
Not just any old auxiliary!

The semantics & pragmatics of Walmajarri's clitic system

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Declaration

The work presented in this thesis is, to the best of my knowledge and belief original, except as acknowledged in the text, and has not been submitted either in whole or in part, for a degree at this or any other university.

Daniel Willis

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Abbreviations

1, 2, 3	first, second, third person	IRR	irrealis
2P	second position	LOC	locative case
ACC	accessory case	MAN	manner case
ALL	allative case	MR1	modal root 1
AUX	auxiliary	MR2	modal root 2
COM	comitative case	MR3	modal root 3
COMP	completive aspect	NEG	negative
CONS	consequence case	O	object
CUST	customary tense	PAST	past tense
DAT	dative case	POSS	possessor
DL, dl	dual	PR	projected reason case
DUB	dubitative aspect	PRES	present tense
EMPH	emphasis	PL, pl	plural
ERG	ergative case	REDUP	reduplication
exc	exclusive	REFL	reflective/reciprocal
FUT	future tense	REP	repetitive aspect
inc	inclusive	S	subject
INCHO	inchoative	SG, sg	singular
INF	infinitive	TAM	tense, aspect, modality/mood

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Abstract

Walmajarri, a language of the Kimberley from the Ngumpin-Yapa language group, is a language with a very free word order. The one main exception to this is the auxiliary, a word normally found in the sentence's second position. The auxiliary serves as a host for pronominal clitics, while also contributing to the sentence's modality. There are two types of auxiliaries, while commands require a third kind of construction where the clitics are attached to the verb instead. Despite their importance, there are many unanswered questions about these auxiliaries.

Walmajarri was documented by Hudson and Richards (1976; 1978; 1990), who while describing the language's system of moods fairly thoroughly, did not provide examples of the moods used in context, but instead provided mostly artificial examples. For this reason a corpus of Walmajarri texts was collected and studied, in an attempt to precisely identify the auxiliaries' meanings and roles.

Because of this corpus study it was determined that a fairly substantial reanalysis of Walmajarri's tense-aspect-modality system was needed, because Walmajarri is not a tense-prominent language but instead an aspect-prominent language. The auxiliary *nga* was identified with the semantic notion of non-assertion, enabling a cliticisation hierarchy to be developed.

In the corpus were found several anomalous clauses, artifacts from Walmajarri's eastern dialect. By comparing the middle and the eastern dialect more insights as to Walmajarri's pragmatic structure were gained.

Walmajarri therefore serves as an interesting example of discourse configurationality, where factors other than core argument structure determine a clause's structure.

Chapter One

The Walmajarri and their language

1.1 Introduction

The Walmajarri¹ people of the Kimberley, Western Australia, speak a fascinating language with a very free word order. The one main exception to this is the auxiliary, a word with no English equivalent, which is normally found in a sentence's second position. The auxiliary serves as a host for pronominal clitics, while also contributing to the sentence's modality. There are two types of auxiliaries, but if you're giving a command in Walmajarri you can't use either! Despite their importance, there are many unanswered questions about these auxiliaries. Through studying a corpus of Walmajarri texts we will attempt to precisely identify the auxiliaries' meanings and roles, while also analysing Walmajarri's syntax and modality systems more fully.

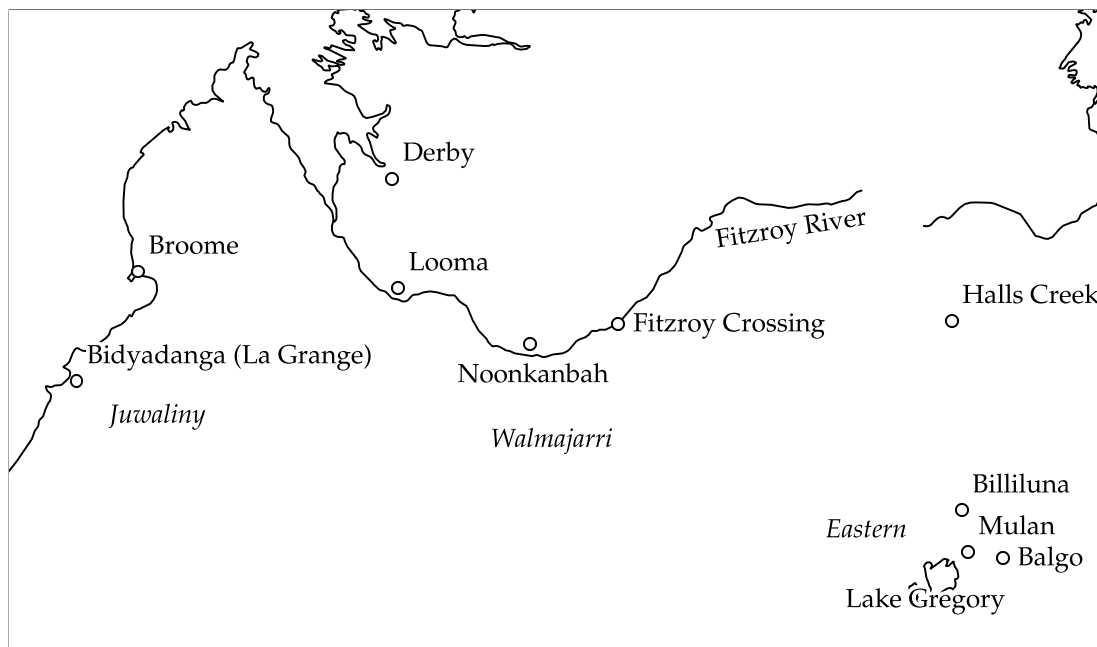
1.2 The Walmajarri

The Walmajarri's traditional lands are in the northern Great Sandy Desert. The people lived a nomadic lifestyle and travelled between scattered waterholes, dependent on them for water and food. When Europeans first colonised the Kimberley some of the northernmost Walmajarri migrated to the settlements for the hope of an easier lifestyle it offered, but those who lived further south in the desert were, for a while, unaffected. However by the end of the 1960s they had all left their lands and moved to settlements to the north, east or west (Richards et al., 2002).

¹Walmajarri has been the preferred spelling since at least 1990. Older publications use Walmatjari, or other spellings.

Walmajarri has three identifiable dialects, although further regional vocabulary differences exist as well. The places these dialects are spoken are shown by figure 1. The name Walmajarri usually refers to its middle dialect, whose speakers today mostly live in the Fitzroy River valley, with the largest concentration in Fitzroy Crossing (Hudson, 1978). The western dialect is called Juwaliny, whose speakers mostly migrated to Bidyadanga (formerly the La Grange mission), though according to Dixon (2010) there are now few full speakers. She suggests that Walmajarri and Juwaliny were originally the names of these dialects only, but that Walmajarri has since been taken and used as the name for the language as a whole. The eastern dialect has no traditional name, and is spoken in the area around Lake Gregory. Most of this study will refer to the middle dialect, however dialectal differences will be discussed in chapter 5.

Figure 1: Map of Walmajarri dialects and the places they're spoken



Most of the Walmajarri now live in the traditional lands of other peoples, including the Nyangumarta, Martu, Jaru, Nyikina and Bunuba (Bent et al., 2004). Walmajarri was for a while the area's prestige language, such that many people spoke it as a second language, but it is unknown if this is still the case (Hudson & Richards, 1976). It is hard to quantify how a language is used, but the recent *National Indigenous Languages Survey (NILS) Report* (AIATSIS, 2005) estimated that there were around 500 speakers. Joyce Hudson (p.c.) notes that although Walmajarri is taught in some schools, Kriol is the first language of most people and is the language used by children. But she also reports that some young adults have however learnt Walmajarri and choose to use it now. This is evidence that, while still far from ideal, there is some degree of intergenerational transmission.

In the past decade there have been several notable publications in Walmajarri including *Out of the Desert: Stories from the Walmajarri Exodus* (Richards et al., 2002) and *Two Sisters: Ngarta & Jukuna* (Bent et al., 2004). Both of these books consist of stories written by native Walmajarri speakers with English translations by the editors.

1.3 Significance of study

Despite being one of the most spoken Australian languages, and maintaining some intergenerational transmission, Walmajarri is still at risk of endangerment. The NILS Report proposed ten indicators for identifying endangered languages, the most important being Intergenerational Language Transmission (AIATSIS, 2005). But for one of the other indicators, Type and Quality of Documentation, Walmajarri does not perform so well. There is a good dictionary and a reasonable sketch grammar but other resources are fairly poor. There have also been few recent academic publications focused on the language. Having an active involvement by linguists is thought to be a positive factor in language maintenance efforts, but I am unaware of any linguists who have done fieldwork among the Walmajarri more recently than Hudson and Richards. Despite not being able to perform fieldwork myself, it is my hope that there will be an increase in academic interest in the language in the future.

The related language Warlpiri has by contrast been very well studied, perhaps in part because it was given by Hale (1983) as the prototypical nonconfigurational language. I believe that Walmajarri has much to contribute to theoretical linguistics both considered independently as an example of nonconfigurationality, and as another perspective on the Ngumpin-Yapa group.

1.4 The clitic system

Walmajarri has a very free word order, which is likely either due to or enabled by its clitic system, depending on your perspective. This clitic system is a typical and notable feature of the Ngumpin-Yapa language group, of which Walmajarri is a member (McConvell & Laughren, 2004). An auxiliary serves as a host to a number of pronominal clitics, agreement markers which cross-reference the verbal arguments allowing them to be spoken in any order without a change in meaning. But the auxiliary is more than just something to hang other stuff off, as it is a very important part of the language's modality system. This thesis is devoted to investigating that function of the auxiliary.

Walmajarri has two auxiliaries, *pa* and *nga*, which Hudson (1978) labels as Modal Roots 1 and 2 (MR1, MR2). There is a third situation which she labels Modal Root 3 (MR3), but this is an unfortunate term as the situation does not involve a modal

root; instead the clause's verb serves as the clitic host.² Example (1) shows each of the modal roots. In addition to the moods shown *pa* is used for the Intensive and Negative moods, *nga* for the Admonitive, Prohibitive and Inabilitative moods while cliticisation to the verb also occurs with the Hortatory mood.

(1) (Hudson, 1978: 78, 81)³

- a. *yan-i pa-lu*
go-PAST MR1-3plS
'They went.' (Indicative)
- b. *yan-i nga-lu*
go-PAST MR2-3plS
'Did they go?' (Interrogative)
- c. *yan-ta=lu*
go-IRR=3plS
'All of you go!' (Imperative)

The auxiliary is an important factor for determining a clause's modality, and sometimes the only distinguishing feature between moods, as is the case in (1a-b). Despite their importance no one has yet identified the precise meaning carried by either of these auxiliaries. The closest Hudson (1978) comes to that is stating that they indicate the mood of the clause in combination with other some other features. But we also can't say that *nga*, for example, simply indicates that the clause is an interrogative, because *nga* is also used for several other moods. Neither has any reason been given as to why the verb must be the clitic host in an Imperative clause rather than one of the other auxiliaries, or indeed a third auxiliary.

From the existing literature it seems as though these combinations are largely arbitrary, but that is not due to any previous exhaustive attempt to find a systematic analysis. The question of what meanings *pa* and *nga* carry is the starting point for this thesis, but in finding the answer a detailed investigation and reanalysis of the whole clitic system will be performed. Our aim is to critique and clarify what each element of Walmajarri syntax actually does, so that the conditions for each auxiliary's use (or non-use) in the mood system can be understood.

²From now on MR1, MR2 and MR3 will usually be used only in glosses. In the text *pa*, *nga* or the type of clitic host (such as verb or second position) will be used.

³All examples are notated following Schweiger (2007) who argues convincingly that splitting the clitics into distinct person and number morphemes as Hudson (1978) does is unhelpful. As the forms of the clitics themselves are not the focus of this study there is little reason not to follow his advice.

Clitics are differentiated from suffixes by the use of a =, except for when they are attached to an auxiliary where the normal - is used.

1.5 Overview

Chapter 2 will introduce in more details the elements of Walmajarri syntax which are relevant to the clitic and mood systems. In particular it will analyse the auxiliaries with the help of insights from several related languages. Walmajarri's tense-aspect-modality system will also be described.

Chapter 3 will present the results of an corpus analysis of Walmajarri texts. A comprehensive look at every instance of each mood in the corpus will allow us to critique the traditional descriptions made by Hudson (1978) and Richards & Hudson (1990). It will also show several unexpected clauses that are evidence of Walmajarri's other dialects.

In chapter 4 the tense-aspect-modality system will be reanalysed so that its descriptions better fit the evidence, before the identity of *nga* will finally be determined. A hierarchy of cliticisation will then be presented to explain Walmajarri's moods and clitic system.

Chapter 5 will consider the non-middle dialects of Walmajarri, in particular the eastern dialect, which has a substantially different clitic system.

Chapter 6 will conclude the study.

Chapter Two

The elements of syntax

2.1 Does Walmajarri even have syntax?

As was noted in the first chapter, Walmajarri has a very free word order, an important property of most nonconfigurational languages. But word order alone is not enough to classify a language as nonconfigurational, as many languages with a very free word order can be convincingly argued to have *scrambled* their clauses from an underlying configurational structure (Pensalfini, 2004). There are several other properties which have been suggested as being markers of nonconfigurationality, two of which were suggested by Hale (1983: 5): discontinuous phrases and a high occurrence of null anaphora. The following examples show evidence that Walmajarri has each property. (2) shows that not only are the subject and object free in their relative order, but the verb is free to move as well. (3) is an unusually complex sentence where both the subject and object phrases are broken apart by other elements, with case markers identifying which words are co-referenced. Null anaphora refers to the preference for nominal arguments not to be overtly realised, which is the case for Walmajarri as shown by (4). Overt nominal phrases are often used for clarity, but pronouns are rarely used other than for emphasis, as is the case in (4b).

(2) (Hudson & Richards, 1976: 89)

- a. *parri-ngu pa* *manga nyany-a*
boy-ERG MR1.3sgS.3sgO girl see-PAST
'The boy saw the girl.'

- b. *parri pa nyany-a manga-ngu*
 boy MR1.3sgS.3sgO see-PAST girl-ERG
 'The girl saw the boy.'

(3) (Hudson, 1978: 18)

kunyarr-warnti-rlu pa-lu-nya karnanganyja-warnti pajan-i
 dog-PL-ERG MR1-3plS-3plO emu-PL bite-PAST
malji-warnti purlka-warnti-rlu ngaju-kura-warnti-rlu
 male-PL big-PL-ERG I-POSS-PL-ERG
 'My big dogs bit [caught] the male emus.'

(4) (Hudson, 1978: 17)

- a. *jularn-i ma-rna-rla*
 tell-PAST MR1-1sgS-3sgDAT
 'I told him.'
- b. *jularn-i ma-rna-rla ngaju-ngu*
 tell-PAST MR1-1sgS-3sgDAT I-ERG
 'I told him.' (Emphasied)

If Walmajarri is indeed nonconfigurational, then is it meaningful to talk about its syntax? A language is nonconfigurational if its verbal argument structure does not determine its clausal structure, but this does not mean that languages cannot structure their clauses around other things. Hence Erteschik-Shir (2007: 85) says that Hungarian word order is "free in terms of the order of the arguments and the verb, [but] fixed with respect to focus structure." Languages whose clausal structure is determined by information structure factors (such as focus structure) are classified as *discourse configurational*. Hudson (1978: 18) states that there is evidence that Walmajarri is discourse configurational: "analysis of discourse structure, looking at such things as thematic organisation, reveals that in some positions of the clause, words are highlighted or brought into special focus." Unfortunately she goes no further and does not identify what is focused or for what reasons they are. In chapter 5 we will look at the evidence for classifying Walmajarri as discourse configurational.

2.2 Clauses

As Walmajarri does allow null anaphora there are often only two words in a clause: a verb and an auxiliary. These are present in nearly every clause and are marked for the important tense-aspect-mood system that makes up the bulk of what we can call syntax. Each clause can be categorised as having a specific mood, with each mood indicated by several distinct features. Table 1 shows the list moods as described by

Hudson (1978) and Richards & Hudson (1990). The rows correspond to the two types of auxiliary roots and the third construction, “MR3”, where the pronominal clitics attach to the clause’s verb. The columns show the “tense system” of each mood and whether or not a negative marker is present. There is one final situation: verbless or stative clauses which cannot be said to fit into either tense system. They are shown in the last column.

Table 1: The Walmajarri clitic system

	Realis tense system	Irrealis tense system <i>-ta</i>		Verbless	
	[-NEG]	[-NEG]	<i>ngajirta</i> [+NEG]		<i>kayan</i> [+NEG]
MR1 <i>pa</i>	Indicative	Intentive	Negative	Indicative	
MR2 <i>nga</i>	Interrogative	Admonitive	Prohibitive	Inabilative	Interrogative
MR3 verb=clitics	Hortatory	Imperative			

As the mood of a clause is determined by the combination of these features, it makes sense to perform a componential analysis of the system. By identifying the components of meaning present in each mood and in each contributing feature, the gaps can be determined through these combinations. The two main indicators are the choice of tense system and the auxiliary roots. The remainder of this chapter will look at these clausal elements in more detail.

2.3 On clitics

The modern study of clitics began with Zwicky 1977, who studied them from the perspective of distinguishing words from affixes. He listed a number of criteria by which words and affixes could be identified and distinguished, but there were still a number of elements which could not be positively identified using them. These, he explained, were clitics; neither word nor affix.

To Zwicky clitics were phonologically reduced forms of normal words, which were dependant phonologically on a neighbouring word. In most cases this phonological reduction meant that the clitics were unaccented and that they depended on and leaned on an accented neighbour. He introduced the term *simple clitic* for those clitics which occur in the same location as their full form would, and *special clitic* for those which have a different syntactic distribution. Some clausal elements still did not fit under any of these categories, for they weren’t reduced from full form free

words. Zwicky called those *bound words*.

Anderson 2005 represents several decades further work on the theory of clitics, by both the author and others. Although in many ways essentially correct, Zwicky's analysis falls short of being able to explain many diverse systems of clitics in existence. The basis of this study will be on Anderson's refined terminology.

Anderson observes that there are really two distinct types of clitic phenomena, although many clitics will exhibit both phenomena. Based on these phenomena he gives definitions for *phonological* and *morphosyntactic clitics* (Anderson, 2005: 23, 31):

Phonological clitic: A linguistic element whose phonological form is deficient in that it lacks prosodic structure at the level of the (Prosodic) Word.

Morphosyntactic clitic: a linguistic element whose position with respect to the other elements of the phrase or clause follows a distinct set of principles, separate from those of the independently motivated syntax of free elements in the language.

How do these correspond to Zwicky's clitics? Very broadly, Zwicky's simple clitics exhibit phonological cliticisation, while his special clitics exhibit both phonological and morphosyntactic cliticisation. Anderson's terminology also allows for the classification of some clitics which do not fit within Zwicky's system: morphosyntactic clitics which are not phonologically deficient.

What about Zwicky's bound words? Anderson argues that the existence of a full free form should not be very relevant in the classification of something as a clitic. Indeed, according to Zwicky's terminology the Ngumpin-Yapa languages might not have any clitics at all. He suggests that Zwicky might have come to his requirement that clitics be reduced forms of full free words because in non-doubling languages they are in a complementary distribution. Anderson even questions "whether there is ever a special relationship (beyond near-synonymy) between clitics and non-clitics" (Anderson, 2005: 31).

2.3.1 Pronominal clitics and nonconfigurationality

Pronominal clitics are an especially important type of clitic. While it is fairly trivial to account for some clitics via the movement of pronouns, many languages, including those of the Ngumpin-Yapa group, exhibit *clitic doubling* where both pronominal clitics and overt co-referenced nominals occur in the same clause (Anderson, 2005). In the many nonconfigurational languages which have pronominal clitics they are especially significant, as most attempts to explain the structures of those languages hinge on them.

Hale (1983) proposed that nonconfigurational languages such as Warlpiri are fundamentally different from configurational languages by modelling their syntaxes as

flat at the sentence level. Legate (2002) terms this the dual structure approach as there still is a lexical or argument structure, but that structure has no control over the resulting phrase structure. McConvell (1996), assuming this same type of flat sentence structure, accounts for pronominal clitics as resulting from the copying of agreement features from the argument nominals.

A major alternative explanation was proposed by Jelinek (1984) who said that free word order should instead be explained by analysing overt nominals as adjuncts and the pronominal clitics as the real arguments. Building on this approach Pensalfini (2004) proposes a new typology of configurationality to explain why some languages can have overt nominal arguments and others cannot. Using the generative framework of Distributed Morphology, he argues that some nonconfigurational languages are unable to encode lexical information in their argument structures, so that any lexical information which is to be encoded must then occupy a non-argument position (i.e. an adjunct).¹ Pronominal clitics, which convey strictly formal information, are then one strategy in which nonconfigurational languages of this type can fill their argument structures with non-lexical elements.

Legate (2002), in her dissertation on Warlpiri nonconfigurationality, critiques both of these major approaches as well as several variations on them, concluding that there is no simple explanation for nonconfigurationality, but that a language's configurationality depends on many different properties.

This present study does not actually concern Walmajarri's pronominal clitics themselves, but instead the auxiliaries and other elements to which they become attached, and so in regards to these models of pronominal clitics we will remain agnostic.

Walmajarri also has a number of other clitics, the most common being =*la* 'then', which is attached to the first word of a clause and indicates a subsequent action. Again these clitics are not of interest to this study, and have already been thoroughly documented by Richards & Hudson (1990).

2.4 The auxiliary

The auxiliary is a word which is usually found in second position. Hudson (1978) describes it as consisting of a modal root, which partially indicates the clause's mood, onto which up to seven suffixes may be attached. It is better though to describe these "suffixes" as pronominal clitics, as in the Hortatory and Imperative moods they are

¹In Distributed Morphology an *f-morpheme* is an element which conveys purely formal or grammaticalised features, and which *f-morpheme* will be selected for a particular context is deterministic. An *l-morpheme* conveys non-formal lexical (encyclopedic) information, and which *l-morpheme* will be selected is non-deterministic as there will be many options with the same formal features but with varying lexical content. Pronominal clitics are clearly *f-morphemes* (Harley & Noyer, 2000).

attached to the verb instead; the difference being not in the clitics themselves but in what is selected as their host.

How then should the auxiliary roots *pa* and *nga* be analysed? Neither Hudson (1978) nor Richards & Hudson (1990) give an independent meaning to these roots. However evidence from Walmajarri and the related languages where these auxiliaries are also used may be able to point us to the origin of these roots, if not also their current function.

2.4.1 *pa*

McConvell (1996) argues convincingly that the historical origin of the root *pa* is an epenthetic syllable inserted before clitics when its host ends with a consonant. This use of an epenthetic *-pa-* is still of common occurrence in Walmajarri, as these examples of other non-pronominal clitics show:

- (5) a. (Hudson, 1978: 89)

yangkarti=rni majurru-julany=parni pa-lu jularn-i
 that=EMPH matches-like=EMPH MR1-3plS tell-PAST
 'They said it was as good as matches.'

- b. (Hudson, 1978: 96)

para-yan-any=pala pa-rlipa mana-nga karnanganyja-kura-rla
 climb-go-CUST=then MR1-1plincS tree-LOC emu-POSS-LOC
 'Then we climb a tree near where the emu [will go.]'

McConvell asserts that the occurrence of the *pa* auxiliary is complementary to the epenthetic *-pa-*, but this is not the case as (5) shows. He states that this supposed complementary distribution is evidence that the auxiliary developed from the epenthetic syllable, however the process of development which he hypothesises does not depend on them being complementary, and so these examples do not form a challenge to it. His proposed order of development is as follows (McConvell, 1996: 306):

- a. epenthetic *pa* linking consonant-finals to 2P clitic group
- b. loss of consonant-final conditioning on *-pa* occurrence in 1P-2P
- c. separate word status for 2P *pa=* (Walmajarri situation)
- d. loss of 2P constraint for *pa=* (Mudburra situation)

There are numerous instances of the Walmajarri auxiliary being in a later position than second, and although it is very rare, there are some examples of the auxiliary being in first position, so it seems fair to argue that process d. has also occurred in Walmajarri.

- (6) a. (Richards et al., 2002: 94)

yini pa-rla Nimrti
 name MR1-3sgDAT Nimrti
 'His name is Nimrti.'

pa-ji kirrarn-an-i ngajukura jaja kajalu
 MR1-1sgDAT stay-REP-PAST my grandmother ahead
 'My grandmother's [brother] had been staying there a while before.'

- b. (Richards et al., 2002: 138)

nyirnkarra wantiny-an-i ma-rna-lu piyirn paja ngapa-nga
 stunned fall-REP-PAST MR1-1plexcS man many water-LOC
 'We were stunned and fell into the creek.'

McConvell (1996) argues that the Mudburra auxiliary *pa* occupies the head of IP, and as evidence provides examples of clauses with initial interrogative or negative elements (in C or COMP position) but where the pronominal clitics remain attached to the auxiliary. From (17) and (19a) we can see that Walmajarri behaves the same, so we will consider the auxiliary to be the head of IP.

If we accept McConvell's proposed process of development then his assertion that *pa* is a neutral unmarked clitic is logical. If *pa* originated as a syllable inserted to comply with phonological rules and then developed into an auxiliary by other phonological processes then we would not expect it to have intrinsic meaning. That *pa* is the unmarked clitic will be shown in §3.3.

2.4.2 *nga*

The other auxiliary *nga* is harder to identify. Related languages Jaru and Gurindji have auxiliaries *nga* and *ngu* respectively, and a third language Ngarinyman has a complementiser *ngu*, which led McConvell (1996) to conclude that a complementiser is the likely ancestor of Jaru and Gurindji's auxiliaries. But in contrast to Mudburra and Walmajarri if there is an initial interrogative or negative element in Gurindji then the pronominal clitics are attached to that element, rather than an auxiliary (McConvell, 1996). This is evidence that the auxiliary *ngu* itself occupies the C position.

Does the Walmajarri auxiliary *nga* exhibit the same behaviour? (7) shows that *nga* behaves as *pa* does, and continues to host the pronominal clitics. Despite the similar forms this is evidence that the Walmajarri *nga* has a different origin than the Jaru *nga* or Gurindji *ngu*.

(7) (Richards et al., 2002: 92)

ngajirta nga-n many-ja kujartu-karra
 NEG MR2-2sgS speak-IRR like.this-MAN
 'Don't talk like that!'

While this rules out such a complementiser as the origin of *nga*, Bilinearra, a related language, suggests another option. Bilinearra has a dubitative clitic *nga* which is positioned with the pronominal clitics (Nordlinger & Meakins, forthcoming). If such a morpheme is the origin of Walmajarri's *nga* then it might explain the situation shown in (8). Hudson (1978) states that when there are no overt pronominal clitics *nga* has the form *ngarta*, which is identical to the root plus the dubitative marker *-rta*. But we might just as well say that when there are no overt pronominal clitics the dubitative marker is required (perhaps for phonological reasons), as the dubitative meaning is not incompatible with the meaning of the whole clause.

(8) (Hudson, 1978: 59)

nganpayi ngarta-Ø kirrarn-an-a
 man MR2-3sgS sit-REP-PRES
 'Is the man sitting in the camp?'

We can hypothesise then that Walmajarri's original dubitative clitic was *ngarta*, which was then later reanalysed as two morphemes. The second morpheme retained the dubitative meaning, while the first became an obligatory element in certain moods. *nga* then underwent a similar process as *pa*, and attained the status of an independent phonological word. This proposed origin for *nga* does hint at its meaning, but we can't simply say that it marks dubitative modality, for then what would *-rta* mean? So in §3.4 we will look at the moods which have *nga* in an attempt to clarify its current meaning and function.

There is however one last curiosity: Hudson (1978) notes that the auxiliary *pa* has an allomorph *ngu* which is rarely spoken and only by older speakers. This allomorph could possibly have the same origin as Gurindji's *ngu*, but with no corpus examples and only two in the grammar, neither of which have an obvious C or COMP, we can only speculate.

2.5 The tense-aspect-modality system

Three of the most significant verbal categories are tense, aspect and modality or mood (TAM), which are used to specify the event or situation that a clause communicates. Tense specifies the temporal location of an event, relative to either the time of utterance or another specified event, while the closely related category of aspect specifies

the temporal structure of an event (Chung & Timberlake, 1985). Most languages have a binary basic tense distinction, which might be between past and non-past tenses, or future and non-future tenses. The primary aspectual distinction is between the perfective, which views events externally as bounded units, and the imperfective, which views events from within and as having an internal structure (Bhat, 1999).

Modality² is harder to conceptualise. Palmer (2001: 1) states that “modality is concerned with the status of the proposition that describes the event.” There are several ways in which a proposition can be characterised, including the speaker’s opinions and judgements, what kinds of evidence were used to form such opinions and whether an obligation has been made upon someone (Bhat, 1999). Chung & Timberlake (1985: 241) describe modality as specifying “the actuality of an event by comparing the event world(s) to a reference world,” such that an event can either be actual or else it will be marked for some reason as being non-actual, at least as far as the speaker’s perception of the reference world is concerned. Actuality is the main notion behind the realis and irrealis categories, however we must be careful when using any of these terms because in languages which mark this basic distinction inflectionally there is a huge diversity in what else is encoded with them.

Tense, aspect and modality are closely related, and often form a single verbal inflection system. However in some languages these categories are marked discontinuously, which is the case with Walmajarri. These categories are marked by four verbal inflectional suffixes, the auxiliary root and one more suffix on the auxiliary.

2.5.1 An auxiliary inflection

That first auxiliary suffix marks what Hudson labels the *dubitative aspect*, though really this isn’t a marker of aspect but instead modality. It indicates some level of doubt, lack of confidence or non-commitment on the part of the speaker, and is therefore a type of epistemic modality. It seems to play a similar role as the hedges “I think” and “I suppose” do in English (Palmer, 2001). As discussed before, *nga* and *-rta* were probably originally one morpheme, though since they split the dubitative marker can now also be used with *pa*, and therefore with all the moods except the Hortatory and Imperative. Because it can be used now equally with either auxiliary root it will not be considered to contribute to either of the roots nor any of the moods’ semantics.

²While most authors refer to the category as mood, we will follow Palmer’s (1986) lead and refer to it now as modality instead. Palmer prefers to use mood only for inflectional systems, which for Walmajarri would be what Hudson (1978) calls the tense systems. We instead will use mood as Hudson does: as a clause categorisation and labelling system; the Indicative, Intentionive, Admonitive etc. moods.

2.5.2 Verbal inflections

There is a much richer system of verbal inflections, as shown in Table 2. This table is adapted mostly from Hudson 1978, with the addition of the infinitive marker *-u* which she calls a nominaliser. Richards & Hudson (1990) analyse it instead as a marker of nonfiniteness. Infinitive verbs will generally not be studied closely in this study as they are never the main verb. Often they are used to derive nominals, or in the cases when they are marked as “past” there is always another main verb in the clause.

Table 2: Verbal inflections³

Aspect	Tense system	Tense	Aspect
(-an REP)		-i PAST	
		-i PAST	-ngurra COMP
-an REP		-a PRES	
(-an REP)		-any CUST	
(-an REP)		-ku FUT	
(-an REP)	-ta IRR	(-rla PAST)	
	-ta IRR	-rla PAST	-ngurra COMP
(-an REP)	-u INF	(-rla / -ngurla PAST)	

The first verbal suffix marks the repetitive aspect, which seems to indicate what Bhat (1999) calls iterative quantificational aspect. This means that an event has occurred several times, but not necessarily as a general habit. It is optional for all tenses except for the present where it is required. It is incompatible however with the fourth suffix, the completive aspect, which marks an event as being complete (Hudson, 1978). The incompatibility is likely caused by the completive aspect being used only for singular events. It co-occurs only with the past tense. Neither of these aspect markers are considered to contribute to Walmajarri’s moods. The completive aspect is also cognate with Jaru’s “past narrative” inflection (Tsunoda, 1981).

The second verbal suffix marks irrealis modality, while its absence marks realis modality. Hudson (1978) does not attempt to describe precisely what is meant by these terms but instead just lists which moods occur with which tense system. Tellingly, she notes that the terms are “grammatical category labels and do not always fit the semantics” (Hudson, 1978: 39). As the irrealis marker is a major component of the clitic system it is important that it be understood more fully. In §4.2.4 we will analyse it more precisely.

Hudson (1978) describes the many suffixes which can go in the third inflectional

³Brackets indicate optional suffixes. Most allomorphs not shown.

slot as various tenses. As four of them only occur with realis modality and different forms occur with irrealis and infinitive verbs she argues that there are two distinct tense systems: the realis tense system and the irrealis tense system. It is worth nothing that although the realis past and irrealis past have the same meaning, they have different surface forms. For some verb conjugation classes the past infinitive has the same form as the irrealis past, although its meaning is described differently. These tenses will be considered in more detail in §4.2.3.

2.5.3 Negation

Negation is a broad category, used by languages in many different ways. Most languages contrast it with affirmation, even though they may not distinctly mark affirmation, and as such it is a type of modality (Bhat, 1999). The normal Walmajarri marker of negation is *ngajirta*, which usually occurs in first position. It can however also be suffixed to a nominal or used as an interjection, as in (9), however the context will make it clear when this is the case (Hudson, 1978; Richards & Hudson, 1990). Another negative marker, *-mulu*, usually does not have a clausal scope, and does not form a part of the mood system.

(9) (Richards et al., 2002: 94)

jintanga ma-rna kitpung-an-i piyirn-ngajirta-jarti
 alone MR1-1sgS wander-REP-PAST man-NEG-having
 'I was wandering alone having no one else.'

There is a second clausal marker of negation, *kayan* (homophonous with the number for 'one'), which is only used with the Inabilative mood. Richards & Hudson (1990: 82) give it the particular meaning of "can't; unable to."

Chapter Three

A corpus study

3.1 Collecting the corpus

Unfortunately, (1) is typical of the examples given by Hudson (1978) and Richards & Hudson (1990) to illustrate Walmajarri's mood system. They appear to be artificial examples, with almost all of them using the verb for 'go'. While we have no reason to doubt that they have been accurately presented, the informal paradigm they present is focused on the major semantic contrasts between the moods. In addition, the descriptions of each mood are brief or nonexistent, and little information is given about the appropriate usage or role of these moods in conversation. While these descriptions and examples must be the basis on which any further analysis is performed, if we restrict ourselves to them we will find no clarity.

For these reasons a text corpus has been collected for deeper analysis. These texts, listed in table 3, are all narratives written by native Walmajarri speakers, with the exception of *The Meaning of Junpungu*, which is an explanation of a particular word. The texts below from Richards et al. 2002 were all previously published in Hudson & Richards 1976, however the later versions were preferred as they use more punctuation to split up clauses and appear to be more accurate.¹ All of these texts are from the middle dialect, but see §3.6 for evidence of interference from other dialects.

By studying texts rather than isolated examples we will be able to see how the moods are used in discourse. Clauses in isolation can be used to analyse semantics, but the pragmatics of a language's grammar can generally only be studied from the use of that language in some form of discourse.

¹Words quite frequently have a different spelling in Hudson & Richards 1976 than in the dictionary (Richards & Hudson, 1990). It is assumed that this is the result of inaccurate transcription.

Table 3: Corpus sources

Source	Title	Author	Clauses
Hudson & Richards 1976 5-6	Leaving the Desert	Peter Skipper	22
Hudson & Richards 1976 40-43	The story of Looma	Peter Skipper	70
Hudson 1978: 87-94	Hike to Geike Gorge	Tommy May	113
Hudson 1978: 94-95	The Spring at Bohemia	John Charles	27
Hudson 1978: 95-96	The Meaning of Junpungu	Pompy Siddon	15
Richards et al. 2002: 90-93	The talkative child	Peter Skipper	90
Richards et al. 2002 94-105	From desert to station	Peter Skipper	97 ²
Richards et al. 2002 138-139	The river	David Downs	57

Table 4: Corpus mood statistics

	Realis tense system		Irrealis tense system <i>-ta</i>		Verbless
	[–NEG]	[–NEG]	<i>ngajirta</i> [+NEG]	<i>kayan</i> [+NEG]	
MR1 <i>pa</i>	Indicative 347	Intentive 2	Negative 4		Indicative 25
MR2 <i>nga</i>	Interrogative 2	Admonitive 11	Prohibitive 3	Inabilative 3	Interrogative 4
MR3 verb=clitics	Hortatory 2	Imperative 5			
2P clitics	4				
No AUX	53	1			25

3.2 A Walmajarri dialogue

In total there were 491 clauses in the corpus. Table 4 shows how each mood was represented in the corpus, along with some other types of clauses. As these texts are narratives, it is unsurprising that the large majority of clauses are in the Indicative mood. In fact most of the instances of other moods which will be presented in this

²Only a third of this text was included in the corpus; the other two thirds being an extension of the older version in Hudson & Richards, 1976. The newer text is preferred for reasons of accuracy, but as it does not have word glosses, only those sections which were previously published (with word glosses) were included.

chapter are from reported direct speech. However, due to the nature of the stories, even those stories that have direct speech generally don't have extended dialogues.

The talkative child by Peter Skipper though has a few substantial dialogues, one of which is presented here now. Of those texts in the corpus (and including the many stories from Richards et al. 2002 which weren't studied) this text gets us the closest to what Walmajarri conversations are like. Although even a narrative with lots of reported direct speech is no substitute for recordings of actual conversations, we must work with what is available. This is a still great example because of the high density of moods other than the Indicative; less than half are standard Indicatives. A lot is revealed about these moods by seeing them in context and in how they are used in relation with each other.

This excerpt will be presented divided into turns of conversation, and then divided further into individual clauses.³ Each clause's mood is listed along with a fairly literal translation, while the editors' (Richards et al.) more free translation is given at the end of each turn.

(10) (Richards et al., 2002: 92-93)

- a. "Ya," *marn-i pa-ji yapa-ngu.*
yes speak-PAST MR1-1sgDAT child-ERG
"Yes," the child said to me. (Indicative)
- b. "Murla *pa-lu lan-u-juwal jularn-an-i.*
here MR1-3pIS pierce-INF-habitual tell-REP-PAST
"They say that [cattle] are always goring here. (Indicative)
- c. *Piyirn-tu pa-lu julal-any piyirn lan-u-juwal*
man-ERG MR1-3pIS tell-CUST man pierce-INF-habitual
purlumanu.
cattle
People keep saying that cattle are always goring people. (Indicative)
- d. *Wanyjarra=rlinya-lu lan-i ngalijarra,*
which=1dlincO-3pIS pierce-PAST we.dl.inc
Which ones gored us? (Anomaly)
- e. *purlumanu-rlu murlalu jularn-an-i lan-u-juwal.*
cattle-ERG this tell-REP-PAST pierce-INF-habitual
It was said that these cattle are always goring. (Auxiliary-less Indicative)
- f. *Ngajirta=la pa-rlinya-lu lan-an-ta-rla ngalijarra*
NEG=then MR1-1dlincO-3pIS spear-REP-IRR-PAST we.dl.inc
purlumanu-warnti-rlu."
cattle-PL-ERG
Those cattle didn't gore us." (Negative)

³Clauses will be numbered individually in this excerpt only. Elsewhere adjacent clauses will be numbered together.

The child said, "That's right, they were. How come people say that cattle are always goring people? They didn't gore us. Why do they say they are always goring people? Those cattle didn't gore us."

As with the other turns in this excerpt, the quotation is framed with a standard Indicative clause. Much of what the boy says is in the Indicative mood as well, which is unsurprising considering he says the same thing a few times in slightly different ways. One interesting thing to note from this example is how many different ways there are to mark repetition: the repetitive inflection suffix of course, but also the habitual derivational suffix and the customary tense as well.

However with (10d) we see something very strange: the pronominal clitics are attached to an initial nominal, in this case an interrogative word. Anomalies like this will be discussed further in §3.6.2 and then in chapter 5. Lastly there is a negative clause, with a verb showing three inflectional suffixes. The negative marker is clearly clausal as it is in first position and even has a clitic attached to it.

- (11) a. *Wali juturni pa-ji wangki*
 alright persistently MR1-1sgDAT word
marning-karra-kang-an-i yapa-ngu,
 speak(speak-MAN-take)-REP-PAST child-ERG
 The boy persisted in talking to me, (Indicative)
- b. *"Pirla-wurra nga-rta-lu lan-u-juwal purluman?*
 dead-CONS MR2-DUB-3pIS pierce-INF-habitual bullock
 "Do cattle really gore people to death? (Verbless Interrogative)
- c. *Lan-u-juwal pa-lu julal-any,*
 pierce-INF-habitual MR1-3pIS tell-CUST
 They say they're always goring, (Indicative)
- d. *ngajirta=la pa-rlinya-lu lan-ta-rla ngalijarra jalarra."*
 NEG=then MR1-1dincO-3pIS spear-IRR-PAST we.dl.inc now
 but they didn't gore us just now." (Negative)

The boy talked on persistently: "Do cattle really gore people to death? They say they always gore people, but they didn't gore us just now."

The boy continues, and again the quote is introduced by an Indicative clause. He asks a question with a nominal derived from an infinitive verb rather than a tensed verb, which we'll later see is quite common. In addition to using *nga* he also adds the dubitative marker; you can tell he's really sceptical about the stories he's been told! Once again we have a negative clause at the end, which is very similar to (10f). There is no repetitive aspect marker though as *jalarra* restricts it to a single occurrence.

- (12) a. *Jangkuman-i ma-rna-nyanta yapa-nga,*
 answer-PAST MR1-1sgS-ACC child-ACC
 I answered the boy, (Indicative)

- b. *"Ngajirta nga-n many-ja kujartu-karra.*
 NEG MR2-2sgS speak-IRR like.this-MAN
 "Don't talk like that! (Prohibitive)
- c. *Pina-karri-Ø nga-rta-lu purluman-tu,*
 hear(ear-stand)-IRR MR2-DUB-3plS cattle-ERG
 The cattle might hear [us], (Admonitive)
- d. *yangkala nga-rlinya-l pirrilka-jawu-rlu lan-ta pirla-wurra."*
 so.that MR2-1dlinco-3plS horns-ALL-ERG pierce-IRR dead-CONS
 and then they'll gore us to death." (Admonitive)

I growled at the boy, "Don't talk like that! The cattle might hear you, then they'll come and gore us to death."

This set of clauses contains two more of the *nga* moods: the Admonitive and Prohibitive. The verbs in these moods are all in the irrealis non-past tense. It's quite clear that the Prohibitive is not simply a negative Admonitive, and yet both moods are used to dissuade the hearer from a certain course of action.

- (13) a. *Jangkuman-i pa-ji-rla, "Ngajirta.*
 answer-PAST MR1-1sgDAT-DAT NEG
 He replied to me, "No. (Indicative)
- b. *Ngalijarra-rlu nga-rlinya luwa-Ø mukurra-jawu-rlu*
 we.inc.du-ERG MR2-1dlinco hit-IRR hitting.stick-ALL-ERG
pirla-wurra!"
 dead-CONS
 We would throw a hunting stick at them and kill them!" (Admonitive)

"No," the boy said. "If they try to attach us we could throw a hunting stick at them and kill them."

This Admonitive, although it has the same clausal elements, doesn't appear to have the same meaning as the previous Admonitives. If there was an implicit "You shouldn't think of them that way" then it might make sense as an admonition, however we must be wary of introducing interpretations like that just to fit a label.

- (14) a. *Marn-i ma-rna-rla,*
 speak-PAST MR1-1sgS-3sgDAT
 I said to him, (Indicative)
- b. *"Nyuntu-ngu=kuj nga-nu-nya luwarn-an-ta kayan-tu*
 you-ERG=go.ahead MR2-2sgS-3plO hit-REP-IRR one-ERG
nyuntu-ngu,
 you-ERG
 "Go ahead, you hit them, (Admonitive)
- c. *ngajirta ngaju-ngu.*
 NEG me-ERG
 not me. (Negative short clause)

- d. *Ngaju nga-ja karrpi-Ø limpa-ngu.*
 me MR2-1sgO tie.up-IRR police-ERG
 The police will tie me up. (Admonitive)
- e. *Ngaju ma-rna karrarta-juwal."*
 me MR1-1sgS fearful-habitual
 I'm scared [of that]." (Verbless Indicative)

"Okay," I said to the boy. "You can throw a stick at them. Not me. I'm afraid the police will find out and come and tie me up."

(14c) is a negative short clause, which we can tell is distinct from the surrounding clauses because of the ergative marker. As it is such a short clause it has little to contribute to our investigation of the mood system. (14e) however is a verbless Indicative, a nominal predicate.

Again there are two Admonitives, though with seemingly different meanings again.

3.3 The *pa* moods

In this corpus *pa* clauses represent 77% of the whole, while the Indicative mood alone amounts to 70% of all clauses. As *pa* is often left out if all the pronominal clitics are null (if the subject and object are both third person singular) the proportion of *pa* clauses is probably even higher as many of those counted as "no auxiliary" would belong to this situation. The Indicative is the dominant type of sentence in narratives and most non-Indicative clauses in this corpus are from direct speech.

3.3.1 Indicative

The only description of the Indicative is that it is used to make statements (Richards & Hudson, 1990). Palmer (2001) says that while there are substantial differences between the notions of *subjunctive* and *irrealis*, *indicative* and *realis* are essentially synonymous, so we can take Indicative as a label for regular *realis* clauses unmarked by *nga* or verb cliticisation. Hudson (1978) states that all of the *realis* tense system tenses occur with the Indicative mood, and this is shown in the data. Numerous Indicative clauses have been given as examples throughout this study so there is no need to give any more here.

3.3.2 Intentive

The Intentive is used when an expected or intended action was not performed and probably won't be (Hudson, 1978). Both *irrealis* tense system tenses are supposed to occur, but the corpus shows only the past tense, with two almost identical clauses

from the one text. With such a limited definition it is possible that, just as the Indicative is a label for regular realis clauses, the Intensive is a marker for regular irrealis clauses. This possibility will be explored further in §4.4.

(15) (Richards et al., 2002: 138)⁴

- a. *minyarti pa-lu-nyanu jamurn paja-Ø-rla*
 this MR1-3plS-REFL almost cut-(IRR)-PAST
 'The others were about to cut themselves.'
- b. *jamurn pa-lu-nyanu pajarr-a-rla*
 almost MR1-3plS-REFL cut-IRR-PAST
 'The others were ready to cut themselves.'

3.3.3 Negative

The Negative mood is used to make statements. There were seven Negative clauses in the corpus, including (10f) and (11d) from above. In most of these instances the negative word is in first position, but (16) is a notable exception. Additionally, in (18a) one of the negative markers is attached to an initial coverb. There are two verbless negatives, and of the ones with verbs, although the past and non-past tenses are supposed to occur, only the past tense does. (16) shows an auxiliary-less Negative, but as the subject is third person singular that is not actually notable.

According to Hudson (1978) the Negative mood is semantically the negation of the Indicative rather than the Intensive, which might explain Richards & Hudson's (1990) statement that the eastern dialect uses the realis tense system instead.

(16) (Hudson & Richards, 1976: 41)

- ngapa ngajirta nya-ka-rla marnin-tu*
 water NEG see-IRR-PAST woman-ERG
 'The woman didn't see the rain.'

(17) (Hudson, 1978: 89)

- ngajirta ma-rnalu majurra kang-ka-rla*
 NEG MR1-1plincS matches carry-IRR-PAST
 'We didn't take matches.'

(18) (Richards et al., 2002: 138)

- a. *jawu=ngajirta ma-rna ngaju*
 swim=NEG MR1-1sgS me
 'I can't swim.' (Verbless negative)

⁴It is unknown why (15a) has a shortened root. Hudson & Richards (1976) gloss both verbs as 'cut'.

ngaju ma-rna pujman
 me MR1-1sgS desert.man
 'I'm a desert man.' (Verbless indicative)

ngajirta ma-rna-rla pinarri martuwarra-wu
 NEG MR1-1sgS-3sgDAT knowledge river-DAT
 'I don't know about the river.' (Verbless negative)

b. *ngajirta pa-ja ngany-ja-rla ngapa-ngu*
 NEG MR1-1sgO eat-IRR-PAST water-ERG
 'The water didn't swallow me.'

3.4 The *nga* moods

In the whole corpus about 4.7% of clauses have the *nga* auxiliary. There are four moods that use *nga*, along with verbless Interrogatives (Hudson, 1978).

3.4.1 Interrogative

The Interrogative mood is one of four ways of asking questions in Walmajarri, the others being the use of an interrogative word, a tag-like particle and rising inflection, though that is dispreferred and probably only occurs because of the influence of English and Kriol. However not all types of questions are asked in Walmajarri. There is no word equivalent to the English word *why* and you cannot ask someone to choose between alternatives (as in "Do you want tea or coffee?")

Hudson & Richards (1976) warn that negative questions should be avoided as Walmajarri speakers will answer them differently than native English speakers would expect. However as no examples were found, it is unclear as to whether their warnings apply to asking questions in English only. If it is possible to ask negative questions in Walmajarri it might be that the Interrogative mood cannot be used due to it requiring the realis system while negative clauses need the irrealis system.

Richards & Hudson (1990) simply state that the Interrogative is used to ask questions, without detailing in which situations it is used. In addition to (11b) the following examples were found in the corpus. All were from that same source, and all were found in direct speech. From these examples it can be seen that the Interrogative is used to only ask polar questions. This is especially clear considering that several of the Interrogative clauses are asked alongside other questions asked with *pa* and an interrogative word. These additional clauses are included below. It's worth noting too that one of the corpus' anomalies is a question: (10d).

The Interrogative is supposed to occur with all four realis tenses, but the two instances with verbs both have the past tense. Though without verbs frequently have

nominals derived from infinitive verbs. Other tenses are however used for questions asked with an interrogative word.

(19) (Richards et al., 2002: 90)

- a. *lan-u-juwal nga-rta-lu nyanartu-warnti purluman-warnti*
 pierce-INF-habitual MR2-DUB-3pIS that-PL cattle-PL
 'Do those cattle always gore people?'

ngana-jawu-rlu pa-rlinya-lu lan-ku
 what-COM-ERG MR1-1dincO-3pIS pierce-FUT
 'What will they gore us with?'

- b. *mapun nga-rta-lu lan-u-juwal purluman*
 true MR2-DUB-3pIS pierce-INF-habitual cattle
 'Does the bullock really gore people?'

- c. *yangka-rtu-warnti purluman-warnti nyany-a nga-nu-nya*
 that-ERG-PL cattle-PL see-PAST MR2-2sgS-3pIO
 'Did you see those cattle?'

(20) (Richards et al., 2002: 92)

- a. *wanyjurla pa-lu purlumanu-warnti laparn-i*
 where MR1-3pIS bullock-PL run-PAST
 'Where did the cattle run?'

yarr nga-rta-lu karla laparn-i
 just MR2-DUB-3pIS west run-PAST
 'Did they go west?'

- b. *mapun ngarta karrpirn-u-juwal limpa*
 true MR2.3sgS tie.up-INF-habitual police
 'Do the police really tie people up?'

jularn-an-a pa-lu
 tell-REP-PRES MR1-3pIS
 'They are saying that.'

wanyjurla ngun-iny nyanartu limpa
 where exist-CUST that police
 'Where do the police exist [live]?'

3.4.2 Admonitive

The Admonitive mood is well represented in the corpus, with eleven instances, including (12c, d), (13b) and (14b, d) from above. Again, most of these examples are from direct speech.

Two examples that weren't from direct speech are given in (21). Both of these appear to have the basic meaning that Hudson (1978) gives the Admonitive mood, simply that of "might." However notice that both clauses have the *ngarta* auxiliary. If *ngarta* is reanalysed as *nga-rta* (*nga* with a compulsory dubitative marker, as was suggested in §2.4.2), then that marker will be responsible for a significance portion of these clauses' semantics.

(21) (Hudson, 1978: 95)

- a. *yangka ngurrpa-ngu=wurti ngarta piyirn-tu nya-ka ngapa*
 that ignorant-ERG=also MR2.3sgS man-ERG see-IRR water
kurrk-antiny-u-jangka
 dry.up-fall-INF-from
 'Someone who doesn't know [about soaks] might look for water there.'
- b. *ngurrpa-ngu ngarta nya-ka*
 ignorant-ERG MR2.3sgS see-IRR
 'Someone who doesn't know might look.'

The mood's use for giving warnings and admonitions seems to have developed from that basic meaning. Merely stating that something might be the case is rarely conducive for good conversation, so it makes sense that the mood would most commonly be used when it is helpful to do that, such as when giving a warning or admonition. In other words, relevance is assigned to an Admonitive clause through the situational context. Furthermore this seems to be an instance of what Lichtenberk (1995) terms *apprehensional epistemics*. This type of modality is used for situations which the speaker is not only not certain of, but also apprehensive of. A clause which expresses an apprehension-causing situation is often linked to an adjacent clause, which expresses a precautionary situation, which is to be brought about in order to avoid that first situation. Our corpus appears to display this type of modality twice, in (12b-d) and (22), where commands are issued in order to avoid unwanted consequences, which are expressed by the Admonitive mood.

(22) (Richards et al., 2002: 90)

yarr yan-ku=rli kulkuru
 just go-FUT=1dlincS quiet
 'We must move along without speaking,' (Hortatory)

lan-ta nga-rlinya-lu purluman-tu
 pierce-IRR MR2-1dlincO-3pIS cattle-ERG
 'Otherwise the cattle might attack and gore us.' (Admonitive)

Walmajarri has a *projected* or *preventative reason* case, marked by *-rlamarra* and *-karrarla*, which seems to indicate a similar sort of apprehension. While in most cases it has scope over just the nominal, in others it appears to have clausal scope, as (23) shows. It could probably be argued that these examples have two clauses, in a similar precaution and apprehension arrangement. These case markers are frequently used with infinitive verbs, and Hudson (1978) suggests that there is even one example, (23b), where the marker is used on a tensed irrealis verb. If the Admonitive mood and the project reason can convey the same type of modality it should be noted that they are not fully equivalent: the Admonitive is still used only for potential situations, whereas the projected reason case can be used for realised fears.

(23) (Hudson, 1978: 31)⁵

- a. *wali pa-lu nyanart-warnti kirrarn-an-a nyang-u-karrarla*
 alright MR1-3plS that-PL sit-REP-PRES see-INF-PR
ngayi-ngamarra
 stranger-PR
 'Well they are sitting there [out of sight] lest they should be seen by the strangers.'
- b. *kunyunurla ma-rna-rla rayin karriny-an-i*
 maybe MR1-1sgS-3sgDAT fear stand-REP-PAST
pir-la-ngamarra=jaa piyirn-tamarra pung-ka-marra
 spirit-RP=and man-PR hit-IRR-PR
 'Maybe I was afraid in case a spirit [should harm me] and in case a man should kill me.'

Walmajarri can express apprehension with a mood and a nominal case marker. Similarly Bilinearra has an apprehension complementiser, *ngaja*, which is also used in a precaution/apprehension construction, while Jaru has an adverb which usually indicates apprehension, *ngara*. Neither Nordlinger & Meakins (Forthcoming) nor Tsunoda (1981) give any suggestions as to their origins, but their existence shows that this type of modality is widespread in the Ngumpin-Yapa languages. But as each language expresses it differently, it does not seem to be something they have inherited from a common ancestor. It is possible that instead this modality, and especially the precaution/apprehension construction, is an areal feature, which these languages have grammaticalised in different ways.

Hudson (1978) says that the Admonitive is frequently used with a second person subject, but in this corpus that only occurs once: (14b). And although both irrealis tenses are supposed to occur, the corpus only has instances of the non-past. Hudson (1978) states that one of her informants said that a past Admonitive with a first person

⁵*-rlamarra* is present in these examples, but in several allomorphic forms. *-karrarla*'s form never changes

subject has the meaning of a question, but there is no corpus evidence for this. The follow examples show the remaining Admonitives from the corpus.

(24) (Richards et al., 2002: 90)

- a. *pirrilka-jawu-rlu nga-rlinya-lu lan-ta pirla-wurra*
 horns-ALL-ERG MR2-1dlincO-3pIS pierce-IRR dead-CONS
paja-ngu
 many-ERG
 'A whole herd of them could gore us with their horns and kill us.'
- b. *pina-karri-Ø nga-rlinya-lu wangki marn-u-jangka*
 hear(ear-stand)-IRR MR2-1dlincO-3pIS word speak-INF-from
purluman-tu
 cattle-ERG
 'The cattle would hear us talking.'

(25) (Richards et al., 2002: 96)

- jinaman-ta nga-rnapanya mutika-rlu mil-jarra-rlu*
 track-IRR MR2-1plexcO car-ERG eye-MAN-ERG
 'The car might track us with its "eyes" [headlights].'

3.4.3 Prohibitive

Syntactically the Prohibitive mood is the Admonitive plus the negative marker *ngajirta*, but it is used very differently. As it is used to give negative commands Hudson (1978) calls it instead the semantic negation of the Imperative mood. §3.5 will go into more detail about the modality of directives and why the Prohibitive uses *nga*.

The few corpus examples of the Prohibitive are all direct speech from *The talkative child*, one of which was in the long excerpt above: (12b). Once again the negative marker *ngajirta* occurs only in first position. The meaning with past tense is uncertain, and all the examples occur in the irrealis non-past tense (Hudson, 1978).

In the eastern dialect negative commands instead use the future tense and verb cliticisation, and so the eastern Prohibitive is essentially the negation of the Hortatory instead.

(26) (Richards et al., 2002: 90-92)

- a. *ngajirta nga-rli wangki marnungkarrang-an-ta*
 NEG MR2-1dlincS word must.speak-REP-IRR
 'We must not speak a word.'
- b. *wali ngajirta nga-rli luwa-Ø*
 alright NEG MR2-1dlincS hit-IRR
 'Alright, we'd better not kill [any cattle].'

3.4.4 Inabilitative

The Inabilitative mood is a strange one, as the word *kayan* indicates negation in this mood only, or more strictly inability or incapacity. Both irrealis tenses are supposed to occur, although the corpus only shows the non-past. But see §3.6.1 for one corpus instance of *kayan* being used with *pa* and a realis verb. The Inabilitative is not distinguished in the eastern dialect (Richards & Hudson, 1990).

Hudson and Richards (1978; 1990) do not propose an etymology for *kayan*, and the word is not known to be shared with any neighbouring languages. It does however seem to correspond with the Jaru *gula* (Tsunoda, 1981), i.e. *kula*, the distinctive negative particle of the Ngumpin-Yapa group, which in several languages has now taken on a more specific role (McConvell & Laughren, 2004). In Walmajarri *kula* has taken the meaning of “it seemed; contrary to fact” (Richards & Hudson, 1990: 94).

(27) (Hudson, 1978: 94-95)

- a. *kayan ngarta kurrk-anti-Ø jila*
 NEG MR2.3sgS dry.up-fall-IRR spring
 ‘The spring doesn’t dry up.’
- b. *kujawu-rlurra ngapa kayan ngarta puju-jarri-Ø*
 like.this-ALL water NEG MR2.3sgS finish-INCHO-IRR
 ‘That water never dries up.’

3.5 The directive moods

Walmajarri’s last two moods are very similar: they are both used to give directives, and both use verb cliticisation rather than an auxiliary. That imperatives behave differently in regards to cliticisation is widespread, both in the Ngumpin-Yapa group and even others like the Romance languages (McConvell, 1996). This is likely due to imperative verbs being inherently more focused than regular verbs (Mushin, 2006).

We must be careful to distinguish the verbs used in these moods from phonologically null auxiliaries. *pa* is not phonologically realised if its first clitic begins with a *p*, but this does not result in the clitics being attached to verb or the previous word.

(28) (Hudson & Richards, 1976: 40)

- ngarlka Ø-pila warntarn-i*
 nut MR1-3dIS get-PAST
 ‘The two took nuts.’

3.5.1 The semantics of directives

These two moods are both used to express directives, a type of deontic modality. Two of the most common types of directive modality are imperatives and jussives (hor-

tatives), though Palmer (2001) notes that as many restrict the imperative to second person subjects and jussives to non-second person subjects the two terms often have identical semantics and all that divides is terminology. Many languages do however distinguish different types of directives on the basis of other semantic factors, such as whether the speaker makes efforts at politeness, is giving permission, or is committing themselves to the directive too (Palmer, 2001). Rather than any of these however, Walmajarri's Imperative and Hortatory moods are to be distinguished based on how their verbs are inflected. It is worth noting that although the verbs of these moods can be in first position, in all of the corpus examples they aren't. This provides a strong contrast with those from §3.6.2.

Several other Ngumpin-Yapa languages have been described as having distinct hortative or imperative inflections, which is not the case with Walmajarri. But it should be questioned whether the other languages actually do have such markers, as their inflection systems are very similar to Walmajarri's. In Bilinarra, for example, the past irrealis is described as the combination of the hortative form with the dubitative marker, while Jaru's hortative can be used in subordinate clauses and in another Jaru dialect if the imperative is combined with a conditional marker then it has an irrealis meaning (Nordlinger & Meakins, *Forthcoming*; Tsunoda, 1981). In all three languages there is a morpheme with the form *-ta* which is used for commands and while it could be the case that these inflections are in the process of changing from one role and meaning to another, it might also be that inflections with a primary meaning of regular irrealis modality have been labelled because of their role in imperative and hortative sentences. Whatever is the case, with Walmajarri we can be sure of Hudson's (1978) labelling of the irrealis marker, because it is so regularly used in moods such as the Intensive and Admonitive.

It is very common cross-linguistically for languages to express positive and negative directives with different syntaxes. While there do not seem to be clear reasons why this is the case, explanations are found for individual languages. For example, in Bilinarra both imperative verbs and negative markers attract pronominal clitics, but when they both occur for a negative directive, the clitics will only attach to the verb. Nordlinger & Meakins (*Forthcoming*) argue that this is because imperative verbs outrank negative markers in Bilinarra's hierarchy of clitic hosts. But such an explanation can not be easily transferred to explain the Walmajarri Prohibitive. Even if imperative verbs outranked auxiliaries (explaining why the Imperative and Hortatory moods are as they are) it doesn't explain why that ranking reverses if the clause has a negative marker. Nor is there a distinct marker of prohibitiveness, as there is in several of the languages surveyed by Palmer (2001).

Palmer (2001) suggests a few things which might be significant for negative directives. Firstly when negation is involved there is the issue of scope: is "Don't think

that!” a command to doubt, or to think the opposite? The former would be represented logically by Not(think(that)) whereas the latter by Think(not(that)). If the Prohibitive had consistently the same negation scope then this could be an explanation for its syntax, but it isn’t clear what scope the negation has in each example.

A second possibility is the distinct between *strong* and *polite* commands, which are often correlated with imperatives and jussives. However based on (12b) and (26a) the Prohibitive can be used to negate both. As neither of these suggestions from Palmer (2001) offer much, the reasons for Walmajarri’s Prohibitive must at this stage remain unknown. In §4.4 we’ll look at the Prohibitive as part of a reanalysed clitic system.

3.5.2 Hortatory

The Hortatory mood is used to give exhortations. There is no unique hortative marker; instead the future tense is used (while Richards & Hudson (1990) do downgrade Hudson’s (1978) “only tense” and say that it is instead just the normal tense, there is no data for Hortatory clauses using anything other than the future tense.)

There were was only one Hortatory clause in the corpus, and it’s already been given before, in (22). As with most moods, it was from direct speech. In both Jaru and Bilinarra the Hortative indicates permission, and is used with third person subjects (Nordlinger & Meakins, Forthcoming; Tsunoda, 1981). Walmajarri contrasts strongly with these, as the Hortatory is used usually with first person inclusive subjects, which suggests that it might convey commissive modality. In §4.4 we’ll look at the Hortatory as part of the reanalysed clitic system.

3.5.3 Imperative

The Imperative mood is used for giving commands, usually to a second person subject. The verb must be marked as irrealis, but only the non-past tense can be used. Hudson (1978) says that the subject clitic is deleted leaving only the number morpheme. Nordlinger & Meakins (Forthcoming) however argue instead that the Imperative always uses the third person clitic forms, which makes good sense of (30) as the third person dative clitic is not the same as the second person dative minus a subject morpheme. This person replacement could be a method of giving indirect directives, which might be considered more polite. Hudson & Richards (1976) also record that the future tense is used to give polite commands, but distinct from the Hortatory as *pa* is still used.

The corpus has four instances of the Imperative mood, although one is repeated twice. All are from direct speech.

(29) (Hudson & Richards, 1976: 40)

nayili nya-ka-nyaka=ji-pila marajinya-liny-ku-jarra
 north see-IRR-REDUP=1sgO-3dIS thunderstorm-first-DAT-DL
 'You two watch out for me in the north!'

nayili nya-ka-nyaka=ji-pila pimarla-wurra
 north see-IRR-REDUP=1sgO-3dIS lightning-CONS
marajinya-liny-ku-jarra
 thunderstorm-first-DAT-DL
 'You two watch out for me in the north where the lightning flashes!' (Repeated twice)

(30) (Hudson, 1978: 88)

ngurti-wu juru-man-ta=rla
 vessel-DAT wait-do-IRR=3sgDAT
 'Wait for the car!'

3.6 Other clauses

We've now covered all the clauses which we were expecting to see, based on the model described by Hudson and Richards (1978; 1990). But there are several more clauses which don't fit into their model of Walmajarri syntax, and through them we can gain even more insights into how the system works.

3.6.1 An abnormal Inabilative

The Inabilative is supposed to only occur with both *nga* and the irrealis tense system, but there was one corpus example where it occurred with *pa* and the realis past tense instead. This might indicate that the only distinction of the Inabilative is *kayan*, such that it is compatible with both auxiliaries and both modality systems.

(31) (Richards et al., 2002: 94)

tumaj ma-rna kayan kurrarn-an-i piyirn-ngajirta-jarti
 because MR1-1sgS NEG stay-REP-PAST man-NEG-having
 'Because I couldn't stay without other people.'

3.6.2 Second position clitics

We saw the first example of anomalous second position clitics in (10d), where they were attached to an initial nominal instead of an auxiliary. Another corpus text, *The river*, had another instance of clitics attached to a nominal, while it also had two

clauses where although the clitics are attached to a verb, it is clear that the clauses were not directives.

Joyce Hudson (p. c.) asserts that these clauses are nonstandard in the middle dialect, but that they occur in the eastern dialect. David Downs, author of *The river*, was born near Lake Gregory so it seems safe to assume that his original dialect was the eastern one. But the author of *The talkative child* is Peter Skipper, who describes himself as a speaker of Juwaliny. If second position cliticisation also occurred in Juwaliny that would be most surprising, but Hudson & McConvell (1984) (cited in Dixon 2010) explain that Peter Skipper used the term to refer to all non-middle dialects. Although Peter Skipper wasn't born near in the east, we will assume that he at some time picked up aspects of the eastern dialect.

As these texts as a whole are still clearly in the middle dialect, these anomalous second position clitics should be thought of as artifacts of another dialect that were probably unintendedly produced by the authors in their attempts to speak the middle dialect. We will revisit them in chapter 5.

(32) (Richards et al., 2002: 138)

- a. *marn-i=lu-nyanu*
 speak-PAST=3plS-REFL
 'They spoke to one another.'
- b. *marla-man-i=nyanangu-rla*
 help(hand-do)-PAST=3plDAT-DAT
 'He helped them.'
- c. *kuyi-jarti=la-rna* *witi-jarti* *yan-an-i*
 meat-COM=then-1sgS stick-COM go-REP-PAST
 'Then, I'd been going with the meat on a stick.'

Chapter Four

A new model of Walmajarri syntax

4.1 Introduction

Now that we have comprehensively catalogued and discussed Walmajarri's mood system, we are in a position to reshape it so that it no longer appears as arbitrary. Firstly we will critique the TAM system which unfortunately has been substantially misclassified in the past, and after studying the *nga* moods we are also able to now identify what that auxiliary means. With those descriptive changes in place a new hierarchy of cliticisation will be proposed, such that the particular syntaxes of each mood will correspond more obviously with the semantics each mood conveys.

4.2 Critiquing the tense-aspect-modality system

Tense, aspect and modality as categories were introduced in §2.5, as were the elements of Walmajarri grammar that express them. The categories were at that time presented basically as equals, however there is good evidence to suggest that languages generally do not treat them equivalently. In this section we will critique the descriptions of Walmajarri's TAM system with the aim to most accurately classify each element. The traditional names and abbreviations for each element will be retained, even if our classification of them changes.

4.2.1 The prominence of verbal categories

Bhat (1999) introduced the notion of prominence with these verbal categories, where in an idealised typology a language would have one prominent category and would

express the other categories in terms of that first category. The notion of future for example in a tense-prominent language will be either an independent tense or else perhaps expressed by a non-past tense, while in a modality-prominent language it will be expressed as a subset of irrealis.

Bhat (1999) claims that there is a pervasive bias in descriptive grammars in that they often do not correctly recognise which category is the most prominent. Even when they do, there are difficulties when one language is used to describe another language if they have different prominent categories. English, a tense-prominent language, requires tense to be marked, and it may be impossible to avoid tense from contaminating descriptions and translations of aspect- or modality-prominent languages. We've even seen that in this study, for example when it was said that modality is concerned with "whether an obligation has been made upon someone". In a modality-prominent language such an obligation may be entirely free of tense, but in English we must still mark tense, whether it "was made," "is made" or "will be made."

This seems to be the case with Walmajarri. Despite being described as if it were a tense-prominent language, there is considerable evidence that points to it instead being an aspect-prominent language. We've already seen one example of a mislabelled marker, when the dubitative was called an aspect rather than a marker of modality. But based on the descriptions Hudson (1978) gives for the tenses there is good reason to think that Walmajarri does not primarily mark tense at all.

4.2.2 Criteria for prominence

Bhat (1999: 95) suggests four criteria for identifying the most prominent category: the degree of grammaticalisation, obligatoriness, systematicity and pervasiveness.

Grammaticalisation refers to semantic concepts which have become grammatically significant to a language. Many linguistic frameworks make some sort of distinction between lexical and formal items; it is the formal items that are grammaticalised. Bhat (1999) likes to use the terms *contentives* and *function words*. The TAM categories are concepts that have a very high rate of grammaticalisation, and are frequently expressed in the verb phrase as inflections or using auxiliaries. He is though open to the possibility that a language might have most strongly grammaticalised another type of verbal semantics altogether. An example would be Jingulu, which obligatorily expresses the direction of motion (Pensalfini, 2004).

A highly grammaticalised category is usually also obligatory. In many frameworks this is because such a category forms the head of a phrase. In a tense-prominent language clauses might be analysed as tense phrases, and so tense must be expressed in every clause as it is the head of each clause. Closely related is the criteria of systematicity. Obligatory categories often have a finite set of markers, and

grammars often like to organise their descriptions of these in paradigms. It is important though to recognise that a category may also sometimes be marked by null morphemes, which do not challenge the category's obligatoriness or systematicity (Bhat, 1999).

In contrast a non-prominent category is likely to be less or even un-grammaticalised. It may be expressed through specific lexical items, for example using verbs of perception to indicate evidential modality in English, or through adjuncts.

As we shall soon see, none of Walmajarri's tense markers actually primarily mark tense. Between the categories of aspect and modality the evidence points to Walmajarri being an aspect-prominent language. There are many verbal inflections which all for aspectuality to be precisely articulated, so it is highly grammaticalised, if not necessarily obligatory. There are fewer markers of modality, and so the types of modality can only be distinguished less precisely. For temporal distinctions to be conveyed precisely nominals with meanings like 'morning' or 'afternoon' must be used (Richards & Hudson, 1990).

Lastly if any of these categories are marked on nominals or other parts of speech then such pervasiveness is a good indicator of prominence. In §3.4.2 we already covered a case marker sometimes used to indicate modality. There is also a derivational suffix *-juwal* 'always associated with', which is often used to indicate something akin to habitual aspectuality (Richards & Hudson, 1990). It is frequently used with infinite verbs, as in (10), but is also used on regular nominals too, as shown by (14e).

So by Bhat's (1999) criteria for prominence, we should say that Walmajarri is an aspect-prominent language.

4.2.3 The "tenses"

To confirm that analysis we must consider the tense markers in more detail. Hudson (1978) describes Walmajarri as having four tenses in the realis tense system and two in the irrealis tense system. However none of these are pure markers of tense, as they all also mark either aspect or modality. From Hudson's descriptions of them tense is actually a secondary meaning, expressed by convention with a marker of another category.

The first realis tense is the past tense, which primarily indicates that an event was completed as a unit. Hudson (1978) states that the focus is not on the relative time of the event, however it is usually used for events which took place in the past. This would suggest that the past tense marker is actually primarily a marker of perfective aspect (Bhat, 1999). Understood this way Hudson's (1978) statement that the focus of the past tense is not on the completion of an event makes sense: in Walmajarri quantificational aspect is independent of perfective aspect, both the repetitive and the completive aspects being compatible with the past tense marker. Bilinarra's past

tense is similarly described as referring to actions completed as a unit (Nordlinger & Meakins, Forthcoming).

The present tense marker indicates that an action begun in the past or present is continuing into the present or future Hudson (1978). This appears to be a fairly typical marker of progressive aspect, however as was noted in §2.5 the repetitive aspect must be used with the present tense. If the repetitive aspect plus the past tense is compared with the repetitive aspect plus the present tense the distinguishing notion of the present tense is that it views an event from within, as on-going. With no better candidate we will say that the present tense marker actually indicates imperfective aspect, although as it always occurs with the repetitive aspect this is manifested as a strictly progressive aspect, rather than any other kind of imperfective aspect. Jaru has a similar present tense, however unlike Walmajarri, in one dialect it can be used without the repetitive marker (Tsunoda, 1981).

The customary tense marks what is more usually called the habitual aspect. While the customary tense can co-occur with the repetitive aspect, there are no examples of this in the corpus. Such a construction would indicate that not only was an action habitually performed, but that it was repeated many times at each occasion. It is unsurprising that the corpus records no examples of such an unusual and complex meaning. The customary marker seems to be cognate with the Bilinarra present tense marker, which sometimes also has a customary sense (Nordlinger & Meakins, Forthcoming).

The future tense is used for situations which have not taken place yet but possibly will in the future. Hudson (1978) notes that the focus is not on the future time but instead on such an event's potentiality. As such it too is actually a marker of irrealis modality. She states that the future tense is used to express desires, intentions, imperatives and necessity. This matches Jaru's *purposive* inflection and Bilinarra's *potential mood* inflection (Nordlinger & Meakins, Forthcoming; Tsunoda, 1981). With these other languages agreeing that *-ku* is not a tense, we can be very confident then to state that the future tense is primarily a marker of irrealis modality.

The irrealis non-past tense is used where the present, customary and future tenses would be used in the realis tense system (Hudson, 1978). It might be more sensible though to say that the other tense markers are incompatible with irrealis modality.

Hudson (1978) states that the irrealis past tense has the same range of meanings as the realis past tense, however they have different forms. Interestingly though, *-rla* is also involved in Bilinarra's past irrealis construction. In that case though *-rla* is actually the hortative marker, and the past irrealis sense comes from a dubitative marker. With no clear origin and no contrary corpus evidence we will say that the irrealis past tense is too a marker of perfective aspect.

Lastly there is the infinitive past marker, which has the same form as the irrealis

past. But unlike the irrealis past, the infinitive past might be Walmajarri's only pure tense marker, as it is used for events which took place prior to the main verb. As it shares the same form as the irrealis past it is likely though that they both have the same origin, even if they're used to mark different things now.

4.2.4 Markers of irrealis

We've already seen that *-ta* and *-ku* are both common markers of irrealis modality in some languages close to Walmajarri.¹ In both Bilinearra and Jaru *-ta* is called the imperative marker. Nordlinger & Meakins (Forthcoming) go so far as to suggest that this morpheme was the imperative form for proto-Pama-Nyungan. *-ku* however carries a much broader range of meanings in Walmajarri's neighbours, and it could be argued to be their generic irrealis marker.

In Walmajarri these morphemes seem to have switched roles: *-ta* is the generic irrealis marker and *-ku* is used for a more highly marked subset of irrealis. After all, *-ta* is needed for six of Walmajarri's moods, five of which aren't imperatives, whereas *-ku* is only used for one mood. While both morphemes are marked compared to realis clauses, the future tense is more marked as its domain of use is smaller. The high use of the future in *pa* clauses needs another explanation: simply that all *pa* clauses are unmarked. This will be expanded upon in §???

It makes little sense to keep the future marker in the third order of verbal suffixes, competing with aspect markers. There is no reason why it cannot instead be reanalysed as a second order suffix. Table 5 shows this revised system of verbal inflections. There are now three orders of aspect markers and one of modality, reinforcing our analysis of Walmajarri as an aspect-prominent language.

Table 5: Reanalysed verbal inflections

Aspect	Modality/Infinitive	Aspect	Aspect
(-an REP)	∅	-i PAST	
	∅	-i PAST	-ngurra COMP
-an REP	∅	-a PRES	
(-an REP)	∅	-any CUST	
(-an REP)	-ku FUT		
(-an REP)	-ta IRR	(-rla PAST)	
	-ta IRR	-rla PAST	-ngurra COMP
(-an REP)	-u INF	(-rla / -ngurla PAST)	

¹These morphemes have many allomorphs, and other grammars propose varying base forms for them. For simplicity's sake we'll keep to the base forms as described by Hudson (1978).

4.3 The identity of *nga*

In §2.4.2 we discussed the likelihood of *nga* originating from a dubitative modality marker. But if the dubitative meaning is now marker by *-rta*, what meaning does *nga* carry?

In looking at the ways *pa* is used in Walmajarri it becomes clear that the auxiliary is used for statements which make claims about the state of the world. The Indicative is used to make positive statements, the Negative to make statements about things which did not take place and the Intensive is used to make statements about the world when the world is not how the speaker expected. These are all strongly assertive epistemic modalities (Palmer, 2001).

By comparison, the *nga* moods are non-assertive. This is obvious with the Interrogative, but it's also the case with the Admonitive and Prohibitive, which although they project the speaker's position, do not make claims about how the world state actually is. The exception is the Inabilitative, though as we saw in §3.6.1 *kayan* can also be used with *pa*. *kayan* itself seems to override a clause's semantics, no matter which auxiliary is used. As such it is a special case and we won't consider it a challenge to the non-assertive assessment.

If *nga* originally had the meaning of dubitativity, then non-assertion is in one way a strengthening from a lack of confidence to having so little confidence that the speaker is unwilling to assert anything at all. Over the same time *-rta* may have undergone a related change, from epistemic doubt to a more general lack of confidence that can be applied even on non-assertions. *Hedging* is a useful term for this. Table 6 shows the sort of meanings that the dubitative marker makes when combined with the auxiliaries.

Table 6: *pa*, *nga* and *rta* combinations

Auxiliary	Dubitative	Meaning
<i>pa</i>	∅	An assertive statement
<i>pa</i>	<i>-rta</i>	An assertive statement made with less than full confidence
<i>nga</i>	∅	A non-assertive statement, possibly conveying deontic modality
<i>nga</i>	<i>-rta</i>	A non-assertive statement the speaker hedges on

4.4 A cliticisation hierarchy

We will describe Walmajarri's clitic system working from the most marked constructions to the least. Sentences with *kayan* will not be considered, as it effectively over-

rides the clause's semantics. Nonetheless, it is assumed that clauses with *kayan* will still select the most appropriate auxiliary and TAM inflections, even if they are somewhat overridden.

4.4.1 Directives

The two verb cliticisation moods are both used for directive modality. Although Walmajarri doesn't have distinct imperative or hortative inflections, it is still reasonable to assume that its directive verbs are inherently focused, and so they take the top of the hierarchy (Mushin, 2006).

From the perspective of this hierarchy the two moods are essentially the same: both are focused for being directives and both are pronominal clitic hosts. There is though still the issue of which irrealis marker to use. If *-ta* is the generic irrealis marker and *-ku* a more marked inflection the something in its semantics might indicate why it is used with the Hortatory. Hudson (1978) state that the future tense is used for desires, intentions, polite imperatives and to indicate necessity. When it is considered that the Hortatory is only used with first person subjects, then the use of the future tense to mark intentions might be the key to explaining the difference between the Hortatory and the Imperative. With so little data on the Hortatory this is an area where more comprehensive study would most likely be very enlightening.

The Prohibitive mood, a negative directive, uses the *nga* auxiliary instead. While we should still assume that a prohibitive verb is inherently focused, it does not result in verb cliticisation. If the negative marker was more highly focused than directive verbs, then it would take the focused first position instead. Although in some of the surrounding languages negative markers can take clitics (Nordlinger & Meakins, Forthcoming), for unknown reasons in Walmajarri they cannot, and so *nga* must be used instead.

4.4.2 The auxiliaries

If there is no focused directive verb then Walmajarri must insert an auxiliary to serve as the clitics' host. The two auxiliaries *pa* and *nga* are not distinguished by a difference in inherent focus, but instead by the modal semantics identified above. If a speaker is not asserting something about the state of the world, then they will use *nga*. If they are making assertions, then they will use *pa*.

With both auxiliaries the most appropriate TAM markers will be selected, including the choice of realis or irrealis modality. If the future does indicate intention, then that might explain why it is not used for the Admonitive and Prohibitive moods, as they are used to pressure the listener, rather than express a commitment of the speaker. Why you can supposedly only ask questions with the future irrealis marker

and not the regular irrealis marker is known, and would again be an area where more comprehensive corpus studies would be helpful.

4.4.3 The hierarchy

We have now covered everything needed to describe the Walmajarri's middle dialect's cliticisation hierarchy, which is shown in table 7. Note that this table only shows focused elements relevant for cliticisation, and does not indicate what is focused when an auxiliary is used.

Table 7: Walmajarri's cliticisation hierarchy

	Type	Details
Most focused	Prohibitive	A Prohibitive verb has inherent focus, but a negative marker has even greater focus. However as negative markers are unable to take the role of clitic host, we must go down the hierarchy to the next type that matches, [-ASSERT].
	Directives	Due to their inherent focus, the verbs in positive directive clauses become clitic hosts.
	[-ASSERT]	If there is no focused directive verb and the clause is non-assertive, the <i>nga</i> will be inserted so that the clitics will have a host.
Least focused	<i>pa</i>	If the clause is assertive, the semantically empty <i>pa</i> will be inserted to host the clitics.

Chapter Five

Dialectal differences

5.1 The value of a multi-dialectal study

When a language has several mutually intelligible dialects it is obvious that they have far more in common than they have in difference. Their differences however, whether in vocabulary or in grammar, often reveal more about what is held in common. Something implicit in one dialect may be explicit in another. So it is with Walmajarri. The majority of this study has been on the middle dialect, but we turn now to its other dialects, particularly the eastern dialect. That dialect makes explicit Walmajarri's pragmatic structures, which remain far more subtly hidden in the middle dialect.

5.2 Juwaliny

Walmajarri's western dialect is called Juwaliny. About 40% of its vocabulary is not shared with the middle dialect. The majority of those differences are for nominals, while only 13% of verbs are non-cognate. Dixon (2010) states that many of those differences can be explained by language contact situations as they are shared with neighbouring languages, mostly Yulparija. She also raises the possibility that some of the discrepancies have arisen due to the descriptions of words only conveying part of what those words actually mean, such that if a generic meaning is recorded for one dialect and a more specific meaning for the other it may not actually indicate non-cognacy.

There are also differences in pronunciation and a few of the verbal suffixes have slightly different forms (Dixon, 2010). None of these differences result in mood changes however, and so the previous chapters should be considered a valid ex-

planation of Juwaliny's mood and clitic systems as well.

Richards & Hudson (1990) also record words belonging to the Noonkanbah area. There are however far fewer vocabulary differences than for Juwaliny, and no apparent grammatical differences, so there's little reason to consider it a distinct dialect.

5.3 The eastern dialect

The eastern dialect likely represents an earlier stage of the middle dialect, as it does not use the *pa* auxiliary. Instead, the default form of cliticisation is with an epenthetic *-pa-* (McConvell, 1996). However due to both their distance and isolation from the other Walmajarri speakers, and their proximity to speakers of other languages such as Western Desert Language, this could possibly also be a new development, but there is too little information to tell either way.

Table 8: Eastern Walmajarri's cliticisation hierarchy

	Type	Details
Most focused	Intended focus	Anything with a deliberate extra focus will be moved to first position and become the clitic host.
	Directives	Due to their inherent focus, the verbs in positive directive clauses become clitic hosts.
	Interrogatives	Due to their inherent focus, interrogative words will move to first position and take the pronominal clitics.
	[-ASSERT]	If there is no focused directive verb and the clause is non-assertive, the <i>nga</i> will be inserted so that the clitics will have a host.
Least focused	Verb	If the clause is assertive, then the verb will be selected as clitic host, with an epenthetic <i>-pa-</i> added if needed.

From the examples given in Richards 1999 it appears that the default host for clitics is the verb, as they will remain attached even if the verb is not in first position. (32a-b) seem to be two examples of this from the corpus, where David Downs, who was more near Lake Gregory, wrote two single word clauses with the clitics attached to the verb.

Richards (1999) also shows evidence for a preference to encliticise to interrogative words if they are present and in first position. Interrogative words have an inherent focus, which draws them to first position, and draws the clitics to them rather than the verb. (10d) is an example of this type of second position cliticisation from the corpus.

The last type of focus is that of deliberate intended narrative focus. (32c) is an example of this, where something new and unexpected is focused, brought to the clause's first position which then serves as the host for the pronominal clitics.

Table 8 shows the cliticisation hierarchy of the eastern dialect. There is good reason to think that the factors impacting on what goes in first position in the eastern dialect also control the first position of the middle dialect. They would just do so without the addition side effect of attracting clitics.

Chapter Six

Conclusion

From the corpus that was collected many questions about Walmajarri's mood and clitic systems were able to be answered. The meaning of *nga* was finally identified: non-assertion. Based on this along with a reanalysis of Walmajarri's tense-aspect-modality system the types of cliticisation were explained such that a mood is no longer just an arbitrary combination of clause elements.

Then by comparing Walmajarri's middle dialect with its eastern dialect we were able to see more of the pragmatic structure, which is hidden behind semantic structures in the middle dialect. Because of this we can safely say that Walmajarri is a discourse configurational language.

Ultimately though this study was let down by the size and type of its corpus. While narrative texts are wonderful to have, they are no substitute for actual conversations. Too many of the moods and other clause elements were under-represented, and so some of the results of this study might actually be inaccurate generalisations. The obvious step for further research would be to collect a much larger corpus of natural conversation, so that analysis won't have to be performed on what is sometimes less than a handful of examples of each mood.

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