{TAMA:prior$_1$, TAMT:past$_2$}⟩	LEX(μα) -ΣM	*μ̋/ SONG	LEX -ΣM	RL-AL (μ̋,T)	LEXPRIOR -ΣM
☞	M: √J>+μCONS$_2$>T			1		
a.	M: √J>+μ̋CONS$_2$>T		W$_1$			

TAMT:past :: +μ̋CONS

11.3.8 Constraint ranking in ΣM

We have now completed the survey of the ΣM grammar. The overall constraint ranking which has been argued for is shown in Figure 11.4.

Undominated:

LexicalGrounding(μα)-ΣM, LexicalUniformity-ΣM, LexIntegrity-ΣM, Antagonism, RL-Align(μobl,t), RL-Align(μdes,t), μloc-condition, Linearity(μloc)-ΣM, *μ̋/song, *[+θ]>tama′, *[−θ]>tamt′, *[−θ]>neg′

Dominated:

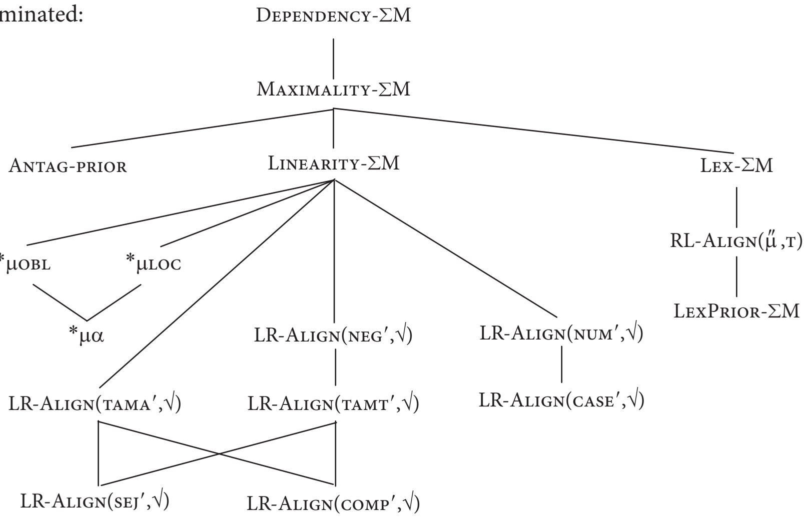


Figure 11.4 Constraint ranking for ΣM grammar

11.4 MΦ grammar

We move now to the MΦ grammar. In this grammar, outputs are morphs or allomorph sets, with each morph bearing an accompanying phonological juncture feature.[9] The MΦ grammar is also where allomorphy is found which is conditioned by underlying phonological form.

The lexicon of MΦ mappings is shown in Table 11.4. A small number of morphomes will have had their juncture feature specified in the ΣM grammar, and so these are not associated with a feature in the mapping shown in the table.

Several pairs of morphomes at the M level are realized by single morphs at the Φ level, including idiosyncratic ∅-allomorphs of t (§2.4) and the cumulative μloc>μobl morph /+kurka/. The correct generalization is that morphomes *a*>*b* in the input will always be realized by a cumulative morph if one exists in the lexicon, even if realizations are also listed for *a* and for *b* separately. This can be achieved by setting up a priority relationship between the cumulative *a*>*b* realization and the individual

[9] For reasons of space only the contrast between regular and exceptional junctures will be formalized here. Regarding the finer details of hiatus resolution see Round (2009).

Table 11.4 Lexicon of MΦ mappings

μ̋ABL :: {^-naa, -napa}	μMID :: -i
μABL :: -napa	μN :: -n
^μALL :: -ɻiŋ	μNEG :: -ɳaŋ
μALL :: {^-ɻiŋ,-ɻuŋ}	μABLO :: -wula
μAPPR :: -ɲara	μOBL :: -in̪t̪a
μASSOC :: -nuru	μEVITO :: -waːlu
μ̋CONS :: {^ŋara, ŋarpa}	μORIG :: -waːɲ
μCONS :: ŋarpa	μPL :: +palat̪
μDAT :: -maɻu	μPRIV :: wari
μDEN :: -wiʈi	μ̋PROP :: {^+kuu, +kuɻu}
μDES :: -ta	μPROP :: +kuɻu
μDON :: wu	μRES :: -iriɲ
μDU :: +kiarŋ	μUTIL :: -mara
μGEN :: -karaɳ	^T :: {^-a, ø}
μALLH :: -cani	T :: -ta
μINCH :: -wa	T :: +ka
μINST :: -ŋuni	J :: -c
μLLOC :: +kiː	TH :: -t̪
μLOC :: +ki	
^μALL>T :: -ɻiŋ	μNEG>T :: -ɳaŋ
μALL>T :: {^-ɻiŋ, -ɻuŋ}	J>T :: -c-a
μGEN>T ::- karaɲ	TH>T :: -t̪-a
μLOC>μOBL :: +kurka	

a and *b* realizations, and prioritizing the cumulative one.[10] The constraint LexPrior-MΦ will then penalize the non-cumulative realizations.[11] Example tableaux are

[10] This kind of behaviour, in which a more specific form is used in favour of two less specific ones is familiar from many linguistic phenomena and is arguably a special case of a general principle of natural language grammar: that, of a set of available correspondences or rules which could apply to an input, those with the most specific structural definitions are the ones which do apply (the principle has been expressed elsewhere as Kiparksy's (1973b) Elsewhere Principle in rule-based generative phonology, and as the Anderson's (1992) Pāṇinian Determination Hypothesis, Halle's (1997) Subset Principle, and Stump's (2001) Pāṇini's Principle in realizational morphology). The formalism employed here could interact with a general operation that automatically prioritizes cumulative realizations over separate realizations in accordance with this principle.

[11] I assume that one violation is incurred if and only if the cumulative realization is not used even though the input makes its use possible.

shown in (11.53) and (11.54) where the lexical stem is *kurrij-* 'see'. The lexical mappings that have been prioritized due to their cumulative nature are indicated by '^^'. The losing (a) candidates contain separate realizations of the relevant morphomes and so violate LexPrior-MΦ. The losing (b) candidates fail to realize one of the morphomes so incur a violation of Max-MΦ, and the losing (c) candidates contain output morphs lacking inputs so violate Dep-MΦ.

(11.53)

	M: √J>μNEG$_1$>T$_2$	Dep-MΦ	Max-MΦ	LexPrior-MΦ
☞	Φ: kuri-c-ɳaŋ$_{1,2}$			
a.	Φ: kuri-c-ɳaŋ$_1$+ka$_2$			W$_1$
b.	Φ: kuri-ɳaŋ$_{1,2}$		W$_1$	
c.	Φ: kuri-c-ɳaŋ$_{1,2}$ +ka	W$_1$		

^^μNEG>T :: -ɳaŋ, μNEG :: -ɳaŋ, T :: +ka, √J → kuri-c

(11.54)

	M: √J>μLOC$_1$>μOBL$_2$>T$_3$	Dep -MΦ	Max -MΦ	LexPrior -MΦ
☞	Φ: kuri-c+kurka$_{1,2}${^-a, -ø}$_3$			
a.	Φ: kuri-c+ki$_1$-in̪t̪a$_2${^-a, -ø}$_3$			W$_1$
b.	Φ: kuri-c+kurka$_{1,2}$		W$_1$	
c.	Φ: kuri-c+kuɻu+kurka$_{1,2}${^-a, -ø}$_3$	W$_1$		

^^ μLOC>μOBL :: +kurka, μLOC :: +ki, μOBL :: -in̪t̪a, ^T :: {^-a, -ø}, √J → kuri-c

Juncture features which appear in the Φ level representation derive from two possible sources. Some morphosyntactic feature values will have been realized in the ΣM grammar as morphomes with particular juncture features and those features will carry through to the Φ level output by virtue of the undominated faithfulness constraint Identity(Juncture)-MΦ, defined in (11.55).

(11.55) Id(Junc)-MΦ 'preserve input juncture features'
A juncture feature associated with element *a* in the M level input is also associated with element *a′*, the correspondent of *a*, in the Φ level output.

Most morphs' juncture features though will be taken from the lexicon. Constraints Lex-MΦ and Lex(ϕ)-MΦ will serve this end. Lex(ϕ)-MΦ is undominated, and is defined in (11.56).

(11.56) Lex(ϕ)-MΦ ‘no unlicensed morph mappings wrt. phonological string’
For a corresponding MΦ pair *a* and *a′*, a mapping *a* :: *b′* is present in the MΦ lexicon, where *a′* and *b′* share the same phonological string (i.e. ignoring juncture features).

Tableau (11.57) shows a derivation in which diacritics are maintained from the input. The lexical stem is DANGKA ‘man’.

(11.57)

M: √>-μPRIV$_1$>T$_2$	Lex(ϕ)-MΦ	Id(Junc)-MΦ	Lex-MΦ
☞ Φ: ʈaŋka-wari$_1${^-a, -ø}$_2$			1
a. Φ: ʈaŋka+wari$_1${^-a, -ø}$_2$		W$_1$	1
b. Φ: ʈaŋka-wari$_1${^+a, +ø}$_2$			W$_2$
c. Φ: ʈaŋka-mara$_1${^-a, -ø}$_2$	W$_1$		1
d. Φ: ʈaŋka>wari$_1${^+a, +ø}$_2$		W$_1$	L

μPRIV :: wari, T :: {^+a, +ø}

Because the input contains -μPRIV, a morphome with a juncture feature, and because there is no corespondence in the MΦ lexicon between -μPRIV and a Φ-level form, candidates (a–c) violate Lex-MΦ. There is a correspondence μPRIV :: wari however. Modulo the juncture feature the winner’s correspondence matches that correspondence and so it satisfies Lex(ϕ)-MΦ. Loser (11.57a) likewise satisfies Lex(ϕ)-MΦ but fails to retain the input diacritic, and so violates Id(Junc)-MΦ. Loser (11.57b) introduces juncture diacritics into the realization of T which are not present in the lexical mapping, and so violates Lex-MΦ. The realization of -μPRIV in loser (11.57c) retains the right juncture feature but deviates from the phonological string which appears in the lexical entry and so violates Lex(ϕ)-MΦ. Loser (11.57d) strips the morph /wari/ of its juncture feature and hence its correspondence is exactly like the lexical mapping, meaning that Lex-MΦ is unviolated but the higher-ranking Id(Junc)-MΦ incurs a violation.

The termination, T, is realized as the underlying phonological allomorph set {^-a, -ø} after a preceding vowel, as +ka after a preceding velar consonant and as -ta after a preceding coronal consonant. This pattern is formalized with the use of the well-formedness constraints (11.58) and (11.59).

(11.58) *Cons{^-a, -ø}
The Φ level output does not contain a consonant followed by the allomorph set {^-a, -ø}.

(11.59) Agree(coronal)/ConsCons
Adjacent consonants in the output have the same value of [±coronal]. One violation is incurred for each pair which does not agree.

Tableaux (11.60)–(11.62) illustrate the selection of the correct allomorphs given the lexical stems NAL 'head', KANG 'speech', and MAKU 'woman'.

(11.60)

M: √>T	*CONS{^-a, -ø}	AGREE(cor)	LEXPRIOR
☞ Φ: ɳal-ta			1
a. Φ: ɳal+ka		W_1	1
b. Φ: ɳal{^-a, ø}	W_1		L

^T :: {^-a,-ø}, T :: +ka, T :: -ta; √ → ɳal

(11.61)

M: √>T	*CONS{^-a, -ø}	AGREE(cor)	LEXPRIOR
☞ Φ: kaŋ+ka			1
a. Φ: kaŋ-ta		W_1	1
b. Φ: kaŋ{^-a, ø}	W_1		L

^T :: { ^-a,-ø}, T :: +ka, T :: -ta; √ → kaŋ

(11.62)

M: √>T	*CONS{^-a, -ø}	AGREE(cor)	LEXPRIOR
☞ Φ: maku{^-a, ø}			
a. Φ: maku+ka			W_1
b. Φ: maku-ta			W_1

^T :: { ^-a,-ø}, T :: +ka, T :: -ta; √ → maku

The constraint AGREE(cor) ranks below LEX(ϕ)-MΦ. This ensures that although it can force the choice of alternative, lexically listed realizations, it cannot force a realization to deviate from its lexically listed phonological form.[12] Tableau (11.63) illustrates this. The winner contains two clusters which disagree for [±coronal]: /c-k/ and /rk/. In losers (11.63a,b) the cumulative realization of μLOC>μOBL has been phonologically altered to ensure that one or other cluster agrees for [±coronal]. This reduces the number of violations of AGREE(cor) but violates the higher-ranked LEX(ϕ)-MΦ.

[12] Presumably this applies to clusters in lexical stems just as it does in suffixes, but it is beyond the scope of the present study to formalize the morphology and phonology of stems.

(11.63)

	M: √J>μLOC$_1$>μOBL$_2$>T$_3$	LEX(ϕ)-MΦ	AGREE(cor)
☞	Φ: kuri-c+kurka$_{1,2}${^-a, -ø}$_3$		2
a.	Φ: kuri-c+kurta$_{1,2}${^-a, -ø}$_3$	W$_1$	L$_1$
b.	Φ: kuri-c+turka$_{1,2}${^-a, -ø}$_3$	W$_1$	L$_1$

^^μLOC>μOBL :: +kurka, ^T :: {^-a, ø}, √J → kuri-c

Both the morphomic allative μALL and the cumulative realization of μALL>T are realized as underlying {^-ɻiŋ, -ɻuŋ} in song, but as -ɻiŋ in the spoken register. This is formalized here using the wellformedness constraint *-ɻiŋ/SONG. Example derivations are shown in (11.64)–(11.66).

(11.64)

Spoken	M: √>μLOC$_1$>μALL$_2$>μLOC$_3$>T$_4$	*-ɻiŋ/ SONG	LEX -MΦ	LEXPRIOR
☞	Φ: √+ki$_1$-ɻiŋ$_2$+ki$_3${^-a, -ø}$_4$			
a.	Φ: √+ki$_1${^-ɻiŋ, -ɻuŋ}$_2$+ki$_3${^-a, -ø}$_4$			W$_1$

^μALL :: -ɻiŋ, μALL :: {^-ɻiŋ, -ɻuŋ}

(11.65)

Song	M: √>μLOC$_1$>μALL$_2$>μLOC$_3$>T$_4$	*-ɻiŋ/SONG	LEX-MΦ	LEXPRIOR
☞	Φ: √+ki$_1${^-ɻiŋ, -ɻuŋ}$_2$+ki$_3${^-a, -ø}$_4$			1
a.	Φ: √+ki$_1$ -ɻiŋ$_2$+ki$_3${^- a, -ø}$_4$	W$_1$		L

^μALL :: -ɻiŋ, μALL :: {^-ɻiŋ, -ɻuŋ}

(11.66)

Song	M: √>μLOC$_1$>μALL$_2$>T$_3$	*-ɻiŋ/SONG	LEX-MΦ	LEXPRIOR
☞	Φ: √+ki$_1${^-ɻiŋ, -ɻuŋ}$_{2,3}$			1
a.	Φ: √+ki$_1$ -ɻiŋ$_{2,3}$	W$_1$		L

^μALL>T :: -ɻiŋ, μALL>T :: {^-ɻiŋ, -ɻuŋ}

We have now completed the survey of the MΦ grammar. The overall ranking of the constraints appears in Table 11.5.

TABLE 11.5 Constraint ranking for MΦ grammar

Undominated	DEPENDENCY-MΦ, MAXIMALITY-MΦ, IDENTITY (JUNCTURE)-MΦ, LEX(ϕ)-MΦ, *CONS{^-a, -ø}, *-ɻiŋ/SONG
Dominated (with no further, crucial ranking)	AGREE(coronal)/CONSCONS, LEXICALPRIORITY-MΦ, LEXICALGROUNDING-MΦ

11.5 Allomorphy conditioned by surface phonology

Generative phonologists have recognized for several decades that phonologically conditioned allomorphy can be sensitive not only to underlying phonological structure but to derived structure as well (Anderson 1975, 2008; Carstairs 1988, 1998; Wolf forthc.). There are several cases in Kayardild in which the conditions driving allomorphy are found not in the underlying phonological form (as addressed in §11.4 above) but at the surface. Specifically, they are driven by the avoidance of surface sequences of two identical short vowels, $V_\alpha V_\alpha$, followed either by a third vowel (V) or by a semivowel (S). They are summarized in Table 11.6, where T_V refers to the allomorphs of the termination T that appear after vowels.

These patterns will be formalized as follows. In the phonology of Kayardild there is an unviolated constraint against surface strings in which two identical short vowels are followed by another vowel, which we can call $*V_\alpha V_\alpha V$. It drives several phonological alternations (Round 2009) and importantly here, it plays a role of allomorph selection. Another constraint $*V_\alpha V_\alpha S$ penalizes candidates containing two short vowels followed by a semivowel. Aside from allomorph selection $*V_\alpha V_\alpha S$ plays no visible role in Kayardild phonology and is ranked lower than all other phonological constraints. A second low-ranked constraint can be dubbed *μμaa. This penalizes output candidates containing a string /aa/ which is preceded by any string of two or more morae (where short vowels are one mora and long vowels two; consonants are non-moraic).

Phonological allomorph selection in Kayardild will be analysed here in terms of these three wellformedness constraints in addition to PRIORITY constraints which penalize the realization of non-prioritized allomorphs. Each allomorph set requires its own PRIOR constraint which I will label PRIOR-μPROP, PRIOR-μABL, PRIOR-T_V. The constraints which drive the bulk of the phonology will not be of concern here, and thus output candidates will only be considered which obey the general rules of

TABLE 11.6 Phonologically conditioned allomorphy involving surface $V_\alpha V_\alpha$ sequences

Morphome		Allomorphy	Conditioning
a.	μ́PROP	{^+kuu, kuɻu}	/+kuu/ appears unless in doing so it would result in a surface $V_\alpha V_\alpha V$ or $V_\alpha V_\alpha S$ sequence.
b.	μ́ABL	{^-naa, napa}	/-naa/ appears unless in doing so it would result in a surface $V_\alpha V_\alpha V$ or $V_\alpha V_\alpha S$ sequence.
c.	T_V	{^-a, -ø}	/-a/ appears, unless in doing so it would result in a surface $V_\alpha V_\alpha V$ sequence or a sequence /aa/ preceded by a string containing more than one mora.

Kayardild phonology. The constraint ranking which will be required is shown in Figure 11.5.

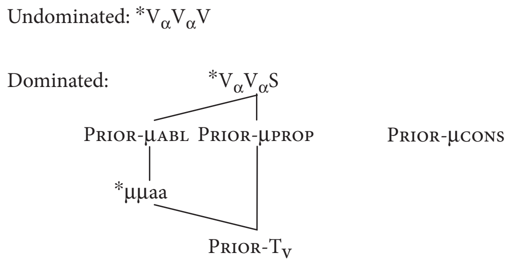


FIGURE 11.5 Constraint ranking for surface-driven allomorph selection

The termination T is usually /a/ after vowel final bases but not after /a/-final bases over two morae in length. Tableaux (11.67)–(11.69) illustrate this pattern. The tableaux show candidates with various input allomorphs and the surface forms that then result by applying the rules of the phonology. The constraint ranking acts to choose the most harmonic output form, and in doing so indirectly selects the best input allomorph. The losing candidates in tableaux (11.68) and (11.69) establish that *μμaa outranks PRIOR-T_V.

(11.67)

	/ʈaŋka{^-a, -ø}/ 'man-T'	*μμaa	PRIOR-T_V
☞	/ʈaŋka-a/:: ʈaŋkaa		
a.	/ʈaŋka-/:: ʈaŋka		W_1

(11.68)

	/cuŋara{^-a, -ø}/ 'big-T'	*μμaa	PRIOR-T_V
☞	/cuŋara-/:: cuŋara		1
a.	/cuŋara-a/:: cuŋaraa	W_1	L

(11.69)

	/ŋaːka{^-a, -ø}/ 'who-T'	*μμaa	PRIOR-T_V
☞	/ŋaːka-/ :: ŋaːka		1
a.	/ŋaːka-a/ :: ŋaːkaa	W_1	L

When the morphomic ablative (μABL) realizes TAMA:prior it is usually /naa/, and is followed by the zero allomorph of T. Tableau (11.70) illustrates this. The winning candidate violates *μμaa once. Loser (11.70a) uses the /napa/ allomorph and avoids the violation of *μμaa but violates higher-ranked PRIOR-μABL. The fact that (11.70a) loses shows that PRIOR-μABL outranks *μμaa. The winner also violates PRIOR-T_V due to its use of the zero allomorph of T. Losers (11.70b,c) both avoid that violation but in turn violate other, higher-ranked constraints. Loser (11.70c) shows that Prior-μabl outranks Prior-T_V.

(11.70)

	/ʈan+ki{^-naa, -napa}{^-a, -ø}/ here-μloc-μ̋abl-T	$*V_\alpha V_\alpha V$	Prior -μabl	*μμaa	Prior -T_V
☞	/ʈan+ki-naa-/:: ʈankinaa			1	1
a.	/ʈan+ki-napa-/:: ʈankinapa		W_1	L	1
b.	/ʈan+ki-napa-a/:: ʈaŋkinapaa		W_1	1	L
c.	/ʈan+ki-naa-a/:: ʈaŋkinaaa	W_1		W_2	L

When μabl, realizing tama:prior, is followed by μobl it remains /-naa/. It appears as /-napa/ when followed by μloc in order that $*V_\alpha V_\alpha S$ is not violated. This is shown in (11.71) and (11.72).

(11.71)

	/ʈan+ki{^-naa, -napa}-in̪t̪a {^-a, -ø}/ here-μloc-μ̋abl-μobl-T	$*V_\alpha V_\alpha S$	Prior -μabl	*μμaa	Prior -Tv
☞	/...-naa-in̪t̪a-/:: ʈankinaan̪t̪a				1
a.	/...-napa-in̪t̪a-/:: ʈankinapan̪t̪a		W_1		1
b.	/...-naa-in̪t̪a-a/:: ʈankinaan̪t̪aa			W_1	L
c.	/...-napa-in̪t̪a-a/:: ʈankinapan̪t̪aa		W_1	W_1	L

(11.72)

	/ʈan+ki{^-naa, -napa}+ki{^-a, -ø}/ here-μloc-μ̋abl-μloc-T	$*V_\alpha V_\alpha S$	Prior -μabl	*μμaa	Prior -T_V
☞	/...-napa+ki-a/:: ʈankinapaja		1		
a.	/...-naa+ki-a/:: ʈankinaaja	W_1	L	W_1	
b.	/...-napa+ki-/:: ʈankinapaj		1		W_1
c.	/...-naa+ki-/:: ʈankinaaj	W_1	L	W_1	W_1

When μprop realizes tama:future or tamt:potential, it is usually /+kuu/, after which T takes the zero allomorph. This is seen in (11.73), where μprop realizes tamt:potential, and (11.74) where μprop realizes tama:future. Losers (b) use the /-a/ allomorph of T, thereby faring better against Prior-T_V but violating $*V_\alpha V_\alpha V$. Losers (c,d) use the unprioritized allomorph of μprop and thus violate Prior-μprop.

(11.73)

	/kuri-c{^+kuu,+kuɻu}{^-a, -ø}/ see-TH-μ̋PROP-T	$*V_{\alpha}V_{\alpha}V$	PRIOR-μPROP	PRIOR-T_V
☞	/kuri-c+kuu-/:: kuricuu			1
a.	/kuri-c+kuu-a/:: kuricuua	W_1		L
b.	/kuri-c+kuɻu-/:: kuricuɻu		W_1	1
c.	/kuri-c+kuɻu-a/:: kuricuɻua		W_1	L

(11.74)

	/ʈaŋka{^+kuu, +kuɻu}{^-a, -ø}/ man-μ̋PROP-T	$*V_{\alpha}V_{\alpha}V$	PRIOR-μPROP	PRIOR-T_V
☞	/ʈaŋka+kuu-/:: ʈaŋkauu			1
a.	/ʈaŋka+kuu-a/:: ʈaŋkauua	W_1		L
b.	/ʈaŋka+kuɻu-/:: ʈaŋkauɻu		W_1	1
c.	/ʈaŋka+kuɻu-a/:: ʈaŋkauɻua		W_1	L

After a base which ends in /u/, the /kuu/ allomorph cannot appear due to $*V_{\alpha}V_{\alpha}V$. This is illustrated in tableau (11.75), in which losers (11.75b,c) fare better than the winner against PRIOR-μPROP by virtue of using the prioritized allomorph, but in doing so violate $*V_{\alpha}V_{\alpha}V$.

(11.75)

	/maku{^+kuu, +kuɻu}{^-a, -ø}/ woman-μ̋PROP-T	$*V_{\alpha}V_{\alpha}V$	PRIOR-μPROP	PRIOR-T_V
☞	/maku+kuɻu-a/:: makuuɻua		1	
a.	/maku+kuɻu-/:: makuuɻu		1	W_1
b.	/maku+kuu-a/:: makuuua	W_2	L	
c.	/maku+kuu-/:: makuuu	W_1	L	W_1

When followed by μOBL, μPROP remains /kuu/ except after bases ending in /u/, as shown in (11.76) and (11.77); when followed by μLOC, it is realized as /kuɻu/ in all cases in order not to violate $*V_{\alpha}V_{\alpha}S$, as illustrated in (11.78).

(11.76)

	/kuri-c{^+kuu, +kuɻu}-in̪t̪a {^-a, -ø}/ see-J-μ̋PROP-μOBL-T	$*V_\alpha V_\alpha V$	$*V_\alpha V_\alpha S$	*μμaa	PRIOR-μPROP	PRIOR-T_V
☞	/...+kuu-in̪t̪a-/:: kuricuun̪t̪a					1
a.	/...+kuu-in̪t̪a-a/:: kuricuun̪t̪aa			W_1		L
b.	/...+kuɻu-in̪t̪a-/:: kuricuɻun̪t̪a				W_1	1
c.	/...+kuɻu-in̪t̪a-a/:: kuricuɻun̪t̪aa			W_1	W_1	L

(11.77)

	/maku{^+kuu, +kuɻu}-in̪t̪a {^-a, -ø}/ woman-μ̋PROP-μOBL-T	$*V_\alpha V_\alpha V$	$*V_\alpha V_\alpha S$	*μμaa	PRIOR-μPROP	PRIOR-T_V
☞	/...+kuɻu-in̪t̪a-/:: makuuɻun̪t̪a				1	1
a.	/...+kuɻu-in̪t̪a-a/:: makuuɻun̪t̪aa			W_1	1	L
b.	/...+kuu-in̪t̪a-/:: makuuun̪t̪a	W_1			L	1
c.	/...+kuu-in̪t̪a-a/:: makuuun̪t̪aa	W_1		W_1	L	L

(11.78)

	/kuri-c{^+kuu, +kuɻu}+ki {^-a, -ø}/ see-J-μ̋PROP-μLOC-T	$*V_\alpha V_\alpha V$	$*V_\alpha V_\alpha S$	*μμaa	PRIOR-μPROP	PRIOR-T_V
☞	/...+kuɻu+ki-a/:: kuricuɻuja				1	
a.	/...+kuɻu+ki-/:: kuricuɻuj				1	W_1
b.	/...+kuu+ki-a/:: kuricuuja		W_1		L	
c.	/...+kuu+ki-/:: kuricuuj		W_1		L	W_1

Finally on the topic of μPROP, a comment regarding free variation. The morphomic proprietive exhibits apparently free variation under certain conditions. Essentially, where the descriptions above referred to the /kuu/ allomorph being chosen, there is in fact variation between /kuu/ and /kuɻu/. The precise nature of the variation is not understood, but supposing that it is truly free variation it may be analysed as follows. Studies in OT such as Nagy and Reynolds (1995) and Anttila (1997) account for free variation in terms of variability in constraint rankings. This approach can be applied to Kayardild by supposing that PRIOR-μPROP is optionally reranked to a position below PRIOR-T_V. According to that ranking we obtain /kuɻu/ allomorphs corresponding to all of the /kuu/ allomorphs above (while keeping the /kuɻu/ allomorphs from above as they are). Examples are shown in (11.79), (11.80), and (11.81), which correspond respectively to examples (11.73), (11.74), and (11.75) above, but with Prior-μprop reranked.

(11.79)

	/kuri-c{^+kuu, +kuɻu}{^-a, -ø}/ see-j-μ̋prop-t	$*V_\alpha V_\alpha V$	Prior-T_V	Prior-μprop
☞	/kuri-c+kuɻu-a/:: kuricuɻua			1
a.	/kuri-c+kuu-a/:: kuricuua	W_1		L
b.	/kuri-c+kuɻu-/:: kuricuɻu		W_1	1
c.	/kuri-c+kuu-/:: kuricuu		W_1	L

(11.80)

	/ʈaŋka{^+kuu, +kuɻu}{^-a, -ø}/ man-μ̋prop-t	$*V_\alpha V_\alpha V$	Prior-T_V	Prior-μprop
☞	/ʈaŋka+kuɻu-a/:: ʈaŋkauɻua			1
a.	/ʈaŋka+kuu-a/:: ʈaŋkauua	W_1		L
b.	/ʈaŋka+kuɻu-/:: ʈaŋkauɻu		W_1	1
c.	/ʈaŋka+kuu-/:: ʈaŋkauu		W_1	L

(11.81)

	/maku{^+kuu, +kuɻu}{^-a, -ø}/ woman-μ̋prop-t	$*V_\alpha V_\alpha V$	Prior-T_V	Prior-μprop
☞	/maku+kuɻu-a/:: makuuɻua			1
a.	/maku+kuɻu-/:: makuuɻu		W_1	1
b.	/maku+kuu-a/:: makuuua	W_2		L
c.	/maku+kuu-/:: makuuu	W_1	W_1	L

In §2.5 it was mentioned that μcons, which has two allomorphs {ŋara, ŋarpa} can also be analysed as undergoing surface-phonological allomorph selection when it realizes tamt:past, only because choosing the prioritized weak form /ŋara/ never gives rise to a violation of $*V_\alpha V_\alpha V$ or $*V_\alpha V_\alpha S$, there is no reason to resort to using /ŋarpa/ and hence there is no visible, phonologically-driven alternation. This is illustrated in (11.82)–(11.84).

(11.82)

	/kuri-c{^+ŋara, +ŋarpa}{^-a, -ø}/ see-J-μ́CONS-T	$*V_\alpha V_\alpha V$	$*V_\alpha V_\alpha S$	*μμaa	PRIOR-T_V	PRIOR-μCNOS
☞	/...+ŋara-/:: kuricara					
a.	/...+ŋara-a/:: kuricaraa			W_1	^{1}L	
b.	/...+ŋarpa-/:: kuricarpa					W_1
c.	/...+ŋarpa-a/:: kuricarpaa			W_1	^{1}L	W_1

(11.83)

	/kuri-c{^+ŋara, +ŋarpa}-in̪t̪a {^-a, -ø}/ see-J-μ́CONS-μOBL-T	$*V_\alpha V_\alpha V$	$*V_\alpha V_\alpha S$	*μμaa	PRIOR-T_V	PRIOR-μCNOS
☞	/...+ŋara-in̪t̪a-/:: kuricaran̪t̪a					
a.	/...+ŋara-in̪t̪a-a/:: kuricaran̪t̪aa			W_1	^{1}L	
b.	/...+ŋarpa-in̪t̪a-/:: kuricarpan̪t̪a					W_1
c.	/...+ŋarpa-in̪t̪a-a/:: kuricarpan̪t̪aa			W_1	^{1}L	W_1

(11.84)

	/kuri-c{^+ŋara, +ŋarpa}+ki{^-a, -ø}/ see-J-μ́CONS-μLOC-T	$*V_\alpha V_\alpha V$	$*V_\alpha V_\alpha S$	*μμaa	PRIOR-T_V	PRIOR-μCNOS
☞	/...+ŋara+ki-a/:: kuricaraja					
a.	/...+ŋara+ki-/:: kuricaraj				W_1	
b.	/...+ŋarpa+ki-a/:: kuricarpaja					W_1
c.	/...+ŋarpa+ki-/:: kuricarpaj				W_1	W_1

Appendix A: Categories in Evans' Grammar

Appendix A lists correspondences between the features and values employed in this volume and the categories of Evans (1995a) and Evans (2003). The purpose here is to provide a resource for comparison between the analyses. Correspondences at the level of features are listed in Table A.1.

The CASE feature in this book corresponds to Evans' (1995a, 2003) ADNOMINAL CASE, RELATIONAL CASE, and to VERBAL(IZING) CASE. The few instances where Evans' ADNOMINAL or (non-verbalizing) RELATIONAL CASE categories fail to correspond directly to CASE values of the same name under the present analysis, are listed in Table A.2.

Evans' VERBALIZING CASES are renamed here as thematic CASE values. Correspondences between Evans' VERBALIZING CASE and thematic CASE values are shown in Table A.3. The approach has been to retain Evans' CASE label, but to discontinue the use of the adjective 'verbalizing'. Where this would lead to two CASE values having the same label (e.g. with Evans' ALLATIVE and VERBALIZING ALLATIVE), I have selected a new label for the VERBALIZING/thematic CASE value based on semantics. Note that two of Evans' VERBALIZING CASES each possess two formal variants (the PLAIN and the MIDDLE), each of which is a separate case category for the purposes of the grammar (Evans 1995a:171–5). Accordingly they are assigned to separate CASE values here.

TABLE A.1 Comparison of features

Features here	Equivalents in Evans (1995a)
CASE	ADNOMINAL CASE, RELATIONAL CASE, VERBAL CASE in Evans (1995a) / VERBALIZING CASE in Evans (2003)
NUMBER	NUMBER
TAMT, NEGATION	TENSE and POLARITY in Evans (1995a) / TAMP (tense–aspect–mood–polarity) in Evans (2003); INFLECTIONAL NOMINALIZATION of verbs and some CASE on those verbs
TAMA	MODALITY / MODAL CASE; ASSOCIATING CASE; some CASE used in clauses containing INFLECTIONAL NOMINALIZATION of verbs
SEJ, COMP	COMPLEMENTIZING CASE

TABLE A.2 Athematic CASE values whose analyses/labels may differ

CASE value	Evans (1995a) equivalent, and notes
Consequential	The CONSEQUENTIAL CASE in Evans' CONSEQUENTIAL NOMINALIZATION CLAUSES is analysed here as TAMA:antecedent and TAMT:antecedent
Denizen	Corresponds to Evans and Nordlinger's (2004) VERBAL DENIZEN CASE
Privative	The PRIVATIVE CASE in Evans' PRIVATIVE NOMINALIZATION CLAUSES is analysed here as TAMA:nonveridical
Utilitive	Some instances of Evans' UTILITIVE CASE are analysed here as TAMA:functional
CASE:∅	This corresponds to Evans' lack of CASE marking and to Evans' NOMINATIVE CASE

Table A.3 Thematic case values and Evans' verbalizing case

case value	Evans (1995a; 2003) equivalents, and notes
Dative	Verbal(izing) dative
Donative	Verbal(izing) donative
Translative	Verbal(izing) translative
Collative	Verbal(izing) allative—Semantically, the entity marked by the collative case is construed as becoming co-located with the clausal subject; either may move (Evans 1995a:168–9)
Purposive	Verbal(izing) purposive—Evans (1995a) recognizes one verbalizing purposive case, realized by the suffix forms /cani-c/~/caniː -c/. On closer inspection, the two suffixes associate with different semantics so are assigned to separate case values here. case:purposive is realized as /caniː -c/. It marks an entity which is sought, yearned for or missed.
Human allative	Verbal(izing) purposive—case:human allative is realized as /cani-c/. It appears several times in Wurm's (1960) corpus and occasionally in my field recordings. It attaches to personal pronominal stems or stems denoting kin, to mark an allative adjunct whose referent is human
Objective ablative	Verbal(izing) ablative, plain form—Marks an entity or place, away from which the direct object moves (Evans 1995a:171–3)
Subjective ablative	Verbal(izing) ablative, middle form—Marks an entity or place, away from which the subject moves (Evans 1995a:171–3)
Objective evitative	Verbal(izing) evitative, plain form—Marks an entity or place, away from which the direct object moves out of fear (Evans 1995a:173–4)
Subjective evitative	Verbal(izing) evitative, middle form—Marks an entity or place, away from which the subject moves out of fear (Evans 1995a:173–4)

The non-inflectional number feature on pronouns here corresponds directly to Evans' pronominal number (1995a:201–3). In addition, Evans describes several number and related suffixes (1995a:183–7) of which some are derivational (cf. §3.1.5). The two inflectional values are num:dual (Evans' dual) and num:plural (Evans' lot).

Tamt and negation here correspond to tense and polarity in Evans (1995a) or tamp in Evans (2003), as well as to inflectional nominalization and case marking of verbs. A full list of correspondences for tamt is given in Table A.4.

tama in this book corresponds to modality or modal case in Evans (1995a) as well as to as certain kinds of case marking, mostly of dependent DPs of verbs marked with inflectional nominalization. A full list of correspondences is in Table A.5.

The feature value +sej corresponds to Evans' complementizing oblique case, while overtly realized +comp corresponds to Evans' complementizing locative case and the independent use of the locative.

Turning to syntactic constituents, Evans (1995a) distinguishes five morphological word classes, of which the verbal class is identical to the verbal superclass used here, while Evans' nominals, particles, conjunctions, and interjections all fall into the nominal superclass used here. A summary is shown in Table A.6.

Regarding multi-word units, the DP in this book corresponds to the Evans' NP. The VP node of Evans (1995a) corresponds to VP_{δ} in the present analysis and not to VP_{ε}, which is the maximal VP node here. Evans' embedded subjectless S (1995a:484–5) corresponds to embedded VP_{ε}. The verbal complex of Evans (1995a:302–12) is comparable to the lowest levels of the VP here (the fragment dominated by VP_{α}), modulo the complements of V. A summary appears in Table A.7.

Table A.4 tamt

tamt value	Evans (1995a) equivalents, and notes
Actual	Actual tense
Antecedent	Consequential nominalization
Apprehensive	Apprehensive tense
Desiderative	Desiderative tense
Directed	Directed tense
Hortative	Hortative tense
Immediate	Immediate, suppositional tense—Evans describes three instances (recorded by Wurm 1960) of a suppositional tense, which is formally identical to the immediate (Evans 1995a: 257–8). The morphology makes no distinction between immediate and suppositional, even if the semantics does. Accordingly they are collapsed into one category here
Imperative	Imperative mood
Incipient	Inflectional nominalization of a verb, in turn inflected for verbal translative case and a second inflectional nominalization
Past	Past, almost tense—tamt:past corresponds to Evans' past and almost tenses (1995a:260–1). Evans (1995a:255) observes that the form of the almost tense is cognate with negative+past, but the synchronic analysis does not explicitly link to two. In addition to similarities in form, past and almost share the same co-occurrence restriction *vis-à-vis* tama values. Accordingly in the analysis here, Evans' almost tense is {tamt:past, +negative}, and the past tense is {tamt:past, negative:∅}; the parallels in form and tama restrictions follow from this
Potential	Potential tense
Precondition	Precondition tense
Progressive	Plain nominalization
Resultative	Resultative nominalization
Nonveridical	Privative nominalization

Table A.5 tama

tama value	Evans (1995a) equivalent, and notes
Antecedent	Consequential case in consequential nominalization clauses
Continuous	Associating oblique case
Directed	Directed (Evans 1995a) or inceptive modality (Evans 1995b, 2003) marked by the modal allative case
Emotive	Emotive modality marked by the modal oblique case
Future	Future modality marked by the modal proprietive case
Incipient	Verbal translative case plus inflectional nominalization
Instantiated	Instantiated modality in uncomplementized clauses, marked by the modal locative case
Negatory	Privative case in double privative clauses

Present	INSTANTIATED MODALITY in complementized clauses, marked by the MODAL LOCATIVE CASE
Precondition	PRIOR MODALITY marked by a special allomorph of the MODAL ABLATIVE CASE
Prior	PRIOR MODALITY marked by the MODAL ABLATIVE CASE
Functional	UTILITIVE CASE when appearing in conjunction with a DERIVATIONALLY NOMINALIZED VERB
TAMA:Ø	ZERO MODALITY, not overtly marked or marked by the NOMINATIVE CASE

TABLE A.6 Comparison of word classes

Evans (1995a)	Present analysis	
	Morphological	Syntactic
Verbal	Verbal	V, Adv
Nominal	Nominal	N, A, D, Num
Particle	Nominal	N if able to inflect; particle otherwise
Conjunction	Nominal	Particle
Interjection	Nominal	(not syntactic)

TABLE A.7 Comparison of larger units

Evans (1995a)	Present analysis
NP	DP
VP	VP_δ
Embedded subjectless S	Embedded VP_ε
verbal complex	VP_α modulo complements of V

Appendix B: Distribution of TAMA

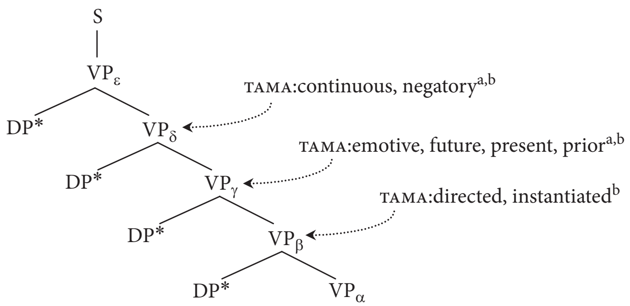
TAMA features attach to one of three VP nodes in the non-surface syntactic tree as shown in Figure B.1 (cf §5.6). The position which a DP occupies in the tree determines which TAMA feature values it can inherit and thus what values its constituent words inflect for.

Appendix B provides example sentences which illustrate, via the patterns of inflection which they instantiate, the VP mother nodes selected by various DP types. Because TAMA features are inherited from a VP which is superordinate to the whole DP, the inflectional behaviour of an individual nominal word with respect to TAMA is determined not by the word itself, but by the position of its nearest dominating DP node which is also the daughter of VP. The determinant of that DP's position is usually its semantic–pragmatic role, but in some cases this is overridden by the head N of NP within DP (§5.6). To accommodate this the subsections below are organized according to DPs' roles or according to the head N of their NP as appropriate. Section B.1 provides data for CASE:locative DPs which could be analysed as daughters of VP_β or as complements of V (cf §5.5); §B.2 presents other DP daughters of VP_β; §B.3 provides data for DPs for which the evidence is ambiguous, and which could be daughters of VP_β or VP_γ; §B.4 presents DP daughters of VP_γ; §B.5 presents DP daughters of VP_δ; §B.6 presents DPs which are ambiguously either daughters of VP_δ or of VP_ε; and §B.7 contains DP daughters of VP_ε.

Example glosses below do not display underlying phonological representation rather I insert hyphens at approximate morph breaks in orthographic forms. In cases where an underlying non-zero morph gets phonologically deleted at the surface, I separate the morphs on either side of it with a short dash rather than a hyphen. This is visible, for example, in *wirdi–nang-ku-* in (B. 4), where the underlying /c/ which realizes the thematic J has been deleted between *wirdi-* and *-nang*.

B.1 CASE:locative daughters of VP_β / complements of V

These DPs inflect for all overtly realized TAMA features, and therefore must be no higher than VP_β, to which the lowest-attaching TAMA feature attaches. See §6.8 for additional non-inflectional evidence regarding their syntactic position.



[a] possibly also athematic precondition here
[b] possibly also athematic antecedent, functional here (precise nodes of attachment are underdetermined by the data)

FIGURE B.1 VP nodes and the attachment of TAMA values

B.1.1 CASE:locative locations

CASE:locative is visible only in the absence of overtly realized TAMA features, as in (B.1).

(B.1) Inflected with µLOC in a {TAMT:imperative, TAMA:Ø} clause

Narrkiri-j-a	*mala-a*	***ngarn-ki****- !*
‹bury-J›-T	beer-T	beach-µLOC-T
‹bury›	beer	beach-LOC

'Bury the beer on the beach!' [E744]

(B.2) Inflected for TAMA:instantiated, which attaches to VPα

Banthal~wanthalk-a	***yark-iy-a***	***nguku-y-a***	*thaldi-j.*
pan̪t̪alk+pan̪t̪alk+ka	jaɻk+ki-a	ŋuku+ki-a	t̪alti-c-a
‹weed$_{NL}$-weed$_{NL}$›-T	under-µLOC-T	water-µLOC-T	‹grow-J›-T
water weed	under-INS	water-INS	‹grow›

'Water weed grows under the water.' [E644]

(B.3) Inflected for TAMA:directed, which attaches to VP_β

Dan-da	***kurndaji-walath-i-ri-***	*wirdi-j-i-r-,*	*jungarrba-*	*bal-d.*
here-T	sandhill-µPL-‹µLOC-µALL›-T	‹stay-J›-‹µLOC-µALL›-T	big-T	leaf-T
here	sandhill-PL-‹DIRA›	‹stay›-‹DIRT›	big	leaf

'(*Kunybalka* creepers) grow here along the high sandhills, they have a big leaf.' [R2005-jul08]

(B.4) Inflected for TAMA:future, which attaches to VP_γ

Jambathu-	*wirdi–nang-ku-*	***dumu-wuru-.***
Mo.Fa-T	‹stay-J›-µNEG-µ́PROP-T	shore-µ́PROP-T
Mo.Fa	‹stay›-NEG-POT	shore-FUT

'Your grandfather couldn't stay on the shore.' [R2007-may16]

(B.5) Inflected for +SEJ and for TAMA:present, which attaches to VP_γ

Dathina	*riy-a*	*warra-j-a*	*nga-ku-l-d,*	*ri-wurrka-*
there.T	east-T	‹go-J›-T	1-2-pl-T	east-‹LOC.OBL›-T
there	east	‹go›	1-2-pl	east-‹PRES-SEJ›

ni-wa-a	***ngarn-kurrka-***	*thula-th-urrk-*
3sg-µSEJ-T	beach-‹µLOC.µOBL›-T	‹descend-TH›-‹µLOC.µOBL›-T
3sg-SEJ	beach-‹PRES-SEJ›	‹descend›-‹PRES-SEJ›

'Let's go there in the east, as he comes down to the beach in the east.' [W1960]

(B.6) Inflected for TAMA:antecedent, which attaches either to VP_γ or VP_δ

Bath-in-da	*thula-th-arrma-th,*
west-µABLC-T	‹descend-TH›-‹CAUS-TH›-T
west-ABLC	‹descend›-‹CAUS›

thungkuwa–ngarrba-	*wirdi–n-ngarrb-.*
swamp-µCONS-T	‹stay-J›-‹µN-µCONS›-T
swamp-ANTA	‹stay›-‹ANTA›

'Bring down from the west the ones who have been in the swamp!' [R2005-jul15a]

(B.7) Inflected for TAMA:continuous, which attaches to VP_δ

Nginyanangkuruw-a	***warngij-inja-***	***dulk-inja-***	*wirdind?*
why-T	one-µOBL-T	place-µOBL-T	‹stay-J›-µN-T
why	one-CONT	place-CONT	‹stay›-PROG

'Why is it staying in one place?' [R2005-jul14a]

B.1.2 CASE:locative demoted non-human agent DPs

(B.8) Inflected for TAMA:instantiated, which attaches to VP$_\beta$
Nga-da *ba-yii-j-a* ***wanku-y-.***
1sg-T bite-‹μMID-J›-T shark-μLOC-T
1sg bite-‹MID› shark-INS
'I was bitten by a shark.' [E351.ex.9–138]

(B.9) Inflected for +SEJ and for TAMA:prior, which attaches to VP$_\gamma$
Mala–na *kurrka-a-j-arr-,* *yakuri-i-wa-th-arra-nth-.*
sea-‹μLOC-μ́ABL›-T take-‹μMID-J›-μ́CONS-T fish-‹μLLOC-μINCH-TH›-μ́CONS-μOBL-T
sea-‹PRIOR› take-‹MID›-PST fish-‹COLL›-PST-SEJ
'She was taken by the sea, when she went for fish.' [R2005-jun29]

(B.10) Inflected for +COMP and for TAMA:antecedent, which attaches to VP$_\gamma$ or VP$_\delta$
Dathin-kiy-a . . . *nga-ku-l-da* *kurirr-walath-ij-iy-a*
there-μLOC-T 1-2-pl-T dead-‹μPL-μSAME›-μLOC-T
there-CMP 1-2-pl dead-‹EVERY›-CMP

dalururdaluru-ngarrba-y-a *bala-a–n-ngarrba-y-a*
gun-μCONS-μLOC-T kill-‹μMID-J›-‹μN-μCONS›-μLOC-T
gun-ANTA-CMP kill-‹MID›-‹ANTT›-CMP
'We and all the people killed by the gun were there.' [E1984-03-01]

B.1.3 CASE:locative second object DPs of wuu-j- *'give'*

(B.11) Inflected for CASE:locative in the context of {TAMT:imperative, TAMA:Ø}
Dathina *makurarra* *buka-banji–n-d,* *wuu-j-a* ***jardarrka-y-!***
that.T wallaby-T ‹rotten-stink-J-μN›-T ‹give-J›-T crow-μLOC-T
that wallaby ‹rancid› ‹give› crow-LOC
'That wallaby (meat) stinks, give it to the crows!' [E659]

(B.12) Possibly inflected for CASE:locative, or for TAMA:instantiated, which attaches to VP$_\beta$
Wadu-y-a *wuu-j-a* *wuran-ki-.*
smoke-μLOC-T ‹put-J›-T food-μLOC-T
smoke-LOC|INS-T ‹put› food-INS
'We put the food in the smoke.' [E107.ex.3–25]

(B.13) Inflected for +SEJ and for TAMA:prior which attaches to VP$_\gamma$
Wirriku–naa-ntha- *wuu-j-arra-ntha-,* *rarrwa-th-arra-nth-.*
oven-‹μLOC-μ́ABL›-μOBL-T ‹put-J›-μ́CONS-μOBL-T ‹roast-TH›-μ́CONS-μOBL-T
oven-‹PRIOR›-SEJ ‹put›-PAST-SEJ ‹roast›-PAST-SEJ
'We put (*warabu* creeper) in a ground oven or roasted it' [E84-05-07]

(B.14) Inflected for TAMA:future, which attaches to VP$_\gamma$
Nga-da *dathin-ku* *wuu-j-u-* *ngurrumanji-wu-* ***kaburrba-wu-.***
1sg-T that-μ́PROP-T ‹put-J›-μPROP-T billy can-μ́PROP-T fire-μ́PROP-T
1sg that-FUT ‹put›-POT billy can-FUT fire-FUT
'I'll put that thing, the billy can, on the fire.' [W1960]

B.1.4 CASE:locative second object DPs of marraa-j- *'show'*

(B.15) Inflected for CASE:locative in the context of {TAMT:imperative, TAMA:Ø}
Marraa-j-a *dangka-a* ***kurumbu-y-!***
‹show-J›-T man-T spear-μLOC-T
‹show› man spear-LOC
'Show the man the spear!' [E338.ex.9–101]

(B.16) Possibly inflected for CASE:locative, or for TAMA:instantiated, which attaches to VP_β

Dangka-wala-da	*marraa-j-a*	*wuu-j-a*	*ngij-in-ji-*
person-PL-T	‹show-J›-T	‹give-J›-T	1sg-µPOSS-µLOC-T
person-PL	‹show›	‹give›	1sg-ø-INS-T

mutha-y-a	***dulk-i-*** .
many-µLOC-T	place-µLOC-T
many-LOC|INS	place-LOC|INS

‘People have shown me many places.’ [E728]

(B.17) Inflected for TAMA:future, which attaches to VP_γ

Nga-da	***wangalk-u-***	*marraa-j-u-*	*ngum-ban-maru-th-u-.*
1sg-T	boomerang-µ̋PROP-T	‹show-J›- µ̋PROP-T	2sg-µPOSS-‹µDAT-TH›- µ̋PROP-T
1sg	boomerang-FUT	‹show›-POT	2sg-ø-‹DAT›-POT

‘I will show you the boomerang.’ [W1960]

B.2 Daughters of VP_β

These DPs inflect for all overtly realized TAMA features, and therefore must be no higher than VP_β, to which the lowest-attaching tama feature attaches.

B.2.1 CASE:genitive circumessive DPs

(B.18) Inflected for TAMA:instantiated, which attaches to VP_β

Nguku-karran-jiy-a	*nguku-rnurru-*	*diya-j-a*	*wirdi-j.*
water-µGEN-µLOC-T	water-µASSOC-T	‹eat-J›-T	‹stay-J›-T
water-GEN-INS	water-ASSOC	‹eat›	‹stay›

‘They ate around the water, at the water.’ [E1984-03-01]

B.2.2 CASE:proprietive instrument DPs #1

CASE:proprietive instruments can appear as daughters of VP_β (shown here) or of VP_δ (shown in §B.5.3).

(B.19) Inflected for TAMA:directed, which attaches to VP_β

Bi-rr-a	*ra-nthu-th-i-r-,*	***wumburung-kuru–r-,***
3-du-T	spear-‹µRCP-TH›-‹µLOC-µALL›-T	spear-µ̋PROP-‹µLOC-µALL›-T
3-du	spear-‹RCP›-‹DIRT›	spear-PROP-‹DIRT›

dathin-kuru-wa	*maku-wuru.*
that-µ̋PROP-T	that-µ̋PROP-T
that-PROP	that-PROP

‘They are fighting one another with spears over that woman.’ [W1960]

(B.20) Inflected for +SEJ and for TAMA:present, which attaches to VP_γ

Bula-th-urrka-	***milka-wuru-urrk-.***
‹remove-TH›-‹µLOC.OBL›-T	milk-µPROP-‹µLOC.µOBL›-T
‹remove›-‹IMM-SEJ›	milk-PROP-‹PRES-SEJ›

‘(Babies’ limbs) are wiped clean with milk.’ [R2005-jul08]

(B.21) Inflected for TAMA:prior, which attaches to VP_γ

Niy-a	*dathina*	*dangka-a*	*ngij-in-ji-na-*
3sg-T	that.T	man-T	1sg-µPOSS-‹µLOC-µ̋ABL›-T
3sg	that	man	1sg-ø-‹PRIOR›

wumburung-kuru–na-	*raa-j-arr-*
spear-µPROP-‹µLOC-µ̋ABL›-T	‹spear-J›-µ̋CONS-T
spear-PROP-‹PRIOR›	‹spear›-PST

‘That man speared me with a spear.’ [W1960]

(B.22) Inflected for TAMA:future, which attaches to VP_{γ}

Nga-da	*bala-th-u-*	*ki-rr-wan-ju-*	***ngij-in-juru-wuru-wa***
1sg-T	‹hit-TH›-μ́PROP-T	2-du-μPOSS-μ́PROP-T	1sg-μPOSS-μPROP-μ́PROP-T
1sg	‹hit›-POT	2-du-ø-FUT	1sg-ø-PROP-FUT

***karwa-wuru-wuru-*.**
club-μPROP-μ́PROP-T
club-PROP-FUT

'I will hit you two with my club.' [W1960]

(B.23) Inflected for TAMA:cont, which attaches to VP_{δ}

Nga-da	*kala–n-da*	*thungal-inja-*	***narra-wuru-nth-*.**
1sg-T	‹cut-TH›-μN-T	tree-μOBL-T	knife-μPROP-μOBL-T
1sg	‹cut›-PROG	tree-CONT	knife-PROP-CONT

'I am cutting down the tree with a shell knife.' [E418.ex.10–32]

B.2.3 *CASE:Ø demonstrative locations*

Location DPs with a demonstrative N head of NP take CASE:Ø. This can be seen by their failure to inflect with μLOC in the absense of TAMA features, as in (B.24).

(B.24) Not inflected with μLOC in a {TAMT:imperative, TAMA:Ø} clause

Dali–na-	*nying-ka*	***dathina***	*wirdi-j!*
‹come-J›-μNEG-T	2sg-T	there.T	‹stay-J›-T
‹come›-NEG.IMP	2sg	there	‹stay›

'Don't come, stay there!' [W1960]

(B.25) Inflected for TAMA:instantiated, which attaches to VP_{β}

Dangka-a	*dara-a-j-a*	***dathin-ki-.***
person-T	circumcize-‹μMID-J›-T	there-μLOC-T
person	circumcize-‹MID›	there-INS

'Men were circumcized there' [R2005-jul21]

(B.26) Inflected for TAMA:directed, which attaches to VP_{β}

Niy-a	***dathin-ki-ri-***	*thaari-j-i-r-.*
3sg-T	there-‹μLOC-μALL›-T	‹bring back-J›-‹μLOC-μALL›-T
3sg	there-‹DIRA›	‹bring back›-‹DIRT›

'He brought (the water) back there.' [R2007-jun01]

(B.27) Inflected for +SEJ and for TAMA:present which attaches to VP_{γ}

Barji-j-urrka-	***dan-kurrka-***	*bardangu-nth-*
‹fall-J›-‹μLOC.μOBL›-T	here-‹μLOC.μOBL›-T	large-μOBL-T
‹fall›-‹IMM-SEJ›	here-‹PRES-SEJ›	large-SEJ

'It's raining heavily here.' [R2005-aug02a]

(B.28) Inflected for TAMA:emotive, which attaches to VP_{γ}

Niy-a	***dan-inja-***	*yiiwi–da-*	*nga-ku-lu-wan-inja-*	*natha-nth-.*
3sg-T	here-μOBL-T	‹sleep-J›-μDES-T	1-2-pl-μPOSS-μOBL-T	camp-μOBL-T
3sg	here-EMO	‹sleep›-DES	1-2-pl-POSS-EMO	camp-EMO

'He should sleep here in our camp' [W1960]

(B.29) Inflected for TAMA:prior which attaches to VP_{γ}

Ngaaka-	*dangka-a*	***dan-ki-na-***	*ngambura-th-arr- ?*
what-T	person-T	here-‹μLOC-μ́ABL›-T	‹dig well-TH›-μ́CONS-T
what	person	here-‹PRIOR›	‹dig well›-PAST

'Who dug a well here?' [W1960]

B.2.4 Kada- *'again' #1*

Kada 'again' can also appear as daughter of VP_δ or VP_ε (§B.6.4) or can function as a particle in which case it does not inflect at all (§10.3).

(B.30) Inflected for TAMA:instantiated, which attaches to VP_β

Jirrkara-	***kada-y-a***	*thaa-th.*
north-T	again-µLOC-T	‹return-TH›-T
north	again-INS	‹return›

'Then I went north again.' [E300.ex.8-7]

(B.31) Inflected for TAMA:directed, which attaches to VP_β

Dathina	*dangka-a*	*barji-j-arr-,*	***kada–ri-***
that.T	man-T	‹fall-J›-µ́CONS-T	again-‹µLOC-µALL›-T
that	man	‹fall›-PST	again-‹DIRA›

rabi-j-i-ri-	*barji-j-i-r-.*
‹rise-J›-‹µLOC-µALL›-T	‹fall-J›-‹µLOC-µALL›-T
‹rise›-‹DIRT›	‹fall›-‹DIRT›

'That man fell down, got up again and fell down again.' [W1960]

(B.32) Inflected for +SEJ and for TAMA:future which attaches to VP_γ

Badi-j-uu-ntha-	*ngiju-wa-*	*ngij-uu-ntha-*	***kada-wuu-nth-.***
‹carry-J›-µ́PROP-µOBL-T	1sg-µSEJ-T	wood-µ́PROP-µOBL-T	again-µ́PROP-µOBL-T
‹carry›-POT-SEJ	1sg-SEJ	wood-FUT-SEJ	again-FUT-SEJ

'I'll carry wood again.' [R2005-aug02a]

(B.33) Inflected for TAMA:future which attaches to VP_γ

nyingka	*ri-in-da*	***kada-wu-***	*thaa-th-u-.*
2sg-T	east-µABLC-T	again-µ́PROP-T	‹return-TH›-µ́PROP-T
2sg	east-ABLC	again-FUT	‹return›-POT

'You will come back from the east again.' [E300.ex.8-8]

(B.34) Inflected for TAMA:continuous (2nd clause), which attaches to VP_δ

Kada	*julda-julda-wa-th-,*	***kada-ntha-***	*balkaji-wa–n-d.*
again.T	‹tough-tough›-‹µINCH-TH›-T	again-µOBL-T	thin-‹µINCH-TH›-µN-T
again	‹tough›-‹INCH›	again-CONT	thin-‹INCH›-PROG

'She's getting bony again, getting thin again.' [R2005-jul04b]

B.2.5 Darr- *'occasion; time',* jina- darr- ~ jinardarr- *'when'*

(B.35) Inflected for TAMA:instantiated, which attaches to VP_β

Ngum-ban-jani-i-j-a	*ngaka-tha*	***mutha-y-a***	***darr-i-***
2sg-µPOSS-‹µALLH-µMID-J›-T	‹wait-TH›-T	much-µLOC-T	time-µLOC-T
2sg-ø-‹PURP›	‹wait›	much-INS	time-INS

'I've been waiting for you a long time' [W1960]

(B.36) Inflected for TAMA:future which attaches to VP_γ

Nga-da	*bala-th-u-*	***mutha-wu-***	***darr-u-***
1sg-T	‹hit-TH›-µ́PROP-T	much-µ́PROP-T	time-µ́PROP-T
1sg	‹hit›-POT	much-FUT	time-FUT

'I will hit (it) many times.' [W1960]

(B.37) Inflected for TAMA:prior which attaches to VP_γ

Jina–na	***darr-i-na***	*nying-ka*
what-‹µLOC-µ́ABL›-T	time-‹µLOC-µ́ABL›-T	2sg-T
what-‹PRIOR›	time-‹PRIOR›	2sg

jirrkaa-n-ki-na?
north-μABLC-‹μLOC-μ̃ABL›-T
north-ABLC-‹PRIOR›

'When did you come from the north?' [W1960]

(B.38) Inflected for TAMA:emotive which attaches to VP_{γ}

Niya	***jinardarr-inja-***	*dali–d-,*	*nga-ku-lu-wan-jani–d-?*
3sg-T	when-μOBL-T	‹come-J›-μDES-T	1-2-pl-μPOSS-‹μALLH-J›-μDES-T
3sg	when-EMO	‹come›-DES	1-2-pl-ø-‹ALLH›-μDES

'When will he come back here to get us?' [E370.ex.9-224]

B.2.6 Yanij- *'first'*

(B.39) Inflected for TAMA:directed, which attaches to VP_{β}

Ra-wa–n-mari-i-j-i-ri-	***yanij-i-ri-,***
south-‹μINCH-J›-‹μN-μDAT-μMID-J›-‹μLOC-μALL›-T	first-‹μLOC-μALL›-T
south-‹INCH›-‹INCPT›-‹DIRT›	first-‹DIRA›

ra-wa–da-	*thaa-d-*
south-‹μINCH-TH›-μDES-T	‹return-TH›-μDES-T
south-‹INCH›-DES	‹return›-DES

'It's going back south first, it should return back south.' [R2005-jul21]

(B.40) Inflected for TAMA:emotive which attaches to VP_{γ}

Yanij-inja-	*wirdi-j-inj-*	*rarrwa-th-uru-y-*	*wuran-kuru-y-*
first-μOBL-T	‹stay-J›-μOBL-T	‹roast-TH›-μ̃PROP-μLOC-T	food-μ̃PROP-μLOC-T
first-EMO	‹stay›-HORT	‹roast›-POT-CMP	food-FUT-CMP

'We should stay first, and cook some food.' [W1960]

(B.41) Inflected for +SEJ and for TAMA:present which attaches to VP_{γ}

Nga-la-wa-	***yanij-urrka-***	*kamburi-j-urrka-*
1-pl-μSEJ-T	first-‹μLOC.μOBL›-T	‹talk-J›-‹μLOC.μOBL›-T
1-pl-SEJ	first-‹PRES-SEJ›	‹talk›-‹IMM-SEJ›

'We're talking first' [R2005-jul21]

B.2.7 Barruntha- *'yesterday; in a while' #1*

Barruntha- 'yesterday; in a while' may act as a daughter of VP_{β} (as shown here) or of VP_{γ} (§B.4.10).

(B.42) Possibly inflected for CASE:locative, or for TAMA:instantiated, which attaches to VP_{β}

Nga-da	***barruntha-y-a***	*kurri-j-a*	*makalmakal-i-*
1sg-T	yesterday-μLOC-T	‹see-J›-T	old woman-μLOC-T
1sg	yesterday-LOC|INS	‹see›	old woman-INS

'I saw the old woman yesterday.' [W1960]

(B.43) Inflected for TAMA:directed, which attaches to VP_{β}

Dathina	*kiyarrng-ka*	*dangka-a*	*bi-rr-i-da*	*dangka-a*
that.T	two-T	person-T	3-du-μSAME-T	person-T
that	two-T	person	3-du-SAME	person

barruntha–ri-	*nga-ku-lu-wan-ji-r-*	*kamburi-j-i-r-?*
yesterday-‹μLOC-μALL›-T	1-2-pl-μPOSS-‹μLOC-μALL›-T	‹speak-J›-‹μLOC-μALL›-T
yesterday-‹DIRA›	1-2-pl-ø-‹DIRA›	‹speak›-‹DIRT›

'Are they the same two men who came to talk to us yesterday?' [E390.ex.9-308]

(B.44) Inflected for +SEJ and for TAMA:present, which attaches to VP_γ

Dan-da	*budu~budu-*	*dathin-ki-na-*	*dangka–na,*
this-T	‹boat_{NL}-boat_{NL}›-T	that-‹µLOC-µ́ABL›-T	man-‹µLOC-µ́ABL›-T
this	‹boat›	that-‹ABL›-T	man-‹ABL›-T

ni-wa-a	***barruntha-wurrk-***	*dali-jurrk-.*
3sg-µSEJ-T	yesterday-‹µLOC. µOBL›-T	‹come-J›-‹µLOC.µOBL›-T
3sg-SEJ	yesterday-‹PRES-SEJ›	‹come›-‹IMM-SEJ›

'This is the boat of the man, who came here yesterday.' [E502.ex12-35]

(B.45) Inflected for TAMA:future, which attaches to VP_γ

Barruntha-wu-	*nga-da*	*thaa-th-u-.*
a while-µ́PROP-T	1sg-T	‹return-TH›-µ́PROP-T
a while-FUT	1sg	‹return›-POT

'I'll come back in a little while.' [E649]

B.3 Daughters of VP_β or VP_γ

The temporal nominals *balmbi* 'tomorrow; the next day' and *wulji* 'last night' and the *-nguni* realization of CASE:instrumental all end in /i/, after which the surface realization of µLOC is zero. As such it is not possible to tell in the examples below whether they inflect for TAMA:instantiated (or, in the case of *balmbi* and *wulji,* for CASE:locative). Consequently, and in the absence of examples in TAMA:directed clauses, we cannot tell if these DPs are daughters of VP_β which inherit TAMA:instantiated or daughters of VP_γ which escape it.

B.3.1 balmbi- *'tomorrow',* wulji- *'last night'*

(B.46) Possibly inflected for CASE:locative, or for TAMA:instantiated which attaches to VP_β

Mirniwarrkiy-a	*dangka-a*	***balmbiy-a***	*diya-j-a*	*bijarrba-y-.*
successful-T	man-T	next.day(-µLOC)-T	‹eat-J›-T	dugong-µLOC-T
successful	man	next.day(-LOC|INS)	‹eat›	dugong-INS

'The man who killed it could eat the dugong the next day.' [E642]

(B.47) Inflected for TAMA:emotive, which attaches to VP_γ

Nga-da	***balmbi-nja-***	*kurri–da-*	*kunya-ntha-*	*wangalk-inj-.*
1sg-T	tomorrow-µOBL-T	‹look-J›-µDES-T	small-µOBL-T	boomerang-µOBL-T
1sg	tomorrow-EMO	‹look›-DES	small-EMO	boomerang-EMO

'I should look at that small boomerang tomorrow.' [W1960]

(B.48) Inflected for TAMA:prior, which attaches to VP_γ

Nying-ka	*jijina–na-*	*warra-j-arra*	***wulji–na?***
2sg-T	which.way-‹µLOC-µ́ABL›-T	‹go-J›-µ́CONS-T	last night-‹µLOC-µ́ABL›-T
2sg	which.way-‹PRIOR›	‹go›-PST	last night-‹PRIOR›

'Which way did you head last night?' [E368.ex.9–213]

(B.49) Inflected for +SEJ and for TAMA:future, which attaches to VP_γ

Balmbi-wuu-ntha-	*warra-j-uu-ntha-*	*jurrkurung-kuu-nth-.*
tomorrow-µ́PROP-µOBL-T	‹go-J›-µ́PROP-µOBL-T	north.ALLC-µ́PROP-µOBL-T
tomorrow-FUT-SEJ	‹go›-POT-SEJ	north.ALLC-FUT-SEJ

'I'll go north tomorrow.' [R2005-jul21]

(B.50) Inflected for +SEJ and for TAMA:present, which attaches to VP_γ

Mala-ntha	*niy-a*	*yumari-j-urrka-*	*ki-wurrka-*
sea-µOBL-T	3sg-T	‹sink-J›-‹µLOC.µOBL›-T	close-‹µLOC.µOBL›-T
sea-SEJ	3sg	‹sink›-‹IMM-SEJ›	close-‹PRES-SEJ›

laan-,	***wulji-wurrk-.***
fishing line-T	last night-‹µLOC.µOBL›-T
fishing line	last night-‹PRES-SEJ›

'It washed away in the sea near the fishing line, last night.' [R2006-aug10]

B.3.2 CASE:instrumental DPs

(B.51) Possibly inflected for TAMA:instantiated, which attaches to VP_β

Thaldi-j-a	*kurri-j-a*	***dumu-nguni-y-a***	***walmathi-nguni–.***
‹stand-J›-T	‹look-J›-T	dune-µINST(-µLOC)-T	top-µINST(-µLOC)-T
‹stand›	‹look›	dune-INST(-INS)	top-INST(-INS)

'(They) stood and looked from on top of the sandhill.' [E153.ex.4-71]

(B.52) Inflected for +COMP and for TAMA:future which attaches to VP_γ

Kambuda-	*kala-th-uru-y-a*	***narra-nguni-wuru-y-a,***
nut-T	‹cut-TH›-µ̋PROP-µLOC-T	knife-µINST-µ̋PROP-µLOC-T
nut	‹cut›-POT-CMP	knife-INST-FUT-CMP

kurda-wu-j-uru-y-.
coolamon-‹µDON-J›-µ̋PROP-µLOC-T
coolamon-‹DON›-POT-CMP
'We'll cut the pandanus nut with a knife and put it in the coolamon.'[R2005-jul08]

(B.53) Inflected for TAMA:future which attaches to VP_γ

Kira-th-u-	***yurda-nguni-wu-***	***walbu-nguni-wu-*** .
‹gather-TH›-µ̋PROP-T	inside-µINST-µ̋PROP-T	raft-µINST-µ̋PROP-T
‹gather›-POT-T	inside-INST-FUT-T	raft-INST-FUT-T

'You can gather up (the dead fish) in a raft.' [R2005-jun29]

(B.54) Inflected for TAMA:continuous, which attaches to VP_δ

Niy-a	*kala-n-da*	*thungal-inja-*	*bijarrba-marra-ntha*	***narra-nguni-nj-.***
3sg-T	cut-µN-T	tree-µOBL-T	dugong-µUTIL-µOBL-T	axe-µINST-µOBL-T
3sg	cut-PROG	tree-CONT	dugong-UTIL-CONT	axe-INST-CONT

'He is cutting the tree with a shell axe, to use for (spearing) dugong.' [E112.ex.3-40]

B.4 Daughters of VP_γ

These DPs are too high in the non-surface syntactic tree to inherit TAMA:instantiated or TAMA:directed but low enough to inherit all other TAMA values.

B.4.1 CASE:Ø locations

CASE:Ø DPs which refer to locations are formally neutralized with CASE:locative DPs when they are inflected for TAMA (cf §6.8). This section shows CASE:Ø location DPs which are daughters of VP_γ, and which therefore do not inflect for TAMA values which attach to VP_β. In these examples, it can be seen that the DP does not inflect for CASE:locative.

(B.55) Not inflected for CASE:locative in a TAMA:Ø clause

Ki-l-da	*warra–na*	*jirrkurii–na*	***wambal-da***	*wanjii-n!*
ki-l-ta	wara-c-ɳaŋ-ø	cirkuɻiː-c-ɳaŋ	wampal-ta	waɲciː-c-ɳaŋ-ø
2-pl-T	‹go-J›-µNEG-T	3-pl-T	bush-T	‹ascend-J›-µNEG-T
2-pl	‹go›-NEG.IMP	3-pl	bush	‹ascend›-NEG.IMP

'Don't you all go up north into the bush!' [W1960]

(B.56) Not inflected for TAMA:instantiated, which attaches to VP_β

Warra-a	***natha-a***	*wirdi-j,*	*bundalwaan-d.*
wara-a	naṯa-a	wiʈi-c-a	puntalwaːɲ-ta
far-T	camp-T	‹stay-J›-T	menstruating-T
far	camp	‹stay›	menstruating

'She camps far off, she's menstruating.' [E661] (lit. 'She is in a distant camp, she's menstruating.')

B.4.2 Case:allative DPs

(B.57) Not inflected for TAMA:instantiated, which attaches to VP_β

Nga-da	*warra-j-a*	***ngarn-ki-r-.***
1sg-T	‹go-J›-T	beach-‹μLOC-μALL›-T
1sg	‹go›	beach-‹ALL›

'I am going/have gone to the beach.' [E107.ex.3–25]

(B.58) Inflected for TAMA:prior, which attaches to VP_γ

Nga-da	*warra-j-arra-*	***ngarn-ki-ring-ki-na-.***
1sg-T	‹go-J›-μ́CONS-T	beach-‹μLOC-μALL›-‹μLOC-μ́ABL›-T
1sg	‹go›-PAST	beach-‹ALL›-‹PRIOR›

'I went to the beach.' [E108.ex.3–27]

B.4.3 Bare stem compass locationals

(B.59) Not inflected for TAMA:instantiated, which attaches to VP_β

Nga-da	*wirdi-j-a*	***ba-d*** .
1sg-T	‹stay-J›-T	west-T
1sg	‹stay›	west

'I am in the west.' [E207.ex.5–30a]

(B.60) Not inflected for TAMA:directed, which attaches to VP_β

Kang-ki-ri-	*marri-j-i-ri-*	***jirrkar*-.**
voice-‹μLOC-μALL›-T	‹listen-J›-‹μLOC-μALL›-T	north-T
voice-‹DIRA›	‹listen›-‹DIRT›	north

'I am hearing a voice in the north.' [E207.ex.5–30a]

(B.61) Inflected for +SEJ and for TAMA:future, which attaches to VP_γ

***Bath-uu-ntha*-**	*dii-j-uu-ntha*	*waldarra-nth-,*
west-μ́PROP-μOBL-T	‹set-J›-μ́PROP-μOBL-T	moon-μOBL-T
west-FUT-SEJ-T	‹set›-POT-SEJ-T	moon-SEJ-T

nga-da	*ri-in-da*	*thaa-th-u-*	*ngum-ban-jani-i-j-u-*
1sg-T	east-μABLC-T	‹return-TH›-μ́PROP-T	2sg-μPOSS-‹μALLH-μMID-J›-μ́PROP-T
1sg	east-ABLC	‹return›-POT	2sg-ø-‹PURP›-POT

'When the moon sets in the west, I'll return to you from the east.' [W1960]

(B.62) Inflected for TAMA:future, which attaches to VP_γ

Yuuth-u-	***jirrkara-wu-***	*kurri-j-u-*	*nga-ku-l-d.*
first-μ́PROP-T	north-μ́PROP-T	‹look-J›-μ́PROP-T	1-2-pl-T
first-FUT	north-FUT	‹look›-POT	1-2-pl

'We'll look in the north first.' [E299.ex.8–5]

B.4.4 Allative stem compass locationals

(B.63) Not inflected for TAMA:instantiated, which attaches to VP_β

Ra-rung-ka	*bi-l-da*	*budii-j-iy-a*	*kuujuu-j-i-ring-ki-.*
south-μALLC-T	3-pl-T	‹run away-J›-μLOC-T	‹swim-J›-‹μLOC-μALL›-μLOC-T
south-ALLC	3-pl	‹run away›-IMM	‹swim›-‹DIRT›-INS

'They're running away to the south to swim.' [R2005-jul08]

(B.64) Not inflected for TAMA:directed, which attaches to VP_{β}

Ba-lung-ka	*bantharra-*	*rajurri-j-i-ri-*
west-µALLC-T	some-T	‹walk around-J›-‹µLOC-µALL›-T
west-ALLC	some	‹walk around›-‹DIRT›

budii-j-i-r-.
‹run away-J›-‹µLOC-µALL›-T
‹run away›-‹DIRT›

‘Others are running around in the west.’ [R2005-aug02a]

(B.65) Inflected for +SEJ and for TAMA:present, which attaches to VP_{γ}

Ba-lung-kurrka-	*warra-wurrka-*	*dulk-urrka-.*
west-µALLC-‹µLOC.µOBL›-T	far-‹µLOC.µOBL›-T	far-‹µLOC.µOBL›-T
west-ALLC-‹PRES-SEJ›	far-‹PRES-SEJ›	far-‹PRES-SEJ›

‘(The cyclone) is far away in the west.’ [R2005-aug02a]

(B.66) Inflected for TAMA:emotive, which attaches to VP_{γ}

Niy-a	*warra–nyarra*	***ra-rung-inj-.***
3sg-T	‹go-J›-µAPPR-T	south-µALLC-µOBL-T
3sg	‹go›-APPR	south-ALLC-EMO

‘He might go south.’ [W1960]

(B.67) Inflected for TAMA:precondition, which attaches to VP_{γ} or VP_{ε}

Kabin-da	*baa-j-arrba-*	***ra-rung-ki-naba-***	*thula-th-arrba-*
3sg-T	‹go out-J›-µCONS-T	south-µALLC-‹µLOC-µABL›-T	‹descend-J›-µCONS-T
3sg	‹go out›-PRECT	south-ALLC-‹PRECA›	‹descend›-PRECT

mala-a,	*walmuw-a*	*mala-a,*	*wuran-ku-*	*nga-ku-l-da*
sea-T	high-T	sea-T	food-µ̋PROP-T	1-2-pl-T
sea	high	sea	food-FUT	1-2-pl

ngukurmaa-nju-th-u-.
provide for-‹µRCP-TH›-µ̋PROP-T
provide for-‹RCP›-POT

‘After the tide’s gone out and the water’s gone down to the south, when it’s high water (again), we’ll share our food with one another.’ [R2005-jul11]

B.4.5 Ablative stem compass locational, as a predicate

(B.68) Not inflected for TAMA:instantiated, which attaches to VP_{β}

Mutha-a	*yakuriy-a*	*ri-in-d.*
many-T	fish-T	east-µABLC-T
many	fish	east-ABLC

‘Many fish came from the east.’ [E724]

(B.69) Inflected for TAMA:prior which attaches to VP_{γ}

Jina–na	*darr-i-na*	*nying-ka*
what-‹µLOC-µ̋ABL›-T	time-‹µLOC-µ̋ABL›-T	2sg-T
what-‹PRIOR›	time-‹PRIOR›	2sg

jirrkaa-n-ki-na?
north-µABLC-‹µLOC-µ̋ABL›-T
north-ABLC-‹PRIOR›

‘When did you come from the north?’ [W1960]

(B.70) Inflected for +SEJ and for TAMA:present which attaches to VP_{γ}

Ra-yin-da	*dii-j-a*	*dathin,*	*ngiju-wa-*	***jirrkaa-n-kurrk-.***
south-µABLC-T	‹sit-J›-T	there.T	1sg-µSEJ-T	north-µABLC-‹µLOC.µOBL›-T
south-ABLC	‹sit›	there	1sg-SEJ	north-ABLC-‹PRES.SEJ›

‘Sit (facing) from the south there, while I (sit) from the north.’ [R2005-jul12c]

B.4.6 The reflexive pronoun marin-

(B.71) Not inflected for TAMA:instantiated, which attaches to VP$_\beta$

Niy-a	***marin-da***	*mardala-a-j.*
3sg-T	self-T	paint-‹μMID-J›-T
3sg	self	paint-‹MID›

'He is painting himself up.' [E353.ex.9-153; W1960]

(B.72) Inflected for TAMA:emotive, which attaches to VP$_\gamma$

Nal-da	***marin-inja-***	*kala-a–nyarr-.*
3sg-T	self-μOBL-T	cut-‹μMID-J›-μAPPR-T
3sg	self-EMO	cut-‹MID›-APPR

'(She) might slash her head (in mourning).' [E354.ex.9-156]

(B.73) Inflected for TAMA:future, which attaches to VP$_\gamma$

Ki-l-da	*mardala-a-j-u-.*	***marin-ju-***
2-pl-T	paint-‹μMID-J›-μ́PROP-T	self-μ́PROP-T
2-pl	paint-‹MID›-POT	self-FUT

'You'll paint yourselves.' [W1960]

B.4.7 Jina- *'where'*

(B.74) Not inflected for TAMA:instantiated, which attaches to VP$_\beta$

Nying-ka	***jina-a***	*warra-j?*
2sg-T	where-T	‹go-J›-T
2sg	where	‹go›

'Where are you going?' [R2005-jul05b]

(B.75) Inflected for TAMA:prior, which attaches to VP$_\gamma$

Jina–na-	*nying-ka*	*wuu-j-arr-?*
where-‹μLOC-μ́ABL›-T	2sg-T	‹put-J›-μ́CONS-T
where-‹PRIOR›	2sg	‹put›-PST

'Where did you put it?' [W1960]

(B.76) Inflected for TAMA:continuous, which attaches to VP$_\delta$

Nying-ka	***jina-ntha-***	*wirdi–n-d?*
2sg-T	where-μOBL-T	‹stay-J›-μN-T
2sg	where-CONT	‹stay›-PROG

'Where are you staying?' [R2007-may21]

B.4.8 Jijina *'which direction' #1*

Example (B.77) is the only attested case of interrogative *jijina* 'which direction' inflecting for a TAMA value which attaches to VP$_\gamma$. See §B.6.3 for other examples.

(B.77) Inflected for TAMA:prior, which attaches to VP$_\gamma$

Nying-ka	***jijina–na-***	*warra-j-arra*	*wulji–na?*
2sg-T	which.way-‹μLOC-μ́ABL›-T	‹go-J›-μ́CONS-T	last night-‹μLOC-μ́ABL›-T
2sg	which.way-‹PRIOR›	‹go›-PST	last night-‹PRIOR›

'Which way did you head last night?' [E368.ex.9-213]

B.4.9 Yan- *'now; soon' #1*

Yan- 'soon' can be a daughter of VP$_\gamma$ (shown here), or of VP$_\delta$ or VP$_\varepsilon$ (§B.6.2).

(B.78) Not inflected for TAMA:instantiated, which attaches to VP$_\beta$

Nga-da	***yan-da***	*warra-j.*
1sg-T	now-T	‹go-J›-T
1sg	now	‹go›

'I'm going now.' [W1960]

(B.79) Inflected for TAMA:future, which attaches to VP$_\gamma$

Yan-ku-	*wirrka-j-u-*	*bi-l-da*	*ngimi-wu-*
soon-μ̋PROP-T	‹dance-J›-μ̋PROP-T	3-pl-T	night-μ̋PROP-T
soon-FUT	‹dance›-POT	3-pl	night-FUT

'They will dance soon, at night.' [W1960]

(B.80) Inflected for TAMA:future, which attaches to VP$_\gamma$

Dathina	*bantharra*	***yan-inja-***	*wirdi-j-inj-.*
that.T	others-T	now-μOBL-T	‹stay-J›-μOBL-T
that	others	now-EMO	‹stay›-HORT

'Those others should stay (here) now.' [R2005-jul21]

B.4.10 Barruntha- *'yesterday; in a while' #2*

Barruntha- 'yesterday; in a while' acts either as a daughter of VP$_\beta$ (§B.2.7) or of VP$_\gamma$ (shown here), in which case it inflects for CASE:locative.

(B.81) Inflected for CASE:locative, but not TAMA in the context of TAMA:directed, which attaches to VP$_\beta$

Nga-da	***barruntha-y-a***	*kurri-j-i-ri-*
1sg-T	yesterday-μLOC-T	‹see-J›-‹μLOC-μALL›-T
1sg	yesterday-LOC	‹see›-‹DIRT›

ngij-in-ji-r-	*kaja~kaja-r-.*
1sg-μPOSS-‹μLOC-μALL›-T	‹father$_{NL}$-father$_{NL}$›-‹μLOC-μALL›-T
1sg-ø-‹DIRA›	‹father›-‹DIRA›

'I saw my father yesterday.' [W1960]

B.5 Daughters of VP$_\delta$

These DPs will only inflect for TAMA which attaches to VP$_\delta$, namely TAMA:continuous.

B.5.1 CASE*:proprietive intentional objects and intentional destinations*

(B.82) Not inflected for TAMA:instantiated, which attaches to VP$_\beta$

Nga-da	*warra-j-a*	***ba-lung-ku-*** .
1sg-T	‹go-J›-T	west-μALLC-μ̋PROP-T
1sg	‹go›	west-ALLC-PROP

'I am going to the west.' (i.e. as my eventual destination) [E218.ex.5-68]

(B.83) Not inflected for TAMA:directed, which attaches to VP$_\beta$

Ba-lung-kuru-	*warra-j-i-r-.*
west-μALLC-μ̋PROP-T	‹go-J›-‹μLOC-μALL›-T
west-ALLC-PROP	‹go›-‹DIRT›

'(We're) going to the west (as the eventual destination).' [R2006-aug10]

(B.84) Inflected for +SEJ but not for TAMA:future, which attaches to VP_γ

Damuru-wuru-ntha-	*ngiju-wa-*	*warra-j-uu-ntha-*
corm-μPROP-μOBL-T	1sg-μSEJ-T	‹go-J›-μ̋PROP-μOBL-T
corm-PROP-SEJ	1sg-SEJ	‹go›-POT-SEJ

balmbi-wuu-nth-.
tomorrow-μ̋PROP-μOBL-T
tomorrow-FUT-SEJ
'I'll go for corms tomorrow.' [R2005-jul12c]

(B.85) Not inflected for TAMA:prior, which attaches to VP_γ

Nga-da	*jani-j-arra-*	***ngum-ban-ju-.***
1sg-T	‹seek-J›-μ̋CONS-T	2sg-μPOSS-μ̋PROP-T
1sg	‹seek›-PST	2sg-ø-PROP

'I searched for you.' [E108.ex.3-29]

(B.86) Inflected for TAMA:continuous, which attaches to VP_δ

Niy-a	*jani–n-da*	***kuna~wuna-wuru-nth-.***
3sg-T	‹seek-J›-μN-T	‹child$_{NL}$-child$_{NL}$›-μPROP-μOBL-T
3sg	‹seek›-PROG	‹child›-PROP-CONT

'He is searching for the child.' [E412.ex.10-20]

B.5.2 *CASE:proprietive transferred objects*

(B.87) Not inflected for TAMA:instantiated, which attaches to VP_β

Maku	*dun-maru-th-a*	*wuu-j-a*	***nguku-wuru-*** .
woman-T	husband-‹μDAT-TH›-T	‹give-J›-T	water-μ̋PROP-T
woman	husband-‹DAT›	‹give›	water-PROP

'A woman gives water to her spouse.' [E336.ex.9-95]

(B.88) Not inflected for TAMA:prior, which attaches to VP_γ

Niy-a	*marndi-j-arra-*	*kanthathu–na-*	***wirrin-kuru-*** .
3sg-T	‹deprive-J›-μ̋CONS-T	father-‹μLOC-μ̋ABL›-T	money-μ̋PROP-T
3sg	‹deprive›-PST	father-‹PRIOR›	money-PROP

'He took money off his father.' [E420.ex.10-38]

(B.89) Inflected for TAMA:cont, which attaches to VP_δ

Niy-a	*marndi–n-da*	*kanthathu-ntha-*	***wirrin-kuru-nth-*** .
3sg-T	‹deprive-J›-μN-T	father-μOBL-T	money-μPROP-μOBL-T
3sg	‹deprive›-PROG	father-CONT	money-PROP-CONT

'He is taking money off his father.' [E420.ex.10-39]

B.5.3 *CASE:proprietive instrument DPs #2*

CASE:proprietive instruments can appear as daughters of VP_β (§B.2.2) or of VP_δ (shown here).

(B.90) Not inflected for TAMA:instantiated, which attaches to VP_β

Nga-da	*burldi-j-a*	*ni-wan-ji-*	***wangalk-uru-*** .
1sg-T	‹hit-J›-T	3sg-μPOSS-μLOC-T	boomerang-μ̋PROP-T
1sg	‹hit›	3sg-ø-INS	boomerang-PROP

'I hit it with boomerang.' [W1960]

(B.91) Inflected for +COMP but not for TAMA:future, which attaches to VP_γ

Nga-ku-l-da	*burldi–nang-kuru-y-a*	***wangalk-uru-y-*** .
1-2-pl-T	‹hit-J›-μNEG-μ̋PROP-μLOC-T	boomerang-μ̋PROP-μLOC-T
1-2-pl	‹hit›-NEG-POT-CMP	boomerang-FUT-CMP

'We can't hit them with boomerangs.' [W1960]

(B.92) Not inflected for TAMA:prior, which attaches to VP_{γ}

Nga-l-da	*kala-th-arra-*	***rawalan-ku-.***
1-pl-T	‹cut-TH›-μ̋CONS-T	baler shell-μ̋PROP-T
1-pl	‹cut›-PST	baler shell-PROP

‘We used to cut (things) with baler shells.’ [E418.ex.10-34]

(B.93) Inflected for TAMA:continuous, which attaches to VP_{δ}

Nga-da	*kala–n-da*	*thungal-inja-*	***narra-wuru-nth-.***
1sg-T	‹cut-TH›-μN-T	tree-μOBL-T	knife-μPROP-μOBL-T
1sg	‹cut›-PROG	tree-CONT	knife-PROP-CONT

‘I am cutting down the tree with a shell knife.’ [E418.ex.10-32]

B.5.4 CASE:*proprietive ‘subject matter’ DPs*

CASE:proprietive ‘subject matter’ DPs are presumably daughters of VP_{δ}, although the positive evidence available only shows that they are too high in the non-surface syntactic tree to inherit TAMA features that attach to VP_{β}, that is, they must be daughters of VP_{γ} or higher.

(B.94) Not inflected for TAMA:instantiated, which attaches to VP_{β}

Waa-j-a	*wirdi-j-a*	*nga-da*	***bijarrba-wuru-.***
‹sing-J›-T	‹stay-J›-T	1sg-T	boomerang-μ̋PROP-T
‹sing›	‹stay›	1sg	boomerang-PROP

‘I am singing about a dugong.’ [E148.ex.4-49]

(B.95) Not inflected for TAMA:directed, which attaches to VP_{β}

Bi-rr-a	*ra-nthu-th-i-r-,*	*wumburung-kuru–r-,*
3-du-T	spear-‹μRCP-TH›-‹μLOC-μALL›-T	spear-μPROP-‹μLOC-μALL›-T
3-du	spear-‹RCP›-‹DIRT›	spear-PROP-‹DIRA›

dathin-kuru-wa	***maku-wuru-.***
that-μ̋PROP-T	that-μ̋PROP-T
that-PROP	that-PROP

‘They are fighting one another with spears over that woman.’ [W1960]

B.6 Daughters of VP_{δ} or VP_{ε}

These DPs have not been attested inflecting for any TAMA values, however thay are not attested in clauses associated with TAMA:continuous or TAMA:negatory which attach to VP_{δ}. We thus know that they must be at least as high as daughters of VP_{δ} and could be daughters of VP_{ε}.

B.6.1 *Counted occasion and unit duration DPs*

DPs refering to counted occasions, or durations measured in units are daughters of VP_{δ} or VP_{ε}, with the exception of thoses whose NP is head by *darr-* ‘occasion; time’ (§B.2.5).

(B.96) Not inflected for TAMA:instantiated, which attaches to VP_{β}

Jinamulu-	***warrku-wa***	*karrngi-j-a*	*wuran-ki-?*
how many-T	day-T	‹keep-J›-T	food-μLOC-T
how many	day	‹keep›	food-INS

‘How many days do you keep the food?’ [R2005-jul12c]

(B.97) Not inflected for TAMA:instantiated, which attaches to VP_β

Nga-da	*bala-tha*	*ni-wan-ji-*	***warngii-da***	***birrjilk-.***
1sg-T	‹hit-TH›-T	3sg-μPOSS-μLOC-T	one-T	occasion-T
1sg	‹hit›	3sg-ø-INS	one	occasion

'I hit him one time.' [E656]

(B.98) Not inflected for TAMA:future, which attaches to VP_γ

Dan-ku-	*nga-ku-l-da*	*yiiwi-j-u-*
here-μ́PROP-T	1-2-pl-T	‹sleep-J›-μ́PROP-T
here-FUT	1-2-pl	‹sleep›-FUT

warngii-da	***ngimi-,***	*karba-karba-ru-th-u-.*
one-T	night-T	‹dry_{NL}-dry_{NL}›-‹μAWAIT-TH›-μPROP-T
one	night	‹healed›-‹AWAIT›-FUT

'We'll sleep here one night until she's healed.' [R2005-jul21]

(B.99) Not inflected for TAMA:prior, which attaches to VP_γ

Dan-ki-na-	*nga-da*	*kurri-j-arra-*	*ni-wan-ji-na-*
here-‹μLOC-μ́ABL›-T	1sg-T	‹see-J›-μ́CONS-T	3sg-μPOSS-‹μLOC-μ́ABL›-T
here-‹PRIOR›	1sg	‹see›-PST	3sg-ø-‹PRIOR›

kiyarrng-ka	***birrjil-k.***
two-T	occasion-T
two	occasion

'I saw her here twice.' [R2005-jun29]

B.6.2 Yan- *'now; soon' #2*

Yan- 'soon' can be a daughter of VP_γ (§B.4.9), or of VP_δ or VP_ε (shown here).

(B.100) Not inflected for TAMA:future, which attaches to VP_γ

Yan-d,	*nga-ku-lu-wan-ju-*	*kurri-j-u-*	*wara-th-u-*
soon-T	1-2-pl-μPOSS-μ́PROP-T	‹look-J›-μ́PROP-T	‹send-TH›-μ́PROP-T
soon	1-2-pl-ø-FUT	‹look›-POT	‹send›-POT

ba-lung-ku-.
west-μALLC-μ́PROP-T
west-ALLC-FUT

'Now they are looking out at us as we go westwards.' [E310.ex.8-58]

(B.101) Inflected for +SEJ but not for TAMA:future, which attaches to VP_γ

Yan-inja-	*bala-a-j-uu-ntha-*	*walmathi-wuu-nth-*
soon-μOBL-T	kill-‹μMID-J›-μPROP-μOBL-T	above-μPROP-μOBL-T
soon-SEJ	kill-‹MID›-POT-SEJ	above-FUT-SEJ

'They would soon be killed up above.' [E1984-03-01]

B.6.3 Jijina *'which direction' #2*

One example of *jijina* exists in which it inflects for a TAMA value which attaches to VP_γ (§B.4.8). Here, it does not.

(B.102) Not inflected for TAMA:instantiated, which attaches to VP_β

Jijina-	*kurrngu- ?*
which direction-T	dugong's feeding path-T
which direction	dugong's feeding path

'Which direction is the dugong moving?' [E224.ex.5–92]

(B.103) Not inflected for TAMA:future, which attaches to VP$_\gamma$

Nying-ka	***jijina-***	*warra-j-u-?*
2sg-T	which direction-T	‹go-J›-µ́PROP-T
2sg	which direction	‹go›-POT

'Where are you going?' [E368.ex.9-212]

(B.104) Not inflected for TAMA:emotive, which attaches to VP$_\gamma$

Niy-a	***jijina-***	*warra-d– ?*
3sg-T	which direction-T	‹go-J›-µDES-T
3sg	which direction	‹go›-DES

'Which way should he go?' [E160.ex.4-98; W1960]

B.6.4 Kada *'again' #2*

Kada was seen previously, in §B.2.4 where it was the daughter of VP$_\beta$. Here, it sits in a different position as the daughter of VP$_\delta$ or VP$_\varepsilon$. It inflects for +SEJ so cannot be functioning as a particle (§10.3).

(B.105) Not inflected for TAMA:future which attaches to VP$_\gamma$, but inflected for +SEJ, and hence not a particle (cf §10.3)

Nga-da	*mungurru-,*	***kada-ntha-***	*thaa-th-uu-nth-.*
1sg-T	know-T	again-µOBL-T	‹return-TH›-µ́PROP-µOBL-T
1sg	know	again-SEJ	‹return›-POT-SEJ

'I know that I will come back (here) again.' [E490–91.ex.12-7]

B.7 Daughters of VP$_\varepsilon$

These DPs do not inflect for any TAMA values, including for TAMA:continuous or TAMA:negatory in clauses associated with them.

B.7.1 Ablative stem compass locationals

(B.106) Not inflected for TAMA:instantiated, which attaches to VP$_\beta$

Ra-yin-da	*thula-tha*	*tharda-a*	*manarr-u-.*
south-µABLC-T	‹descend-TH›-T	shoulder-T	torch-µ́PROP-T
south-ABLC	‹descend›	shoulder	torch-PROP

'He came down [from the south—ER] to the sea with a bark torch on his shoulder.' [E724]

(B.107) Not inflected for TAMA:directed, which attaches to VP$_\beta$

Ra-yin-da	*thaa-th-i-r-.*
south-µABLC-T	‹return-TH›-‹µLOC-µALL›-T
south-ABLC	‹return›-‹DIRT›

'(The bird) is returning from the south.' [R2006-oct19]

(B.108) Inflected for +SEJ but not for TAMA:present, which attaches to VP$_\gamma$

Kada-wurrka-	***bath-in-inja-***	*dali-j-urrk-.*
again-‹µLOC.µOBL›-T	west-µABLC-µOBL-T	‹come-J›-‹µLOC.OBL›-T
again-‹PRES-SEJ›	west-ABLC-SEJ	‹come›-‹IMM-SEJ›

'Because it will come again from the west.' [R2005-aug02a]

(B.109) Not inflected for TAMA:future, which attaches to VP$_\gamma$

Maraka	***ri-in-da***	*wanjii-j-u-*	*ni-.*
CTRFCT	east-µABLC-T	‹ascend-J›-µ́PROP-T	3sg-T
CTRFCT	east-ABLC	‹ascend›-POT	3sg

'He should have come up from the east.' [R2007-may22]

(B.110) Inflected for TAMA:negatory, which attaches to VP_ε

Kurirr-a,	***ri-in-marriy-a***	*thaa-n-marri.*
dead-T	east-μABLC-μPRIV-T	‹return-J›-‹μN-μPRIV›-T
dead	east-ABLC-NEGAT	return-NONVER

'They were dead, and did not return from the east.' [T1963]

B.7.2 CASE:ablative DPs

(B.111) CASE:ablative source not inflected for TAMA:instantiated, which attaches to VP_β

Nga-l-da	*marri-j-a*	*kang-ki-*	***jungarra–na-***	***dangka–na-.***
1-pl-T	‹hear-J›-T	story-μLOC-T	big-‹μLOC-μ̆́ABL›-T	person-‹μLOC-μ̆́ABL›-T
1-pl	‹hear›	story-INS	big-‹ABL›	person-‹ABL›

'We heard the story from the old people.' [E143.ex.4-35;605.line35.text8]

(B.112) CASE:ablative demoted human agent not inflected for TAMA:instantiated, which attaches to VP_β

Bijarrba-	*ra-yii-j-a*	***dangka–na-.***
dugong-T	spear-‹μMID-J›-T	man-‹μLOC-μ̆́ABL›-T
dugong	spear-‹MID›	man-‹ABL›

'The dugong is/was speared by the man.' [E2.ex.1-6]

(B.113) CASE:ablative demoted human agent not inflected for TAMA:future, which attaches to VP_γ

Nga-da	*ra-yii-j-u-*	*mun-da*	***balarr-i-na-***
1sg-T	‹spear-J›-μ̆́PROP-T	buttocks-T	white-‹μLOC-μ̆́ABL›-T
1sg	‹spear›-POT	buttocks	white-‹ABL›

maku–na-.
woman-‹μLOC-μ̆́ABL›-T
woman-‹ABL›

'I will be injected in the buttocks by the white woman.' [E350.ex.9-134b]

(B.114) CASE:ablative demoted human agent not inflected for TAMA:antecedent, which attaches to VP_γ or VP_δ

Jina-a	*kuna~wun-*	*kinyili-i–n-ngarrba-*
where-T	‹child$_{NL}$-child$_{NL}$›-T	deliver-‹μMID-J›-‹μN-μCONS›-T
where	‹child›	deliver-‹MID›-‹ANTT›

marrkathu–na-.
FaSi-‹μLOC-μ̆́ABL›-T
FaSi-‹ABL›

'Where is the child who was delivered by aunty?' [E144.ex.4-42]

(B.115) CASE:ablative demoted human agent not inflected for TAMA:continuous, which attaches to VP_δ

Bi-lu-wan-jiy-a	*barrki-j-,*	***maku-walath-i-naba-y-***
3-pl-μPOSS-μLOC-T	‹cut-J›-T	woman-μPL-‹μLOC-μABL›-μLOC-T
3-pl-ø-INS	‹cut›	woman-PL-‹ABL›-INS

kurda-y-a	*wakiri-i–n-ki-.*
coolamon-μLOC-T	carry under arm-‹μMID-J›-μN-μLOC-T
coolamon-INS	carry under arm-‹MID›-PROG-INS

'They are cutting them, coolamons, to be carried by the women.' [W1960]

B.7.3 CASE:genitive demoted inanimate cause DPs

(B.116) Not inflected for TAMA:continuous (within subordinate clause), which attaches to VP_δ

Jangka-wu-	*darr-u-*	***kamarr-karra-***	*bala-a–n-d.*
other-μ̆́PROP-T	occasion-μ̆́PROP-T	stone-μGEN-T	hit-‹μMID-J›-μN-T
other-FUT	occasion-FUT	stone-GEN	hit-‹MID›-PROG

'Another time (your head)'ll get broken on a stone.' [E473.ex.11-31]

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