

**A semantic structural analysis  
of logical relations in Eastern Arrernte**

by

Neil Broad



Australian Society for Indigenous Languages

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ISBN 978-1-86892-456-1

Broad, Neil 2013, *A semantic structural analysis of logical relations in Eastern Arrernte*, Australian Society for Indigenous Languages, Alice Springs.

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## Preface

In presenting this thesis in its current form for a wider audience, I have not attempted to address any of the most obvious short-comings of analysis or findings. I am aware that some of the proposed explication schemas for particular constructions need further justification to be fully convincing. I am aware that, at a more general level, greater attention needs to have been focussed on the distinction between encoded and implied meaning. I am also aware that the analysis of certain grammatical elements needs further work.

In many respects, I felt like I was writing the introduction to a much more complex subject in only tackling the restricted set of so-called logical relations, amongst the much bigger set of propositional/semantic relations. I also felt that, for the imposed limits on the task (University imposed word limit), I probably bit off more than I could chew—the final word count of 54,944 words, was well above the set limit. There are more than a few instances where an issue raised cries out for more extended discussion. However, given the overall word limit, there were many times when what was needed and what limits were imposed proved to be a poor match-up.

I am also aware that with the pressures of University deadlines, and having changed my thesis topic in the year of writing, there are sections that suffer a lack of clearly presented argumentation. More work is needed!

All this is to acknowledge that I realise there are things that could be done a lot better with extended discussion and more attention justifying some of the conclusions. But, for the present purpose, I am not willing to take on that bigger task. So, the document stays as is (apart from assistance with editing for the current purpose, which was much appreciated). It is simply a record of what was done at the time and I will have to live with the knowledge of what yet remains to be done, or done better, if I were ever to publish it more widely!

## Acknowledgments

This work represents a step along the road in the process of enriching my knowledge and understanding of the Eastern Arrernte language. My journey began 1988 when I commenced living at *Ltyentye Apurte* ('Santa Teresa'), south-east of Alice Springs. I went there, as a member of the Summer Institute of Linguistics, to build relationships, learn the language and begin the task of translating the Bible into the Eastern Arrernte language. I owe a great deal to many in the community who patiently bore with me, gently corrected my innumerable *faux pas*, and extended to me the warmth of their friendship. I am particularly indebted to my friend and co-translator, Sammy Turner, who worked with me tirelessly over the entire period and introduced me to many of the rich aspects of the Arrernte language, life and culture. I am thankful, too, to Bessie Oliver, who also spent long hours teaching, correcting and working with me on the translation.

I thank my friend and fellow Bible translator Steve Swartz, who stimulated my original interest in the topic of logical relations, and who gave some valuable input in approaching the task of both analysing and displaying inter-propositional relations.

From the standpoint of linguistics, I am indebted, initially, to Dr Cliff Goddard of the Linguistics Department at the University of New England, who was my original thesis supervisor. Cliff is largely responsible for stimulating my interest in Natural Semantic Metalanguage theory, and it was at his prompting that this theoretical approach was applied to the task of analysing the semantics of logical relations in Eastern Arrernte. I am particularly thankful to Dr Jean Harkins, who took over the role of thesis supervisor at the mid-way point through the thesis year for my Master of Letters. I was deeply appreciative of Jean's knowledge of Arrernte as I struggled with presenting my findings in a clear and comprehensible way. I am also indebted to Jean for her steady stream of helpful suggestions along the way (and to whoever invented email!) as well as her insightful questions, which helped in prompting me to clarify key issues and allowed me hopefully, to represent my findings in a clearer way.

I owe a debt of gratitude to my wife and family for their patience with me during many long nights and for their willingness to allow me to put aside many family responsibilities during the final stages of writing this. I am most thankful for their constant love and support.

I also thank the Lord my God for His call on my life. I count it a great privilege to work as a Bible translator and, by implication, a language learner. I am thankful to God for His sustaining power throughout.

... those who hope in the Lord  
will renew their strength.  
They will soar on wings like eagles;  
they will run and not grow weary,  
they will walk and not be faint.

Isaiah 40:31

Only I can take responsibility for any mistakes, omissions, oversights, inconsistencies or errors of analysis which may be found in this thesis.

## Summary

This study is an analysis of the semantic structure of logical relations in Eastern Arrernte, focussing in particular on the level of inter-propositional relations and to a lesser degree on how logical relations are expressed at higher levels in the semantic hierarchy. Two particular theoretical models are applied to this task. The first uses an approach based on a theory of semantic structure set forth in *The Semantic Structure of Written Communication* (Beekman, Callow & Kopesec 1981) and further developed by Larson (1984). The second approach utilises Natural Semantic Metalanguage theory originated by Anna Wierzbicka (especially 1980, 1992, 1996).

Chapter 1, as well as introducing the topic in general terms, provides an introduction to the salient features of Eastern Arrernte phonology and grammar. Chapter 2 introduces the Semantic Structural Analysis (SSA) theory upon which the initial task of analysing logical relations, as they are expressed in Arrernte, was based, and discusses the inherent problems with this approach. The solution to the difficulties raised here effectively anchors the typology associated with logical relations in lexico-grammatical universals, that is, in effect, semantic primes allied with Natural Semantic Metalanguage (NSM) theory.

Chapter 3 begins by examining inter-propositional logical relations using Semantic Structural Analysis theory. The discussion turns to show how each of these types can be analysed and expressed as a reductive paraphrase, and how the seven differentiated types can be grouped into two core semantic structural categories, representing BECAUSE-types and IF-types. The discussion in Chapter 4 is an examination of the specific way in which the two core categories of logical relations are marked in Arrernte sentences. In so doing, recurrent patterns of marking logical relations and the key structural features are identified.

Chapter 5 introduces logical relations expressed at higher-than-sentence levels in the semantic hierarchy. Two specific texts, one a Dreaming narrative, the other a recount narrative, are examined, and some general observations made regarding the semantic structure of logical relations in Arrernte discourse. In addition, some preliminary observations are expressed regarding the type of reasoning process that can be identified in Arrernte discourse. Chapter 6 brings together the significant conclusions from this study.

Appendix 1 contains 77 examples of logically related 'BECAUSE-type' Arrernte sentences.

Appendix 2 contains 21 examples of logically related 'IF-type' Arrernte sentences.

Appendix 3 contains the propositionalised English version of the *Arltunga-werne Alpeke* text.

Appendix 4 contains the interlinearised morpheme analysis of the *Arltunga-werne Alpeke* text.

Appendix 5 contains the propositionalised English version of the *Ayeye Altyerrengentyele* text.

Appendix 6 contains the an interlinearised morpheme analysis of the *Ayeye Altyerrengentyele* text.

## Structure of examples

All example sentences throughout the body of the main text are presented using a three-tiered system:

- The first conveys the Eastern Arrernte sentence in italics with morpheme breaks.
- The second uses plain text for an interlinear morpheme analysis and appropriate glosses.
- The last tier, which is enclosed within single quotes, provides an English translation.

Examples listed by number in the Appendices, as well as the two appended texts, are four tiered and, additionally, have a tag at the beginning of each line:

- ‘tx’ (text) introduces the Arrernte text,
- ‘ma’ (morpheme analysis) introduces a line where each Arrernte word is analysed into its constituent morphemes,
- ‘mg’ (morpheme gloss) provides an English gloss for each morpheme, and
- ‘ft’ (free translation) introduces an English translation.

Also, at the start of each example, a reference line is tagged by the abbreviation ‘rf’ (reference).

Note that round brackets ‘( )’ within a translation regularly convey elements which are implied or understood, but which are absent from the Arrernte sentence, whereas round brackets following the English translation may carry an alternative translation, background context to the utterance and/or the implications of the example. Text contained within square brackets ‘[ ]’ in the Arrernte and morpheme analysis lines indicates the word is an English or English-based word. Where a backslash ‘/’ has been used in the translation line it is to give an alternative rendering and in these instances either reading is suitable.

Example sentences are sourced primarily from either ‘Eastern and Central Arrernte to English Dictionary’ (1994) or from published Arrernte books. In instances where an example has been used from a source other than these, this is acknowledged in square brackets ‘[ ]’ at the end of an example. Example sentences which come from the those listed in Appendix 1 are marked by a final bracket conveying the reference number ‘rf ...’.

There are occasions when a specific Arrernte element or structure is being focussed upon and in such cases the constituent in focus is usually highlighted using a bold format.

The symbol ‘§’ is used as a reference to section headings/numbers.

The symbol ‘\*’ is used to indicate something is either ungrammatical or an unacceptable form of what is being proposed.

## Abbreviations and Symbols

### Phonological Conventions

- [ ] phonetic representation  
// phonemic representation

### Morphological Conventions

- morpheme boundary  
∅ morpheme with zero realisation

### Syntactic Conventions

#### Grammatical Functions

- A subject of transitive  
O object of transitive  
S subject of intransitive

### Nominal Morphology

#### Pronoun, Demonstrative and Quantifier Abbreviations

1	first person	sg	singular
2	second person	dl	dual
3	third person	pl	plural
DEM	demonstrative		
DIST	distal		
KinPOSS	pronominal kin possessive suffix		
MID	mid-distant		

#### Cases

ABL	ablative	ACC	accusative
AFTER	('after'-ative)	ALL	allative
ASSOC	associative	AVER	aversive
COM	comitative	DAT	dative
ERG	ergative	INST	instrumental
LOC	locative	NOM	nominative
POSS	possessive	PROP	propriative

#### Other nominal and nominal-deriving forms

CLASS	classifier
DIR	in the direction of
KinPOSS	(pronominal) kin possessor
MOAWAY	movement away from
NMZR	nominaliser
SPEC	specific

### Verb Morphology

#### Tense

FUT	future	HPAST	habitual past
NPP	non-past progressive	PC	past completive
PP	past progressive	RPAST	recent past

#### Other

AVER	aversive	DS	different subject
Gevet	general event	HOPE	hope to do
HYPO	hypothetical	IMP	imperative
PERM	permissive	SS	same subject
VNEG	verbal negative	VNEGIMP	verbal negative imperative
VPURP	verbal purposive		

### Optional (non-stem final)

dl S/A	dual subject
pl S/A	plural subject
CONT	'do continuously (non-motional)'
DO.ALONG	'do continuously while in motion'
DO.COMING	'do verb action while coming'
DO.COMING BACK	'do verb action while coming back'
DO.PAST	'do verb action while moving past or through a place'
DO.DOWNWARDS	'do verb action while moving downwards'
DO+GO	'do verb action at a place and then go'
DO+GO BACK	'do verb action at a place and then go back'
FREQ.rdp	'frequentative (reduplication)'
GO+DO	'go to a place and do verb action'
GO.BACK+DO	'go back to a place and do verb action'
HREDUP	'habitual reduplication'
ITER	'iterative'

### Derivational

CAUS	causative	INCH	inchoative
RECIP	reciprocal	REFL	reflexive

### Adverb-deriving Morphology

ADV	manner adverb formative
CONNECT	'outer surface contact; connected to'

### Particle/Clitics

#### Clitics

BEFORE	'before doing anything else'
DESPITE	'despite X, even though X'
EMPH	emphatic
FIRST	'be first' in a series of things/events
FOC	focal constituent
IndReasAng	'indirect reason for anger'
INTER	'interrogative' (checking clitic)
MISTAKE	'mistaken belief'
MORE	comparative 'more'
NomNEG	nominal negator
RELCL	relative clause marker
SINCE	'because, as you should know'
THAT	'that'-complement marker
TOO	'too, as well, again, still'
TYPE	'this type of thing, sort of like this'

#### Particles

BUT	'now consider this one; on the other hand, by contrast; but'
FACT	'it's a fact that'
INTENS	intensifier ('very, really, truly')
OK	'ready, already; OK; so; the end'
QUOT	quotative, hearsay
REMEMB	'you remember the one?'
THOUGH	'even though, anyhow, anyway'

### Articles

DEF	definite article
-----	------------------

## Chapter 1: Introduction

In this chapter, I introduce the main aims and purposes of the study and give some background as to why I chose this particular topic for my research. I also outline some underlying assumptions I had when I began writing. A brief statement introduces the Eastern Arrernte language community. Then an overview of the significant features of the phonology and grammar of Eastern Arrernte is provided and exemplified to provide some orientation for the reader to help them understand what follows in the remainder of the work. Chapter 1 concludes with an overview of what is covered in the remaining 5 chapters of this thesis.

### 1.1 Purpose and aims

The purpose of this study is an analysis of the semantic structure of logical relations in Eastern Arrernte, focussing in particular on the level of inter-propositional relations and to a lesser degree on how logical relations are expressed at higher levels in the semantic hierarchy. I began this task with the aim of examining and analysing logical relations using an approach based on a theory of semantic structure set forth in a volume entitled *The Semantic Structure of Written Communication* (Beekman, Callow & Kopeseć 1981) and further developed by Larson (1984).

My primary interest lay in analysing the semantic structure of the relations themselves, and to a lesser degree on the grammatical means used to encode these relations. However, as I progressed with the study using this approach it became increasingly clear that while the model had a number of important contributions to make in undertaking a semantic analysis of inter-propositional relations, and in particular those groups comprising the set of logical relations, there were a number of significant difficulties in the application of the theory which emerged. These difficulties arose primarily while attempting to explicate in a clear and transparent way precisely how logical relations were semantically structured in Arrernte, and what precise meaning was associated with the terms used to describe the inter-propositional relations so that someone not familiar with this particular theoretical approach could readily comprehend the nature of the relations.

A solution to the difficulties presented itself in the form of another theoretical model, namely Natural Semantic Metalanguage (NSM) theory originated by Anna Wierzbicka (especially 1980, 1988, 1992 and 1996; Goddard & Wierzbicka (eds) 1994; Goddard 1997a). I have, throughout this study, utilised both approaches in the analysis and description of findings in relation to the topic under review.

My original interest in this topic sprang from my work as a Bible translator with the Summer Institute of Linguistics and with my concern to do clear, accurate, natural and easily comprehensible translation. I began the study with the following assumptions.

#### Assumption 1

An analysis of the relationships that exist between propositions generally, and in particular between those propositions encoding a so-called 'logical relation', is both helpful and fruitful for the task of translation.

My initial interest in this topic emerged from my work with the Summer Institute of Linguistics with whom I work as a Bible translator, translating mainly New Testament Scriptures into the language of the Eastern Arrernte people living in and around the Alice Springs region. This general interest, in the way 'logical relations' were structured, was further stimulated by the observations of a fellow translator, Steve Swartz, concerning the difficulties he had experienced while working as a translation consultant and specifically while undertaking comprehension checking exercises relating to the way 'because' had been translated into various Aboriginal languages, including Djambarrpuynu and Warlpiri. Further to this, he wanted to understand how clauses and sentences, once translated, were understood by speakers who had not previously worked on the translation. Swartz wrote a paper (unpublished) detailing his observations and challenging fellow translators to give an adequate account of the way the languages with which they were working handled constructions where the word 'because' or its near equivalents occurred in a given sentence frame. The challenge was issued in order that the translators would, with the understanding gained from such an exercise, be able to do accurate and natural translation that clearly communicated the meaning of the original message from which they were translating and, by implication, clearly signalled the same kind of semantic relations existing between propositions as were represented in the original texts.

Based on the initial theoretical approach I used in approaching this study, there was a further assumption I made:

### **Assumption 2**

Semantic relationships exist between propositions both at the sentence level and at higher levels in the discourse hierarchy. There is both a semantic and a grammatical basis for making assumptions about the relationship between the various propositions and their higher level counterparts that together form the structure of a discourse. Sentences could be analysed on the basis of their propositional relationships to each other. At this level, where propositions combine and are typically manifested in the surface structure as a clause, combination of clauses, or a sentence, a propositional cluster has a proposition as its head which is clarified, argued for, or added to by other propositions. The grouping together of propositional clusters into larger units is based on the occurrence of particular tense and aspect markers, as well as on evidence of lexical and semantic cohesion, and the specifying of time, location and participants.

In addition to these assumptions, I had an underlying question relating to the type of reasoning process used in Eastern Arrernte that I expected the study would provide an answer to. Simply put, the question relates to the kind of reasoning process which emerges from the study of logical propositional structures in Arrernte: deductive or inductive? A deductive reasoning process is understood as ‘Present the thesis first and follow this with the supporting argument (s).’ An inductive reasoning process is understood as ‘Present the supporting argument (s) first and follow these by the thesis.’

In terms of the relations between propositions at sentence level, the conclusions reached in this study point clearly toward a deductive process of reasoning. However, at the higher levels of discourse structure the conclusions do not give unequivocal support to one or the other process. Rather, the tentative conclusions point to the need to consider a wider range of influencing factors than simply the semantic structure that emerges through this study of logical relations. This work, particularly Chapter 5, seeks to provide answers to these questions.

The remainder of this chapter serves as an introduction to the Eastern Arrernte language community and provides an overview of the key elements of the phonology and grammar and, in so doing, provides a general orientation to the language, before turning to the details associated with an analysis of the structure of logical relations in particular. The section summarising the phonology also serves to introduce the orthography as it used throughout this study.

## **1.2 Overview of Arrernte phonology and grammar**

### **General comments**

In general terms, Eastern Arrernte refers to the variety of Arrernte spoken in the area east of Alice Springs, and Mparntwe or Central Arrernte to the variety spoken in Alice Springs. Together these two, with an estimated population of 1500–2000 speakers, are part of the Arandic subfamily of the Pama-Nyungan family of Australian languages. Other languages in the Arandic family include: Kaytetye, Alyawarr, Anmatyerr, Western Arrernte and Alenyentarrpe or Lower Arrernte. The main communities where Eastern and Central Arrernte are spoken are Ltyentye Apurte (Santa Teresa), Alkwerte (Alcoota), Artetyerre (Harts Range), Uthipe Atherre (Bonya), Amengkwerne (Amoonguna) and, as previously mentioned, Mparntwe (Alice Springs). For the purposes of this study, Eastern Arrernte will be used in reference to the speech varieties of both Eastern and Mparntwe Arrernte without attempting to make a distinction between the two, and whenever the term Eastern Arrernte is used it should be understood as not excluding Mparntwe Arrernte. While it is acknowledged that a distinction can be drawn between these two varieties (mainly on the basis of differences pointed out by speakers themselves between a certain limited number of words, the pronunciation of some words and a limited variation in word endings), the two are certainly mutually intelligible. Wilkins (1989, p. 9) in his Mparntwe Arrernte grammar sees no basis for distinguishing between the two on linguistic grounds.

### **1.2.1 Phonology**

It is not my intention in this paper to attempt to provide a full account of the phonology of Arrernte<sup>1</sup>, however, a brief overview is offered, and a limited set of contrasts given to establish the set of relevant

---

<sup>1</sup> For a more detailed account see Wilkins’ chapter 2 (1989, pp. 74–101).

phonemes. Additionally, this overview provides an opportunity to present the orthographic symbols used throughout this study.

## Vowels

Eastern Arrernte has four contrastive vowel phonemes; /i/, /u/, /a/ and /ə/. A four-vowel system such as this is extremely rare among the world's languages<sup>2</sup>. Table 1 specifies the relevant features of articulation for each vowel phoneme:

TABLE 1: EASTERN ARRERNTE VOWELS  
(Orthographic symbols are given in brackets)

	Front	Central	Back
High	i (i)		u (u)
Mid		ə (e)	
Low		a (a)	

With respect to the range of realisations of each of the vowel phonemes, /i/, /u/ and /a/ have relatively small ranges compared to that of /ə/, which is influenced to a very significant degree by its environment. Concerning the distribution within a word however, the phoneme /ə/ has a limited distribution; it does not occur in the word-initial position and, further to this, /ə/ is the only vowel phoneme to occur in the word-final position. The following minimal set illustrates the contrasts in initial position:

- (1) *inteme* /intəmə/ 'is lying down'  
*unteme* /untəmə/ 'is running'  
*anteme* /antəmə/ 'now (particle)'

The full four-way contrast for each of the vowels between consonants is in fact very rare; however, the following three sets of close minimal forms serve to establish the contrast for each vowel phoneme.

- (2) a. *arrule* /arulə/ 'long time'  
*arrirlpe* /arilpə/ 'sharp'  
*irrarle* /irralə/ 'cocoon'  
*arerte*<sup>3</sup> /aɹɛtə/ 'deaf, mad'
- b. *irrure~arrure* /iruɹə/~aruɹə/ 'young single man'  
*irre* /irɹə/ '(go somewhere) for a short time'  
*irrare* /irarə/ 'sad and lonely'  
*irriɹlpme* /iriɹlpMə/ 'type of cricket'
- c. *tyipe* /tʲipə/ 'a piece of something'  
*tyape* /tʲapə/ 'an edible grub'  
*tyepetye* /tʲəpətʲə/ 'pattern, design'

## Consonants

Eastern Arrernte has 52 consonant phonemes<sup>4</sup>, which represents a significantly large inventory when compared to most other Australian languages. The features which serve to assimilate it to many other Australian languages include the stops and nasals, which may be contrasted at six points of

<sup>2</sup> Of the 317 languages surveyed by Ian Maddieson (1984, p. 126, quoted in Wilkins 1989, p. 75) only 15 (4.7%) had four vowel systems.

<sup>3</sup> There is the form *arerle* /āɹɛlə/ 'see-Gevet', however, because this form is comprised of two morphemes, the verb stem *are-* 'see' and *-rle* 'Gevet' ('general event') it was not used, in order to maintain consistency of representation with the other single morpheme examples.

<sup>4</sup> Wilkins (1989, p. 83) lists only 49 in his consonant phoneme inventory acknowledging that while, in his data, the two labialised laminal prestopped nasals and the single labialised inter-dental nasal were not attested "[f]urther data may, indeed, reveal their existence and the phoneme inventory would have to be revised accordingly". This, in fact, is the case and the 'missing' examples have been supplied.

articulation: bilabial, lamino-dental, apico-alveolar, apico-post-alveolar, lamino-palatal and dorso-velar. Those features which serve to dissimilate it from many other Australian languages and, according to Maddieson (1984, p. 27, quoted in Wilkins 1989, p. 83) make it extremely rare among the world's languages<sup>5</sup>, are the phonemic series of pre-stopped nasals which may be contrasted at each of the six points of articulation. A further feature of Arrernte, which again helps to make it atypical of Australian languages, is that it has two series of consonant phonemes which can be distinguished on the basis of the presence or absence of the secondary articulation feature of labialisation associated with the particular phoneme in question. That is, every one of the non-labialised phonemes can be found to correspond to a labialised phoneme at the same place and in the same manner of articulation. The feature of voicing is non-contrastive in Arrernte.

TABLE 2A: ORTHOGRAPHIC SYMBOLS USED FOR EASTERN ARRERNTE  
NON-LABIALISED CONSONANT PHONEMES

	Bilabial (Peripheral)	Lamino- Interdental	Apico- Alveolar	Apico-Post- Alveolar (Retroflex)	Lamino- Palatal	Dorso-Velar (Peripheral)
Stops	p	th	t	rt	ty	k
Nasals	m	nh	n	rn	ny	ng
Pre-stopped Nasals	pm	thn	tn	rtn	tny	kng
Laterals		lh	l	rl	ly	
Approximants				r	y	h
Trill			rr			

TABLE 2B: ORTHOGRAPHIC SYMBOLS USED FOR EASTERN ARRERNTE  
LABIALISED CONSONANT PHONEMES

	Bilabial (Peripheral)	Lamino- Interdental	Apico- Alveolar	Apico-Post- Alveolar (Retroflex)	Lamino- Palatal	Dorso-Velar (Peripheral)
Stops	pw	thw	tw	rtw	tyw	kw
Nasals	mw	nhw	nw	rnw	nyw	ngw
Pre-stopped Nasals	pmw	thnw	tnw	rtnw	tnyw	kngw
Laterals		lhw	lw	rlw	lyw	
Approximants	(w)			rw	yw	w
Trill			rrw			

TABLE 3A: WORDS EXEMPLIFYING DISTINCTIONS AMONG CONSONANT PHONEMES  
(Non-Labialised Consonant Phonemes)

<i>apere</i> 'red river gum'	<i>athere</i> 'grinding stone'	<i>atere</i> 'afraid'	<i>arteme</i> 'is building, covering'	<i>atyepe</i> 'a belt'	<i>kere</i> 'game, animal'
<i>amenge</i> 'a fly'	<i>anheme</i> 'is wetting something'	<i>aneme</i> 'is sitting'	<i>arne</i> 'tree, thing'	<i>anyente</i> 'one'	<i>angepe</i> 'a crow'

<sup>5</sup> According to Wilkins (1989, p. 83), Maddieson labels the pre-stopped nasals 'post-nasalized voiced' stops or 'nasally-released' plosives, and apparently the only language exemplifying this type, of the 317 languages surveyed, was Aranda. In his Aranda consonant table, Maddieson according to Wilkins (1989, p. 83) classes the pre-stopped nasals simply as 'voiced plosive'.

<i>apmere</i> 'camp, place'	<i>uthneme</i> 'is biting something'	<i>tneme</i> 'is standing'	<i>artneme</i> 'is crying'	<i>atnyeme</i> 'is falling'	<i>akngeme</i> 'is taking'
	<i>alheme</i> 'is going'	<i>aleme</i> 'liver'	<i>arlenge</i> 'a long way'	<i>alyeme</i> 'is singing'	
			<i>arenge</i> 'euro'	<i>ayenge</i> 'I' (S, O)	<i>ahentye</i> 'throat, desire'
		<i>arrange</i> 'father's father'			

TABLE 3B: WORDS EXEMPLIFYING DISTINCTIONS AMONG CONSONANT PHONEMES  
(Labialised Consonant Phonemes)

<i>apwe</i> 'emu down'	<i>ithwenge</i> 'maybe not'	<i>itwe</i> 'near'	<i>artwe</i> 'man'	<i>atywe</i> 'calf of leg'	<i>akwarratywe</i> 'right hand'
<i>mwerre</i> 'good, healthy'	<i>inhwere</i> 'strong unpleasant smell'	<i>anwerne</i> 'we (S, A)'	<i>arnwere</i> 'humming sound'	<i>anywere</i> 'native bee'	<i>ingwe</i> 'night'
<i>apmwe</i> 'snake'	<i>athnwert-irreme</i> 'to curl up'	<i>atnware</i> 'heel of foot'	<i>artnwere</i> 'dingo'	<i>arratyatnywert-angeye</i> 'fat tailed antechinus'	<i>akngwelye</i> 'dog'
	<i>alhwe</i> 'blood'	<i>alwirreme</i> 'is running away'	<i>arlwe</i> 'rounded stone'	<i>alyweke</i> 'stone knife'	
( <i>awethe</i> <sup>6</sup> 'more, again')			<i>arwe</i> 'handle of a wooden shield'	<i>aywe</i> 'old person'	<i>awethe</i> 'more, again'
		<i>arrwe</i> 'rock wallaby'			

### 1.2.2 Stress

The assignment of stress in Eastern Arrernte is, for the most part, predictable<sup>7</sup>. The general rule, applicable in most instances, is that primary stress is assigned to the first syllable which is opened by a consonant.

- (3) *ayerneme* /ayənəmə/ [ay'ənəmə] 'is wrapping something up'  
*yerneme* /yənəmə/ [y'ənəmə] 'is sending something'

However, contrary to the above generalisation, in words with only a single consonant position there is some variation apparent between stress on the initial and final vowels. Additionally, in some words when there is an initial /a/ and the second vowel is /ə/, the primary stress may be manifest on either the initial or the second vowel. One pertinent example of this variation concerns the word Arrernte /arəntə/ itself which may be realised as either [arəndə] or [arəndə].

<sup>6</sup> This form is included twice in the table in order to show the /w/ is both bilabial and velar.

<sup>7</sup> While this statement is generally true, Wilkins (1989, p. 94) has noted that a full understanding of the assignment of stress remains a subject for further investigation and as yet the rules governing stress are 'not entirely clear'.

### 1.2.3 Pronouns

#### General Forms

The general set of pronouns manifest a threefold distinction for both person (first, second, third) and number (singular, dual, plural).

TABLE 4A: S/A (SUBJECT) PRONOUN SET

	Singular	Dual	Plural
1st person	S <i>Ayenge</i> A <i>the</i>	<i>ilerne</i>	<i>anwerne</i>
2nd person	<i>unte;</i> <i>nge</i>	<i>mpwele</i>	<i>arrantherre</i>
3rd person	<i>re</i>	<i>re-atherre</i>	<i>itne</i>

TABLE 4B: ACCUSATIVE (O) PRONOUN SET

	Singular	Dual	Plural
1st person	<i>ayenge</i>	<i>ilernenhe</i>	<i>anwernenhe</i>
2nd person	<i>ngenhe</i>	<i>mpwelenhe</i>	<i>arrenantherrenhe</i>
3rd person	<i>renhe</i>	<i>renhe-atherre(nhe)</i>	<i>itnenhe(nhe);</i> <i>renhe-areye</i>

TABLE 4C: POSSESSIVE PRONOUN SET

	Singular	Dual	Plural
1st person	<i>atyenhe</i>	<i>ilernekenhe</i>	<i>anwernekenhe</i>
2nd person	<i>ngkwinhe</i>	<i>mpwelekenhe</i>	<i>arrekantherrenhe</i>
3rd person	<i>ikwerenhe</i>	<i>ikwere-atherrenhe</i>	<i>itnekenhe</i>

TABLE 4D: DATIVE PRONOUN SET

	Singular	Dual	Plural
1st person	<i>atyenge</i>	<i>ilerneke</i>	<i>anwerneke</i>
2nd person	<i>ngkwenge</i>	<i>mpweleke</i>	<i>arrekantherre</i>
3rd person	<i>ikwere</i>	<i>ikwere-atherre</i>	<i>itneke</i>

#### Generation level and patrimoiety membership forms

In addition to the above set of general pronouns there exist in Eastern Arrernte some partial paradigms, which mark generation level and membership of patrimoiety. The nominative forms are as follows:

TABLE 4E: GENERATION AND MOIETY PRONOUNS (NOMINATIVE ONLY ILLUSTRATED)

		Same Moiety		Opposite Moiety
		Same Generation	Different Generation	
Dual	1st person	<i>ilerne</i>	<i>ilake</i>	<i>ilanthe</i>
	2nd person	<i>mpwele</i>	<i>mpwelake</i>	<i>mpwelanthe</i>
	3rd person	<i>re-atherre</i>	<i>alake</i>	<i>alanthe</i>
Plural	1st person	<i>anwerne</i>	<i>anwakerre</i>	<i>anwantherre</i>
	2nd person	<i>arrantherre</i>	<i>arrakerre</i>	<i>arrantherre</i>
	3rd person	<i>itne</i>	<i>itnakerre</i>	<i>itnantherre</i>

A particular feature of the third person pronoun is that it may occur with other nominals to mark

definiteness. When present, a definite pronoun occurs in the final position in an NP preceding case marking:

- (4) *ampe re*  
 child 3sg(DEF):NOM  
 ‘the child’

#### 1.2.4 Morphology and syntax

##### Nominals

In terms of its morphology, Eastern Arrernte is an agglutinative language which employs, in accord with other Pama-Nyungan languages, only suffixes, making no use of prefixes. It has fourteen cases and these are marked on the final element of the noun phrase. A simple noun phrase (NP), that is, noun phrases that have no other NPs embedded in their structure, may be either pronominal or non-pronominal. Minimally, a simple pronominal NP consists of a case marked pronoun. When fully expanded, simple noun phrases contain the following slots:

FIGURE 1: FULLY EXPANDED SIMPLE NOUN PHRASE STRUCTURE

[Classifier Noun]Hd      Adj.P      Quant.P      Demonstrative      3pnDEF -Case

While the order of the above constituents is given as they obligatorily occur, it should be noted that there is a little more flexibility in the ordering with the Adjective Phrase, the Quantifier Phrase and the Demonstrative slots, which are pragmatically governed. There is, however, a noted tendency for core arguments to precede the verb and for the peripheral elements to follow the verb. The only obligatory slot is-Case, which is suffixed to the final element of an NP. The constituent filling any of the other slots in the structure may stand as the only nominal in a NP; however, every NP obligatorily contains minimally one nominal. For illustrative purposes, some examples of simple NPs are given in (5):

- (5) a. [*akngwelye*N]Hd      [*urrperle akngerre*]Adj.P      *atherre*Quant      *-le*  
 dog                      black                      big                      two                      -ERG  
 ‘two big black dogs’
- b. [*artwe*N]Hd      *ampwe*Adj      *nhenge*Dem      *-ke*  
 man                      old                      REMEMB      -DAT  
 ‘(...and ask) that old man’
- c. [*merne*Class      *alangkwe*N]Hd      *nhenhe*Dem      *re*3pnDEF-*nhe*  
 food                      bush banana      this                      3sg                      -ACC  
 ‘(... eat) this bush banana’
- d. [*anwerne-nhe*]Hd  
 1pl-ACC  
 ‘(...hit) us’

##### Verbs

A fully expanded verb in Eastern Arrernte has a complex structure containing seven functionally distinct slots. The following structure, which has been slightly modified from Wilkins’ (1989, p. 226), illustrates the maximally expanded Arrernte verb:



the form *ayenge* for S and O grammatical functions. In this way the first person singular pronoun alone is marked according to an Ergative pattern while all other pronouns follow a nominative–accusative pattern of marking. A small set of examples illustrating case markings on pronominal forms is given in (7):

- (7) a. *Ayenge-Ø unte-me.*  
 1sg:NOM(S) run-NPP  
 ‘I am running.’
- b. *Re-Ø unte-me.*  
 3sg:S run-NPP  
 ‘She is running.’
- c. *The-Ø re-nhe atwe-ke.*  
 1sg:ERG(A) 3sg-ACC(O) hit-PC  
 ‘I hit him.’
- d. *Re-Ø ayenge-Ø atwe-ke.*  
 3sg:A 1sg:ACC(O) hit-PC  
 ‘He hit me.’
- e. *Itne-Ø arrenhantherre-nhe atwe-rrirre-ke.*  
 3pl:A 2pl-ACC(O) hit-PLURAL-PC  
 ‘They hit you.’

Non-pronominal forms are marked according to an ergative–nominative pattern; that is, they will take *le* ‘Ergative’ in A grammatical function and they will take  $\emptyset$  in S and O grammatical function. The examples in (8) serve to establish the pattern of marking for non-pronominal forms:

- (8) a. *Artwe-Ø unte-me.*  
 man-(S) run-NPP  
 ‘The man is running.’
- b. *Artwe-le akngwelye-Ø atwe-ke.*  
 man-ERG(A) dog-(O) hit-PC  
 ‘The man hit the dog.’
- c. *Artwe-Ø akngwelye-le uthne-ke.*  
 man-(O) dog-ERG(A) bite-PC  
 ‘The dog bit the man.’

In contrast with a significant number of Australian languages, Eastern Arrernte has neither distinct verb conjugations nor bound pronominals. The verb may, however, incorporate a non-obligatory inflection specifying number, but not person, of the S or A (i.e. the subject) (see Henderson’s (1990) paper for a summary of the complexities of number-marking in Eastern Arrernte verbs). The examples given in (9) give a small indication of the scope of number marking in verbs. Note that the single form is taken as unmarked:

- (9) a. *Ayenge-Ø ane-me.*  
 1sg:NOM sit-NPP  
 ‘I am sitting.’
- b. *Ratherre-Ø ane-rre-me.*  
 3dl:S sit-DUAL-NPP  
 ‘Those two are sitting.’
- c. *Itne-Ø ane-rrirre-me.*  
 3pl:S sit-PL-NPP  
 ‘They are sitting.’
- d. *The-Ø atwe-me.*  
 1sg:ERG hit-NPP  
 ‘I am hitting (someone else).’

- e. *Artwe atherre-le atwe-rre-me.*  
 man two-ERG hit-RECIP-NPP  
 ‘The two men are fighting (hitting each other).’
- f. *Ratherre-Ø atwe-rlanerre-me.*  
 3dl:A hit-DUAL-NPP  
 ‘Those two are hitting (someone else).’
- g. *Itne-Ø atwe-rrirre-me.*  
 3pl:A hit-PL-NPP  
 ‘They are hitting (someone else).’

One particularly interesting and elaborate feature of the verb morphology in Eastern Arrernte concerns the ability within a verb to specify that the action associated with the verb-stem happens in association with a motion event with a specific orientation in space (see Wilkins 1989, pp. 270–298). A verb inflected in this way may variously indicate that the verb action occurred while the subject was moving back towards the speaker, or it happened while going downwards, or after the motion of the subject was completed, and so forth. No fewer than fourteen forms have been identified which convey this type of information; the forms which constitute this grammatical category have been called, following Koch (1984, p. 23, quoted in Wilkins 1989, p.270), ‘the category of associated motion’. The examples given in (10) present a limited number of ‘associated motion’ inflected verbs for illustrative purposes:

- (10) a. *Re atnye-tye+kerle-ke kwatye-werne...*  
 3sg:S fall-DO+DOWNWARDS-PC water-ALL  
 ‘He fell down into the water...’ [*Ayeye Altyerrengeyetele* ref. 50]
- b. *...r-arle mpepe-ke atw-intye-ke...*  
 3sg:A-RELCL middle-DAT kill-TWD-PC  
 ‘...which he had killed on his way (toward here)’ [*Ayeye Altyerrengeyetele* ref. 5]
- c. *Ikwere-nge arrerne-lhe-ty+alpe-rlenge lyeke-le arne atnelhe*  
 3sg:DAT-ABL put-REFL-GO BACK+DO-DS prickle-ERG stick bottom  
*tanthe-ke.*  
 spear-PC  
 ‘After that when he had returned and sat down, a prickle stabbed him in the bum.’  
 [Wilkins 1989, p. 288]

### Clauses and simple sentences

There remain a few generalised comments to be made concerning the basic structure of clauses and simple sentences. (For a full discussion of simple sentences and the basic elements of clause structure, see Wilkins 1989, pp. 432–453). A sentence in Arrernte, at its simplest, comprises a nominal or verbal predicate, and, if there are any, the NP arguments that satisfy the semantic roles determined by the predicate. While it has been mentioned above (under ‘nominal morphology’) that the ordering of constituents in NPs is reasonably well fixed, this is not the case concerning the ordering of the constituents in a simple sentence, which have a tendency to be relatively free.

Regarding the ordering of the core grammatical arguments S, A, O and V, the patterns typically encountered in elicited sentences, and also frequently in both conversation and text, are SV and A (O)V, however all alternate orders are possible. One particular ordering tendency emerges in those instances where the verb is associated with three arguments. In these cases, the tendency is for two arguments to precede the verb and for one to follow. The more common pattern to be displayed in these type of sentences is for the S, A or O arguments to precede the verb and for the argument following the verb to be marked as ablative, dative, instrumental or allative. Consider for example the following three sentences:

- (11) *Kele artwe re arratye apmere mpware-tyenhenge*  
 OK man 3sg:DEF(A) true camp(O) make/do-SUBSQ(V)  
*itne-ke-nge arlenge ulkere.*  
 3pl-DAT-ABL long way TYPE  
 ‘So, the man made camp far from them.’ [*Ayeye Altyerrengeyetele* ref. 13]

- (12) *Rlke akngerre-le ure ntyethe werne-ke akwintye-werne-atheke...*  
 wind big-ERG(A) fire spark(O) blow-PC(V) windbreak-ALL-DIR  
 ‘A gust of wind blew a spark towards the windbreak...’
- (13) *Ilengare-me unte pwerte nhenge nth-irtne-me atyenge?*  
 when-INTER 2sg:S(S) money REMEMB give-DO.BACK-NPP(V) 1sg:DAT  
 ‘When are you giving that money (you remember) back to me?’ [Wilkins 1989, p. 277]

With respect to relative clauses (see Wilkins 1989, pp. 414–431), they may be either fully embedded, or split from their head, although there are instances of headless relatives as well as both internally and externally headed relatives. The position of the head noun in relation to the subordinated (relative) clause is the particular structure which serves to distinguish the different relative clause types. An example of a headless relative clause type is found in the *Ayeye Altyerregentyele* text and is reproduced here in (14). In this example of a headless relative, the main clause is marked with the allative (ALL) but the locative (LOC) marked head is missing altogether:

- (14) *Kele artwe alethenge re apwerte kertne-ke antye-nhe-ke*  
 So then man stranger 3sg:S hill top-DAT climb-DO.PAST-PC  
*[artwe anew-ikwe r-arle ane-tyeme]RELCL -werne.*  
 man spouse-3KinPOSS 3sg:S-REL sit/live-PP -ALL  
 ‘So the stranger climbed up the hill towards (the place) where the woman's husband was sitting.’ [*Ayeye Altyerregentyele*, ref. 40, 41]

Dependent clauses can be of either the adjoined or the embedded type. Tracking of referents across clauses can be accomplished by either pronouns or zero anaphora. However, in addition to this, there is also a well developed system of switch-reference whereby the identity or non-identity of the subject (i.e. S or A) can be clearly tracked across two clauses. The clause which is switch-reference marked functions either as a temporal adverbial clause or as a causal clause with respect to the clause upon which it is dependent. Within this system, the subject (S or A) of the dependent clause is marked according to whether it is the same as or different from the subject of the main clause (see Wilkins 1989, pp. 454–487). Examples of switch-reference marked clauses where the dependent clause, which takes the switch-reference marker, is functioning as a temporal adverbial clause are given in (15), and examples of switch reference marked causal clauses are given in (16):

- (15) a. *Anwerne akngerre-ke akaltye-irre-ke [school]e-ke irrpe-me-le.*  
 1pl:S big-DAT learn-INCH-PC school-DAT enter-NPP-SS  
 ‘We learned a lot while we were going to school.’ [*Arlungawerne Alpeke* ref. 28/29]
- b. *Re re-nhe are-ke*  
 3sg:A 3sg-ACC see-PC  
*apwerte inteye kwene-le ane-rle+ane-rlenge...*  
 hill cave inside-LOC sit/be-CONT+BE-DS  
 ‘She saw him sitting in a cave...’ [*Ayeye Altyerregentyele* ref. 30/31]
- c. *Ratherre akerre-iwe-me-le anthurre*  
 3dl:A spread things around-throw-NPP-SS INTENS  
*mane-ke ilkake-lhe-ke.*  
 money-DAT search-REFL-PC  
 ‘They spread things all over the place while they were searching for money.’
- (16) a. *Alkngenthe ware marte-ke, payem-ile-tyakenhe-nge.*  
 light ONLY shut-PC buy-CAUS-VNEG-DS  
 ‘They just cut the electricity off, because the bill hadn’t been paid.’

- b. *Arelhe*      *yanhe-le*                      *atherre*      *antyame*  
 woman      that(MID)-ERG      two      blanket  
*alparre-ile-me-le*                      *antyame-iwe-me*,  
 flatten out-CAUS-NPP-SS      blanket-throw-NPP  
*lyete-arle*      *akwele*      *mane*      *akngerre-ke*      *arrkene-irre-rirre-tyenhe-nge*.  
 today-FOC      QUOT      money      big-DAT      fun-INCH-PL-FUT-DS

‘Those two women are spreading out a blanket and straightening it out because people are going to be playing (cards) for a lot of money today.’

It has not been my intention here to give any kind of detailed description of all the rich variety of features of the grammar or phonology of Arrernte. This task, at least in respect of the grammar, has already been adequately accounted for by Wilkins (1989). Rather, it has been my aim to offer a brief introduction to Arrernte, drawing attention to the most salient features of the phonology and grammar in a way that provides an orientation to the material that follows in the remainder of this work.

### 1.3 Conclusions

In this chapter we have introduced the main concerns and aims of the study, and why they are significant. The remainder of this paper seeks to provide answers to the questions concerning the semantic structure of logical relations and the means of expressing these relations in Arrernte. An introduction to the phonology and grammar has also been provided, giving some indication of the complexity and richness of the language resources as well as providing an orientation to the significant features of syntax which will assist in the reading and understanding of the discussion of inter-propositional relations.

A brief overview is now offered, by way of introduction to the content presented in the remaining chapters. Chapter 2 introduces the Semantic Structural Analysis (SSA) theory upon which the initial task of analysing logical relations, as they are expressed in Arrernte, was based. The methodology associated with the application of this theory to the task is also presented there. An orientation is provided as to how the semantic relation between propositions is displayed within the Semantic Structural Analysis theory. This chapter identifies the inherent problems with this approach and proposes a solution. The solution offered effectively anchors the typology associated with logical relations in lexico-grammatical universals, that is, in effect, semantic primes allied with Natural Semantic Metalanguage (NSM) theory. An overview of the fundamental tenets of NSM theory are also presented here. Chapter 2 concludes by positing a prototypical scenario for BECAUSE-type sentences and IF-type sentences.

Chapter 3 begins by looking at the relationships between propositions in Arrernte, specifically confining the discussion to logical types, using the Semantic Structural Analysis approach as set out in Chapter 2. The discussion then turns to an examination of each of the seven different SSA types to see if they can be combined into two general types—BECAUSE-types and IF-types—and described using NSM syntax. In so doing, I explain the main features and varieties of expression of the types under discussion. The remainder of the chapter examines a range of specific Arrernte examples in which each of the logical relation types is separately expressed. A semantic explication is proposed for each, expressed as a reductive paraphrase in terms of NSM semantic primes. In this way two core categories of logical types are established: a BECAUSE-type and an IF-type.

The discussion in Chapter 4 turns to an examination of the specific way in which the two core categories of logical relations are marked in Arrernte sentences. To accomplish the task, Chapter 4 identifies recurrent patterns of marking of logical relations, compares those features relevant to concept of natural and marked prominence, examines the distinguishing features of same and different subject purpose sentences, provides details of the range of devices in Arrernte used to indicate a BECAUSE-relation, examines the relevant features of switch-reference marked inter-clausal relations and looks at those juxtaposed clauses understood as encoding a BECAUSE-relation. The salient features associated with the semantic structure and expression of IF-type sentences are examined in a separate section in the remainder of this chapter.

Chapter 5 introduces how logical relations are expressed at higher than sentence levels in the semantic hierarchy. Some general comments provide an orientation to various discourse considerations including cohesion and the various means used to hold the thread of discourse together. Two specific

texts, one a Dreaming narrative, and the other a recount narrative in which childhood memory is recounted, are examined and some general observations made regarding the semantic structure of discourse. In addition some preliminary observations are expressed regarding the type of reasoning process that can be identified. Preliminary observations point to the need to consider factors beyond a straight analysis of the data. Despite the fact that both texts share the same author, two distinct patterns of argumentation are displayed: a deductive reasoning process is evident in the recount narrative, while an inductive process is evident in the Dreaming narrative. Some tentative reasons are suggested for why this should be the case. Chapter 5 concludes by pointing to topics which require further research before yielding any significant answers. Chapter 6 brings together the significant conclusions from this study.

## Chapter 2: Theoretical Overview

The initial approach applied to the study and analysis of logical relations in Eastern Arrernte was based on Semantic Structural Analysis theory; what follows is an introduction to the key elements of this theory and an overview of how the methodology associated with the theory is applied to the analysis and display of the language material under review. The main terms associated with the theory are introduced and an explanation is offered of the way in which the relevant terms are used within the theory. The difficulties mentioned in the preceding chapter (see § 1.1), concerning the application of the theory, are discussed below. The solution set forth lies in the application of a second theoretical approach, namely the Natural Semantic Metalanguage (NSM) approach, and an overview of this theory is also introduced here. This introduction to the theoretical basis adopted for the study of logical relations in Arrernte concludes by raising the possibility that Larson's (1984) seven distinct categories of logical relation can be grouped together and expressed as two core types using NSM syntax.

### 2.1 Overview of Semantic Structural Analysis theory

The kind of analytical approach to discourse referred to as a 'Semantic Structural Analysis' (SSA) is based on the theory of semantic structure set forth in 'The Semantic Structure of Written Communication' (Beekman, Callow & Kopesec 1981) and later developed by Larson (1984). Within this theory of the structure of meaning, a consistent and comprehensive approach to the analysis of the meaning is applied to the total text. The term *structure* when used in this context is meant to indicate that the text under consideration is regarded as consisting of a coherent grouping of constituent parts. Each of these constituents, in turn, consists of coherent groupings of yet smaller constituents, and so on. These constituents, of whatever size or complexity, are identified and then (apart from the concepts, the smallest constituents of all) they are described as to their role or function within the total structure and as to their relationship to other constituents. As a structural analysis, the focus of this approach is also on the most important ('prominent') information being communicated.

*Concept* within this theory corresponds roughly to the word or phrase in grammar—to the meaning content only, not to the actual form (word). It is typically a coherent grouping of semantic components which refers to or names a thing, an event, an attribute or a relation in the world spoken of in the discourse/text being considered. Each separate language has its own unique inventory of concepts; Barnwell (1980, p. 141) offers the following explanation as to how these concepts can be identified:

In a given language, the concept unit usually, but by no means always, is represented by a word; it may also be represented by a morpheme, or by an idiomatic expression, or by tone, or by word order. Concepts are identified in a given language on the principle of *contrast and comparison* within the system of that language. Each concept is associated with a particular area of meaning which is distinct from that of other concepts in the language; its function is to refer to some specific area of meaning.

The concept characteristically functions as a constituent of a proposition and has a role within it; but such roles, while part of the total theory, are little used in this type of analysis.

There are two main points of this theory relevant to the present discussion: The first is that a discourse may be assumed to consist of *semantic units* and these units are arranged in a *hierarchical system*. The second is that each *semantic unit* is characterised by a set of meaning features. The particular features of concern here (they may be grouped as analytical features) are *consistency*, *coherence* and *prominence*. The term *semantic* draws attention to the concern of this approach with meaning. It assumes that in a system of communication meaning has priority over the forms used to convey it.

The feature of *consistency* is that each semantic unit consists of other semantic units. *Coherence* has to do with how those constituent units combine with each other. *Prominence* has to do with the relative degree of importance of information in a semantic unit. Here a distinction is made between natural and marked prominence. *Natural prominence* is closely tied to the relational structure. In many binary pairs of relations, one of the two relations is assumed to be naturally more prominent. For example, in this approach to the analysis of relations between propositions, there is an assumption made that an exhortation is more prominent than the grounds it is paired with, the result is more prominent than the reason, and so on. *Marked prominence* is shown by special linguistic devices in the language under consideration. This could be by means such as non-typical ordering of the clauses, by a propositional

cluster of lesser natural prominence being given the form that would be expected of a prominent cluster, or in some instances by the use of clitic specifically marking focus or prominence.

Although semantic structure is spoken of as more of a network of configurations, each being part of a larger configuration, for practical purposes this study will look at semantic structure hierarchically as well. Following Larson (1984, pp. 30–31), the smallest unit is a *meaning component*. Meaning components unite into *concepts*, concepts into *propositions*, propositions into *propositional clusters*, propositional clusters into *semantic paragraphs*, semantic paragraphs into *episodes*, episodes into *episode clusters*, and these units unite to form *larger units of the discourse*. The structure is one of smaller groupings uniting to form larger groupings. These various groupings then make a statement about semantic structure. It should be noted here that, although these levels have been specified, it does not assume that there is widespread agreement about precisely how many levels may be distinguished in the semantic hierarchy. The concern of this paper is primarily with the way in which *propositions* combine into *propositional clusters*, and secondarily with how propositional clusters combine into *semantic paragraphs*.

While it has been stated that the groupings proposed within this theory make a statement about semantic structure, they are also related to the grammatical units, although there will, of course, be a certain degree of skewing between the two. Larson (1984, p. 271) acknowledges that if skewing did not take place, then in every instance the *proposition* would equate with the *clause* or *simple sentence*, the *propositional cluster* would equal the *complex sentence*, and so on. The following list (Larson 1984, p. 271) is presented as a means of showing, in relation to narrative discourse, the match that would exist between semantic structure and grammatical structure if there was no skewing of groupings:

<b>proposition</b>	<i>clause/simple sentence</i>
<b>propositional cluster</b>	<i>sentence (of more than one clause)</i>
<b>semantic paragraph</b>	<i>paragraph</i>
<b>episode</b>	<i>section</i>
<b>episode cluster</b>	<i>division</i>
<b>part</b>	<i>part</i>
<b>discourse</b>	<i>text</i>

Larson refers to those groupings in the left-hand column as **communication units**. So then, by way of explanation, Larson (1984, p. 272) goes on to say:

Just as the concepts within a proposition are related to one another other by **case (role) relations** such as AGENT, AFFECTED, and LOCATION, so propositions are related to one another by **communication relations** such as **reason–RESULT**, **MEANS–purpose**, and **grounds–CONCLUSION**.

According to this explanation, the role specified using capital letters identifies the HEAD proposition (or in some instances the HEAD cluster) while the role specified using lower case letters identifies the proposition (or proposition cluster) which supports the HEAD.

It has been said that the *proposition* corresponds roughly to the clause or simple sentence. By way of further explanation, the following is offered as a summary of the key ideas in relation to propositions:

- (a) A proposition is the smallest unit of communication, the smallest unit of linguistic meaning which actually says something about something. (Barnwell 1980, p. 159)
- (b) A proposition is a significant grouping of a small number of concepts into a unit which communicates. (Larson 1984, p. 189)
- (c) Each concept within a proposition has its own distinctive role and each proposition consists of at least two concepts.
- (d) In straightforward instances, a proposition is the meaning expressed by a simple declarative sentence when it is uttered to make a statement. (Lyons 1977, p. 141–2)
- (e) In a discourse, propositions relate to each other and group together to form larger semantic units.

Although a proposition is the semantic equivalent of a clause, there is not always a one-for-one match between grammatical clauses and semantic propositions; it is at this point that skewing occurs between the semantic and the grammatical structure. Some clauses express two or even three propositions, and some propositions are expressed by a noun phrase rather than by a clause and so on at various levels of the semantic hierarchy.

There are two broad classes or kinds of propositions: *Event propositions*, that is those containing an Event concept as their central, semantically most important, part and *State* (or *Attributive*) *propositions*. Generally speaking, Event propositions can be distinguished from State propositions by the fact that they answer the questions: ‘What happened?’, ‘What’s happening?’, etc. State propositions generally consist of two (or three concepts), typically a Thing functioning as a Topic, and all other concepts together functioning as a Comment and may be expressed as either a stative or equate clause, as in (1) consisting of three concepts or as a simple NP, as in (4) comprising two concepts. These distinctions in classes of propositions are illustrated in Arrernte as follows:

### State propositions

- (1) [Arne pmerlpe]<sub>topic</sub> [arlpentye kngerre ulyentye akngerre-arlke.]<sub>comment</sub>  
 tree quandong tall big shady big-TOO  
 ‘The quandong tree is tall and shady.’
- (2) [Ayeye]<sub>topic</sub> [Antethe-kerte]<sub>comment</sub>  
 story flower-PROP  
 ‘A story about flowers.’
- (3) [Akaperte aheye-aheye]<sub>topic</sub> [apele nhenge akaperte mpepe-le]<sub>comment</sub>  
 head fontanel FACT REMEMB head middle-LOC  
 ‘The fontanel is in the middle of the head.’
- (4) [kngwelye]<sub>topic</sub> [urrperle]<sub>comment</sub>  
 dog black  
 ‘the black dog’

### Event propositions

- (5) [Angepe]<sub>thing</sub> [angkentye akngerre-irre-ke...]<sub>event</sub>  
 row talk big-INCH-PC  
 ‘The crow started talking...’
- (6) [Artwe alethenge re]<sub>thing</sub> [re-nhe tyen-irtne-ke.]<sub>event</sub>  
 man stranger 3sg:DEF 3sg-ACC say-back-DO.BACK-PC  
 ‘The stranger answered her back.’

The proposition, as illustrated above, is typically a coherent grouping of concepts which communicates an event, or a state. Broadly speaking, the proposition carries out one of three communication, or illocutionary functions—it asserts, questions or commands the event or state that it refers to. Further to this, the constituents of a proposition (typically concepts) are linked together by a system of relations, referred to above, in which the constituents fulfil what have come to be called (as mentioned above) ‘case roles’ (see Beekman, Callow & Kopesec 1981, ch. 6), or as Larson (1989, p. 272) prefers ‘case relations’. Using this terminology in example (5) above, ‘the crow’ is fulfilling the ‘agent’ role, and in example (6) ‘the stranger’ is fulfilling the ‘agent’ role and ‘her’ is functioning in the ‘affectant’ role.

For present purposes, a discourse is the whole of what one speaker says at one time, and a semantic discourse is the meaning of the discourse. Despite some lingering uncertainty about exactly how many distinctive levels there are in the semantic hierarchy, this much is clear: At each (even non-distinctive) level the semantic side of discourse is structured; identifiable parts or units are organised in recognisable patterns, and these units have semantic relationships with each other and semantic roles within the next larger unit of which they are a part. It is these relationships and how they are expressed in Arrernte that remain the focus of this paper.

## 2.2 Methodology—a standard format for representing propositions

Within this type of proposition-based approach to the analysis of texts, several possibilities exist regarding the best way to represent each proposition. Of course, it would be helpful if the written representations of propositions were analogous to the form they take in the mind. However, very little is known concerning the precise form propositions take in the mind. So then, acknowledging the above limitation, some kind of schematic or algebraic representation of propositions could be used

according to their nature as far as we understand it. The difficulty here is that there are widely differing views about how this might be done, and some linguists' representations can be quite complex and opaque and as such are open to a charge of obscurity (Goddard 1998). For instance, one could consider the types of semantic representations associated with proponents of the conceptual semantics theoretical approach (see, for example, Katz 1972 and more recently Jackendoff 1990), in which abstract metalanguages have been employed to represent conceptual functions. The following Jackendoff-style formula (example from Goddard 1998) as it is applied to the event concept 'drink' can only be understood if one mentally translates it into something similar to: '*drinking* is an event in which something causes liquid to go into its own mouth':

*drink* =  
 [Event CAUSE ([Thing ]i, [Event GO ([Thing LIQUID]j,  
 [Path TO ([Place IN ([Thing MOUTH OF ([Thing ]j))])])])])]

Pictures or diagrams have sometimes been used (see, for example, Lindner 1983, cited in Goddard 1998, Johnson 1987, Langacker 1988), but these cannot handle all situations, nor can they be understood by everybody without ambiguity. It is also not at all clear in what way various image schemas can be made to 'interface with the propositional aspects of meaning', as noted by Goddard.

To meet the need for having a method of representation that is not dependent on theoretical niceties, and can be applied here-and-now, despite the deficiencies of our current understanding, a tradition has developed, and been expounded within the Semantic Structural Analysis approach to meaning relations, that propositions should be represented by language itself in its clearest possible form.

The following points, based upon the method of representation set out in Beekman, Callow & Kopesec (1981, p. 65), summarise briefly the procedure for representing propositions within the Semantic Structural Analysis theory:

- (i) Rewrite the material, representing each proposition by a single clause on a new line.
- (ii) Reword the material conservatively so as to match grammatical classes with semantic classes, using nouns to represent Thing concepts, verbs to represent Event concepts, etc.
- (iii) Wherever possible put verbs into active, finite forms. (Avoid passives, infinitives and stand-alone participles.)
- (iv) Use words only in their primary sense to verbalise semantic notions.
- (v) Replace figures of speech, idioms etc. with non-figurative language. (Note that some linguists prefer to retain live similes and make their topic and point of similarity explicit.)
- (vi) Make explicit the full meaning of semantically compact expressions such as genitive and causative expressions.
- (vii) Unpack complex concepts (e.g. in abstract nouns) by expressing their imbedded propositions as separate relative clauses.
- (viii) For an Event proposition, explicitly state all its obligatory roles.
- (ix) Put in parentheses any implicit information that has been made explicit in the propositionalisation.

While recognising that the above summary represents a significant step within the SSA theoretical framework in the process of representing the semantic analysis of a particular set of propositional relations, it is not my intention here to attempt to exemplify each of these processes and their application to the material being analysed. For the most part throughout this study the analysis of the semantic structure of logical relations is focussed upon inter-propositional relations at sentence level and the method of representation outlined above has not been applied rigorously at this level. Rather, attention is drawn to a comparison of the way the two texts (see Appendix 3) have been represented: in one instance as an interlinearised straight translation of the Arrernte into English, and in the second instance having been analysed into their base propositional structure where the above methodology has been applied and each proposition is represented on a separate numbered line.

### 2.3 Relations between propositions in discourse

Semantic relationships between propositions or between small clusters of propositions transcend grammatical sentence boundaries. According to the analytical framework associated with the Semantic Structural Analysis theory the following are the five main tenets which underlie the description of inter-propositional relations:

- (a) The semantic relation between two propositions may be described by a so-called ‘modest set’ of twenty-eight inter-propositional relations (as Larson 1984 has described them) and each of these is represented in Table 5 below.
- (b) Most inter-propositional relations are intrinsically bilateral. There are, however, five relations of the twenty-eight identified which potentially include more than two. That is, they are intrinsically multilateral relations, including those relations labelled below as ‘sequential’, ‘simultaneous’, ‘conjoining’ and ‘alternation’, and therefore would be considered as ‘coordinate’ rather than ‘subordinate’, which involve only a pair of clauses, as noted by Blake (1987, p. 139).
- (c) It seems that, in general, it is best to regard the linear order of two clauses as a property of the morphosyntax/grammar and to regard the semantic relation between two propositions as unordered.
- (d) In the majority of languages there is not a one-to-one matching between the semantic inter-propositional relations and the grammatical sentence types and/or conjunctions used to encode them.
- (e) The definitions of the various inter-propositional relations tend to have a few fuzzy edges.

## 2.4 Analysing and displaying sentences semantically

The system adopted here for displaying the inventory of inter-propositional relations is that used by Larson (1984); the chart itself is adapted from Roberts (1997).

TABLE 5: CHART OF RELATIONS BETWEEN COMMUNICATION UNITS

EQUAL	Chronological		sequential	
NATURAL	(time in focus)		simultaneous	
PROMINENCE	non-chronological		conjoining	
			alternation	
			orienter	CONTEXT
	orientation		circumstance	HEAD
			introduction	HEAD
			opening	BODY
			move <sup>n</sup>	HEAD
	chronological		step <sup>n</sup>	GOAL
			occasion	OUTCOME
			HEAD	equivalent
UNEQUAL		restatement	GENERIC	specific <sup>n</sup>
NATURAL			generic	SPECIFIC
PROMINENCE			contraction	amplification
			HEAD	comparison
		clarification	HEAD	illustration
			HEAD	manner
	non-chronological		contrast	HEAD
			RESULT	reason
			RESULT	means
		logical	MEANS	purpose
			condition	CONSEQUENCE
			concession	CONTRAEXPECTATION
			CONCLUSION	grounds
			EXHORTATION	GROUND
		associative	HEAD	comment
			HEAD	parenthesis
CONCEPT	COMMUNICATION UNIT	RELATIONS	CONCEPT	identification
			CONCEPT	description

Within this theory, it has proved convenient to describe each intrinsically bilateral relation with a hyphenated label, and to attach the appropriate half label to each proposition (e.g. **reason**–**RESULT**). In many of the relations between propositions, one part of the hyphenated label is traditionally written in full capital letters. In Larson’s framework of binary relationships between propositions, a key notion is that of support–**HEAD**, where one proposition is deemed more ‘prominent’ semantically than the other proposition. Accordingly, Larson divides propositional relationships into those having ‘equal natural prominence’ and those having ‘unequal natural prominence’. The so-called support–**HEAD** relationship is one of unequal natural prominence. In this relationship the more prominent proposition is labelled **HEAD** and the second proposition supports this **HEAD** proposition by orientation, clarification or logical argumentation. While Larson does not define the basis on which the **HEAD** proposition is determined, the support–**HEAD** relationship tends to correspond with the distinction between the subordinate clause and the main clause and the proposition functioning as the main clause is the semantic head of the relationship.

Beekman and Callow (1974) however do define the notion of **HEAD** proposition in semantic terms as the ‘development’ proposition. By this they mean the proposition that develops a semantic unit of a discourse in some way. Further to this, they say that support relations can be classified on the basis of their semantic function in a discourse according to three different functions:

- (i) The support proposition *clarifies* another proposition, by explaining or highlighting it.
- (ii) The support proposition *argues* for another proposition, by giving its logical antecedent or consequent.
- (iii) The support proposition *orients* (by association) another proposition, by giving its setting relative to time, space, or other events.

The following Arrernte examples are given here to provide some orientation to the way in which this system of classifying propositions according to their semantic function applies. An example in which a support proposition *clarifies* another proposition is given in (7); (8) provides an example of a support proposition which *argues* for another proposition, and an example in which the support proposition *orients* another proposition is given in (9):

(7) **HEAD**            *Kenhe urreye re artwe ikwere ile-ke*  
                          BUT boy 3sg:A man 3sg:DAT tell-PC  
**manner**            *arreye-me-le.*  
                          whisper-NPP-SS  
                          ‘But the boy, in a low voice, did tell the man.’ [*Ayeye Altyerrengeyetele* ref. 100]

(8) **RESULT**        *Atyenge anewe ilwe-ke*  
                          1sg:DAT spouse die-PC  
**reason**            *ngkwenge-nge ware.*  
                          2sg:DAT-ABL JUST  
                          ‘My husband is dead because of you.’ [*Ayeye Altyerrengeyetele* ref. 140]

(9) **HEAD**            *Ayenge ampe kweke [5 years old] ane-rlenge*  
                          1sg:NOM child small 5 years old sit/be-DS  
**comment**        *[dormitory]e-ke akwerne-ke*  
                          (circumstance) dormitory-DAT put in-PC  
                          ‘I was a child of 5 years old when they put me in the dormitory.’ [*Arlunga-werne Alpeke* ref. 22/23]

## 2.5 Problems with the methodology

The methodological framework used for carrying out a proposition-based analysis of texts is not without its problems and critics; the ensuing difficulties of applying the methodology become increasingly clear as one progresses with an analysis of a particular set of features. In their book *Discourse Analysis* (1983), Brown and Yule quote Kintsch (1974, p. 124), who states the fundamental difficulty with this type of approach to semantic analysis, and then gives his solution:

one of the major problems in work of this type is that no algorithmic procedure exists to analyse a given sentence (or paragraph) into its propositional base structure. However, one can start with the propositional expressions themselves and translate these into English text.

While this may be true, it hardly provides an adequate resolution of the problem and basis for proceeding with this kind of approach to the analysis of semantic structure. However, it must be acknowledged here that Beekman, Callow and Kopesec (1981) have at least made an attempt (see § 2.2) to establish a set of principled guidelines for undertaking a proposition-based analysis of text. According to Brown and Yule (1983, pp. 114–15), what Kintsch is saying above is that:

...despite the appearance of a highly formal and therefore objective type of approach, the proposition-based analysis of natural language texts is inevitably subjective...It cannot really be tested. It can only be challenged by another analyst saying, 'My semantic representation is different from yours', and no principled means is available for deciding which of the two is correct, or even which is better...A set of sentences constructed from a set of propositions may indeed demonstrate that the resultant natural language texts have propositional structure, but the argument has a distressing circularity.

Brown and Yule (1983, p. 115) go on to say:

An attempt to find an appropriate relationship between propositions and natural language texts which avoids the claim that the content of texts is stored in propositional form can be found in Clark & Clark (1977). They suggest that 'even if information is represented in forms other than propositions, one might argue that it must be transformed into propositions before it can take part in the utilization process or in memory retrieval for the construction of sentences' Clark & Clark (1977: 164). A similar view has been expressed by Chafe (1977: 54) in that 'knowledge is not stored propositionally at all...the basic form of store may consist of individuated events and objects, each with an associated analogic content...until a need to verbalize them makes propositional decisions necessary'.

With Brown and Yule we can say, in the light of these comments, that it is clear that proposition forming can be assumed to be part of the process involved in producing sentences. A proposition may thus be said to be a partial structuring of what one wishes to communicate and, as such, is part of the verbalisation process. In this sense, therefore, a particular sentence cannot be treated as having a single propositional source. It may have resulted from a number of quite different propositions. Bearing this in mind, it is clear that any analysis of the sentences in a text which appeals to the propositions involved in the production of those sentences will necessarily have to appeal also to the aspects of the context in which those sentences were produced. The problem of reconstructing the underlying proposition (s) for a sentence should be quite apparent. It involves reconstructing the proposition and its relationship to other propositions that the producer of the sentence intended the sentence to convey. 'The discourse analyst who wishes to present his analysis in propositional terms should realise, therefore, that his analysis represents not a straight translation from sentence meaning into an alternative format, but an interpretation of the speaker's / writer's intended meaning in producing the discourse' (Brown & Yule 1983, p. 115).

A further significant difficulty with this approach lies in the specific terms used to describe the various kinds of inter-propositional relationships that have been identified. With particular reference to the set of logical relations there is a difficulty in attempting to analyse the relations between a particular pair of propositions using the semantically complex notion of 'reason', in addition to the other semantically complex notions which constitute the so-called 'logical' set. To discuss one semantically complex notion, for instance, as in the case of 'reason', 'purpose', 'consequence' or any other of the labels allied with SSA theory, is to remain open to the charge of obscurity and circularity of definition. The challenge therefore, is to find a means by which the semantic relationships under review can be described in the simplest of terms in a way that avoids both obscurity and circularity.

## **2.6 Proposed solution to this dilemma**

While I acknowledge that the Semantic Structural Analysis approach to the study of texts has some useful features (in the sense that it attempts to describe in detail, via a system of bilateral relations, the types of semantic relationships existing between a given set of propositions within a text and how these relationships are encoded grammatically), the results of such an investigation are hampered by

the lack of clear and precise (and so universally applicable) definitions.

The recognition of this problem is certainly not new in linguistics; in fact, it was recognised long ago, as early as the time of Aristotle (Wierzbicka 1980, p. 12):

One of the most important principles of semantic analysis was stated by Aristotle, 2500 years ago. It says that explications must differ from ad hoc paraphrases by their directionality, that is by their systematic orientation towards reducing words which are semantically more complex and obscure to other words which are relatively more simple and clear.

Indeed, the SSA approach to semantic analysis falls prey to this concern when one considers the terminology used to describe the set of bilateral relations between propositions. Consider, for example, two propositions whose relation is described in terms of the semantically complex ‘RESULT–reason’ classification or ‘RESULT–means’ classification. Further to this observation and in connection with the cross-linguistic comparability of grammatical constructions Croft (1990, p. 11, quoted in Wierzbicka 1996, p. 408) quotes Greenberg’s (1996a, p. 74) statement: ‘I fully realise that in identifying such phenomena in languages of differing structure, one is basically employing semantic criteria’. He goes on to say:

These brief remarks summarize the essential problems and a general solution. The essential problem is that languages vary in their structure to a great extent; indeed, that is what typology (and, more generally, linguistics) aims to study and explain. But the variation in structure makes it difficult if not impossible to use structural criteria, or only structural criteria, to identify grammatical categories across languages.

Wierzbicka states that not only is Croft in agreement with Greenberg’s conclusion that ultimately the solution to the problem is a semantic one, but she is also. What Wierzbicka goes on to do, however, is propose what she describes as a ‘concrete methodological solution: anchoring typology in lexico-grammatical universals (that is, in effect, semantic primes)’. Wierzbicka elaborates on this point claiming that the difficulty presented in relation to the central problem of cross-linguistic comparison of grammars (and by association how grammar encodes meaning) can be solved.

The proposed solution involves the process of discovering the prototypical meaning around which a particular grammatical construction is centred and identifying the meanings of grammatical categories in terms of universal semantic primes and, in particular, by identifying recurring semantic prototypes in such terms. For our purposes, that would entail using Natural Semantic Metalanguage (NSM) theory as a way of identifying and describing the set of logical relations—the prototypical meaning around which logical types are centred—and about the way grammar is used to encode meaning associated with these types. (For the most comprehensive recent account of the NSM theory see Wierzbicka 1996, who is the main proponent of the theory.)

## **2.7 Natural Semantic Metalanguage theory overview**

The reductive paraphrase or Natural Semantic Metalanguage (NSM) approach to semantic analysis is based on the principles of simplicity and clarity. In this system, the meaning of a semantically complex expression (whether it be a word or a grammatical construction) is described using an explanatory (reductive) paraphrase or ‘explication’ composed in the simplest possible terms. These simplest of terms comprise the set of proposed ‘semantic primitives’, a set of universal (or near universal) lexical items that are resistant to further definition. This irreducible semantic core of any given language exists within and as a subset of that language and it is drawn from entirely natural language. As such, a full rendering of the semantic metalanguage must therefore include both its lexicon and its syntax.

By using this set of universal semantic primes, the NSM approach effectively negates the use of or dependence upon either highly technical or semantically complex terms or, as in some approaches, on an abstract metalanguage (cf. Jackendoff 1990) as in a conceptualist approach. Jackendoff, as a proponent of the conceptualist approach to semantics, holds the view that ‘conceptual’ primitives (his preference) are not secured in the meanings of ordinary words at all; rather they are found among the innate concepts which include a set of ‘conceptual categories’ labelled ‘semantic parts of speech’. NSM also avoids dependence on logical formalisms characteristic of other approaches to semantic analysis (see, for example, Allwood, Andersson & Dahl 1977; Bach 1989; Cann 1993).

In the case of a Semantic Structural Analysis approach to the relations between propositions, the application of the NSM theory provides an efficient tool for talking about the relations in a way transparent to other analysts and in so doing avoids the claim of non-testability or an inevitable subjectivity. The term *universal* is used as in the above context in relation to the posited set of semantic primes in the sense that each of the elements has an equivalent in all languages; that this should be so has been well demonstrated in cross-linguistic studies (see, in particular, Goddard & Wierzbicka (eds) 1994).

It is beyond the scope of this work to discuss in any detail each of the 55 posited primitives, or to enter into a discussion of the validity of the claim that equivalents to each one exist in all languages. (For a detailed study on these matters, see Wierzbicka 1996. For a discussion which focuses specifically on a cross-linguistic study of the equivalents of the semantic primes see Goddard & Wierzbicka (eds) 1994.). Table 6 (adapted from the primes listed in Wierzbicka 1996) provides the current list of all 55 posited semantic primes.

TABLE 6: PROPOSED SEMANTIC PRIMES

Substantives:	I, YOU, SOMEONE, SOMETHING/THING, PEOPLE/PERSON
Determiners:	THIS, THE SAME, OTHER/ELSE
Quantifiers:	ONE, TWO, ALL, MANY/MUCH, SOME
Mental Predicates:	WANT, FEEL, THINK, KNOW, SEE, HEAR
Speech:	SAY, WORD
Actions, events, movement:	DO, HAPPEN, MOVE
Existence and life:	THERE IS, LIVE
Descriptors:	BIG, SMALL
Evaluators:	GOOD, BAD
Time:	WHEN/TIME, NOW, AFTER, BEFORE, A LONG TIME, SHORT TIME
Space:	WHERE/PLACE, HERE, ABOVE, BELOW; FAR, NEAR; SIDE; INSIDE
Logical concepts:	NOT, MAYBE, IF, CAN, BECAUSE, IF...WOULD
Intensifier, augmentor:	VERY, MORE
Taxonomy, partonomy:	KIND OF, PART OF
Similarity:	LIKE

It has been proposed (Goddard 1997a, p. 1) that the entire list of semantic primes (currently standing at 55) posited in the NSM theory can be regularly found as components of a grammaticalised meaning; that is, all can be identified as semantic components of grammatical categories in the world's languages. In fact, Wierzbicka (1988, 1996) contends that within the proposed NSM framework 'all aspects of grammar' can be analysed within the framework of the reductive paraphrase approach (this includes all the possibilities of combinations, valency options associated with participant roles and possibilities of complementation). Precisely how and the extent to which the NSM approach can be applied to grammatical meaning remains a matter of ongoing research (for example, Wierzbicka 1998; Goddard 1997a).

Regarding the claim of the theory that the semantic primes have an inherent 'universal syntax' (as noted by Goddard 1997a, p. 8–9) it is noted that the grammaticalisation of certain semantic components is less likely to be the subject of debate than others<sup>8</sup>. This applies to the BECAUSE, DO, HAPPEN, IF, and IF...WOULD type constructions. This set includes those referred to by Larson (1984) as 'logical' types, and with respect to these he asserts that there seems a strong basis for agreement concerning the frequent grammaticalisation of the prime BECAUSE (as in the case of causative constructions). It also seems likely that general agreement is possible concerning the recurrent grammaticalisation of the primes DO (in agentive case systems), HAPPEN (in those systems using inchoatives and/or passive constructions) and BAD and GOOD (in adversative and benefactive constructions). In addition to this, there are a number of what have been called 'diagnostic' syntactic

<sup>8</sup> See also Wierzbicka (1996, pp. 186–191) for a discussion on the universality of 'because' and 'if'.

constructions with which a specific group of semantic primes (such as IF, and WOULD...IF) are characteristically associated, as in the case of conditional, existential and counterfactual constructions respectively. It should be noted that an attempt is not being made here to propose any kind of distinct category for the aforementioned constructions as separate from IF type sentences and in this vein Wierzbicka (1998) states:

...it should be added that in some recent NSM work (cf. Wierzbicka 1996, 1997) it was proposed that universal grammar includes also “counterfactuals”, as a category distinct from IF-sentences and semantically undecomposable. This claim has now proved to be—in all probability—incorrect (Goddard & Tong forthcoming; Hasada 1997) and it is hereby withdrawn.

Those grammatical phenomena which may be considered to be of more interest generally but not specifically to this present study, on the basis that evidence for their occurrence is somewhat less transparent, can (again, according to Goddard 1997a) be conveniently grouped together into three broad categories: nominals and specifiers (including indefinites and interrogatives, gender and classifier systems, pronouns, number or ‘multiplicity’ marking, reflexives and reciprocals, partitives, diminutives, augmentatives and superlatives, and ‘semblative’ derivation); time and space (including; tense, locational deixis, the category of so-called ‘associated motion’ and directionals); and predicative constructions (including; evidentials, experiencer constructions, quotational complements, delocutive verbs, syntactic reduplication, modality and possibility).

As noted above, the basic syntactic unit associated with the reductive paraphrase approach is comparable to the clause (in a similar way that the proposition within the Semantic Structural Analysis theory corresponds roughly to the clause). The clause itself combines a ‘substantive phrase’, understood as, essentially, a word or group of words which are able to be substituted for the ‘minimum substantive part’ (i.e. for the words SOMETHING, SOMEONE, PEOPLE, I and YOU) with any one of a number of ‘predicates’ or a ‘predicate phrase’ which additionally may combine with some other elements determined by the nature of the predicate. A ‘predicate phrase’ consists, essentially, of a word or group of words which can be substituted minimally for the ‘minimum predicate part’ (i.e. for words like MOVE, DIE, HAPPENED, LAUGHED). In turn a ‘minimum substantive part’ consisting minimally of a single substantive may optionally combine a substantive with other elements (e.g. quantifiers, determiners, and attributives), in this way forming a grammatical unit analogous to a noun phrase. Examples of this include THIS PERSON, THE SAME THING, TWO PEOPLE, MANY THINGS, SOMETHING SMALL, SOMEONE BAD. It is also possible to combine more complex substantives, for example THESE TWO THINGS, THE SAME TWO PEOPLE. However, even at this stage it is apparent (at least in English) that not all such combinations are possible. That is, \*THESE MANY PEOPLE and \*THE SAME SOME THINGS are clearly not permissible. There is a diverse range of elements which may function as predicates and they may be grouped according to the way they combine with other elements. Simple canonical clause combinations are exemplified as follows:

SOMEONE DID SOMETHING AT THIS TIME  
I SAW/SAID/HEARD/THOUGHT SOMETHING AT THIS TIME  
I WANT SOMETHING  
I KNOW (THAT) YOU DID SOMETHING GOOD  
PEOPLE THINK (THAT) THIS IS BAD

It should be clarified here that equivalents of the proposed set of semantic primes in languages other than English need not always be discrete lexical items, but may, alternatively, be affixes or fixed phrases (for a wide variation of language examples see especially Goddard & Wierzbicka (eds), 1994), nor are they required to be morphologically simple. Additionally, in many instances numerous common terms, be they separate words or affixes, are subject to polysemy, and the posited semantic primes are not immune in this regard. Polysemy should not however be understood as presenting a ‘riddle’ without solution (see Wierzbicka 1996, p. 244 who cites Zgusta 1971, p. 73). Rather, as Wierzbicka (1996, p. 244) claims, when undertaking semantic analysis based on a finite set of irreducible universals and on the principle of reductive paraphrase, ‘meanings re-emerge as discrete, determinate entities, and the ‘riddle of polysemy’ ceases to seem insoluble’.

As a general rule, all types of clause can combine with the so-called ‘clause operator’ primes NOT (negation) and MAYBE (possibility) as well as with the so-called ‘time-adjuncts’ such as AT THIS TIME. In fact, at least some predicates may be considered time-dependant predicates in the sense that

some kind of time-adjunct is required (e.g. HAPPEN, MOVE, DO, SAY, HEAR, SEE). There are some predicates which may be considered as ‘personal predicates’ (e.g. THINK, KNOW, SEE, HEAR, WANT, FEEL, SAY) because that they combine readily with personal substantives (I, YOU, SOMEONE, PEOPLE). Further to this, all of them are capable of taking a substantive complement. One exceptional case is that of the existential primitive THERE IS, which can form a proposition without there being a substantive subject. It is also quite possible for the evaluators GOOD and BAD to function in certain contexts as predicates (e.g. THIS IS BAD). Locational primitives are also quite capable of functioning as predicates.

Encoded in the systems of tense marking are all the temporal primitives, and those elements comprising the set of spatial primes are found encoded in the systems of locational deixis. The primitive associated with movement can be found grammaticalised in the system of the so-called category of ‘associated motion’ as well as in some directionals.

The grouping of mental predicates is routinely found as semantic components of evidential marking. The semantic prime WANT is also required to account for the grammaticalisation of ‘volition’ in a variety of grammar systems.

From the above overview it is quite clear the reductive paraphrase approach can be applied to a very significant extent to grammatical meaning, so much so that Goddard’s (1997a, p. 36) investigation allows him to assert that every element of the NSM metalanguage ‘can be found in grammatically encoded meanings’. The particular concern of this paper is to adequately account for the set comprising the so-called ‘logical relations’, those which group together as ‘inter-clausal linkers’ (as Wierzbicka (1996) calls them), how these are encoded in Arrernte and what structural form they take.

Turning now to the two prominent types which are grouped as ‘logical concepts’, the following prototypical scenario is posited for what are being termed ‘BECAUSE clauses’:

Something (X) happened  
because something else (Y) happened

The following prototypical scenario is posited for IF clauses:

If something (X) happens  
something else (Y) will happen

In chapters 3 and 4, the expression and semantic structure of inter-propositional logical relations in Arrernte is examined in detail.

## Chapter 3: Logical Relations at Sentence Level

### Introductory comments

In this chapter I begin by looking at the relationships between propositions in Arrernte, specifically confining the discussion to logical types. Seven distinct logical types have been distinguished according to the Semantic Structural Analysis approach set out above. I look at each of the seven types, defining the distinguishing characteristics of each, and, in so doing, explain what Larson (1984) means by the terms used to describe the different types. Throughout this chapter, the discussion of the types is complemented by a wide range of examples of the various logical types as expressed in Arrernte. I show how each of these can be analysed and expressed as a reductive paraphrase and then demonstrate how they can be grouped into two core semantic structural categories, representing BECAUSE-types and IF-types. In so doing I will be explaining the main features and varieties of expression of the types under discussion.

### 3.1 Types according to the Semantic Structural Analysis theory

Some of the factors which help identify the semantic relations between clauses, and hence propositions, are conjunctions, connective affixes and clitics, conjuncts (connective adverbs), lack of any such clause connector (as in the case of juxtaposition), order of clauses and agreement of tense. In fact, many of these grammatical devices are used to express more than one inter-propositional relation. With specific reference to logical relations, which have been variously called inferential, argumentation, implicational and cause-effect relations (or simply BECAUSE sentences), they are all bilateral relations, involving just two parts. They are support relations in the sense spoken of above, in that one part is semantically central and the other part semantically supports it. Generally speaking the semantically central clause would be equated with the main clause and the supporting clause would typically correspond to the subordinate clause structure.

The relations categorised as logical are, according to Larson (1989, p. 305), ‘nonchronological **support**–**HEAD** relations’. They are called logical relations since the notion of logical implication or **cause**–**EFFECT** is always involved in them. While they may be classified as nonchronological in the sense that effect usually follows cause in temporal sequence, there is, in some instances, an implicit chronological component. The basis for the nonchronological labelling is that a time element, while sometimes implicit, is rarely expressed overtly.

Under each of the following sub-headings, the basic set of ‘logical relations’ (which as a group may be considered the ‘primes’) is illustrated and expressed in Arrernte using the labelling system proposed by Beekman, Callow and Kopesec (1981) and Larson (1984). In each instance, an explanation is offered of what Larson is understood to mean by the terms. For every one of the pairs exemplified below, capital letters are used for one of the pair of relations. The capitalised relation is that which has ‘natural prominence’ and is the so-called **HEAD** of the propositional cluster. For example, according to Larson’s analysis the **RESULT** is generally more prominent than the **reason**. Obviously this does not preclude the possibility that the other of the two propositions is the more prominent; if this were the case then it could easily be marked as such, typically by means of the grammar of the language.

The term *prominence* is used here primarily in relation to signalling a semantic relation. Every semantic unit has so-called ‘natural prominence’; that is, in an **EVENT** proposition the **EVENT** concept is the central constituent and the other concepts relate to it. Therefore, the **EVENT** concept is the naturally prominent constituent, unless, of course, some other element is made more prominent. A constituent picked out in this way would then, by means of one or another surface-structure device, carry ‘marked prominence’.

Larson (1984, p. 407, following Callow 1974) distinguishes three types of prominence: thematic, focus and emphasis. Thematic prominence is concerned with the information deemed prominent because it contributes to the progression or argument of the text. Focus is distinguished from thematic prominence in that focus brings to the attention of the hearer some featured part of the discourse in a way that says, ‘This is of special importance!’ It is not uncommon in Arrernte for particular participants to be marked in this way as a means of drawing attention to their action as opposed to another’s action. Emphatic prominence, according to Larson’s way of using the term, is used to draw attention to some part of the narrative that the speaker thinks will be surprising or unexpected to the hearer. The intention here has simply been to draw attention to the way in which Larson (1984) uses

the term ‘prominence’ as a way of signalling a semantic relation. We will return to the matter of prominence in the detailed discussion of each of these types.

It is noted here that while the descriptive label applied to each of the bilateral relations is written in a particular order (for example RESULT–**reason**, MEANS–**purpose**), there is no particular claim being asserted (at least at this point in the discussion) in relation to the specific order in which the propositions occur. Obviously, the order in which the propositions occur is highly significant in determining the structural patterns of logical relations, and these concerns are discussed in some detail below. However, in giving examples of each of the types in the sections below, I have followed Larson’s conventions as displayed in Table 5 above. In fact, the particular order of the semantic relationship (e.g. RESULT–**reason**) between a pair of linked propositions as expressed in the example sentences provided for each pair of propositional relationships may differ from the order stated in the heading. The matter of the order in which each proposition occurs is taken up again in the next chapter (§ 4.1.1).

### 3.1.1 RESULT–Reason

RESULT–**Reason** is the relationship in which the **reason** proposition answers the question ‘*Why* this result?’ Accordingly, this relation is frequently expressed in English by words such as *because*, *so* and *therefore*. In many cases the grammatical structure matches the propositional structure. However, there are instances in which ‘skewing’ occurs, for example in English *Mary was discouraged by the great amount of work*. According to Larson’s (1984, p. 307) explanation, ‘[t]he sentence represents the RESULT *Mary was discouraged* and the **reason**, *Mary had a lot of work to do*.’ In this instance however, the preposition *by* is being employed in a secondary function to mark the RESULT–**reason** relation. Whereas, typically, *by* is used to signal **means**, so skewing is occurring. The following is an Arrente example of RESULT–**reason**.

- (1) RESULT     *Itne     mutekaye     akngartiwe-me-le     apety-alpe-ke,*  
                   3pl:A     motorcar     change-NPP-SS     come-back-PC
- reason**     *akurne-rle     irre-ke-nge.*  
                   bad-FOC     INCH-PC-DS
- ‘They turned their motorcar around and came back because it was giving trouble.’ [Appendix 1, ref. tx 20]

### 3.1.2 RESULT–Means

In the RESULT–**means** relation the proposition which has the role of **means** answers the question ‘*How* did this result come about?’ In English, this relation is frequently expressed using words like *by* or *through*. An English example is *He passed the exam by studying six hours every night*. The RESULT (presumably intended) is *he passed the exam* and the ‘by’ proposition, *he studied six hours every night*, would be analysed as having the role of **means**; that is, it is the **means** by which the RESULT is achieved. **Means**, then, always carries this component of intention or voluntariness, whereas **reason** does not.

- (2) RESULT     *Anwerne     akngerre-ke     akalty-irre-ke*  
                   1pl:S     big-DAT     knowledgeable-INCH-PC
- means**     *[school]-eke     irrpe-me-le.*  
                   school-DAT     enter-NPP-SS
- ‘We learned a lot while we were going to school.’  
                   [Arltungawerne Alpeke ref. 35/36]

### 3.1.3 MEANS–Purpose

In the MEANS–**purpose** relation the proposition which has the role of **purpose** answers the question ‘*What* was done in order to achieve this purpose?’ It is clear here that again there is deliberate intention, in that a deliberate MEANS was employed in order to bring about a particular **purpose**. The fundamental distinction between RESULT–**means** and MEANS–**purpose** is simply that the RESULT was actually brought about but the **purpose** need not necessarily have been fulfilled. In English, the MEANS–**purpose** relation is frequently signalled using the conjunctions *in order to* and *so that*. There are also occasions when the infinitive is used. Larson (1984, p. 308) provides the following example:

RESULT–means: By studying hard, he passed the exam.  
 MEANS–purpose: In order to pass the exam, he studied hard (but he didn’t pass).

Example (3) illustrates this relationship as expressed in Arrernte:

- (3) MEANS [Arlunga]-werne alpe-ke  
 Arlunga-ALL go back-PC  
 purpose [school]-eke irrpe-tyeke.  
 school-DAT enter-PURP  
 ‘(We) went back to Arlunga to go to/enter school.’ [Arlungawerne Alpeke ref. 1/2]

To help provide a means for showing the distinctions between the above three relations, Larson (1984, p. 309), has provided the following table (adapted from Beekman, Callow & Kopesec 1981, p. 102).

TABLE 7: CONTRAST IN RELATIONS

Cause-Effect	Intention	Effect:	Cause answers the question:
REASON–RESULT	no	actual	Why this result?
MEANS–RESULT	yes		How did this result come about?
MEANS–PURPOSE			potential

It is of interest to note here that in their discussion of adverbial clauses, Thompson and Longacre (1985, p. 185) specifically in relation to ‘purpose and reason’ clauses, point out that in fact ‘[m]any languages use the same morphology for purpose and reason clauses’. The terms they use, ‘unrealized’ and ‘realized’, to explain the semantic basis for this phenomena parallel the ‘actual’ and ‘potential’ terms offered by Larson as in the above Table with respect to the difference between ‘reason’ and ‘purpose’ clauses. According to Thompson and Longacre (1985, p. 185) in discussing this phenomenon (and with reference to a specific example from Ngizim, a Chadic language):

The semantic explanation for the fact that one morpheme can serve these two functions is that both purpose and reason clauses can be seen as providing *explanations* for the occurrence of a given state or action (...). They differ in that purpose clauses express a motivating event which must be *unrealized* at the time of the main event, while reason clauses express a motivating event which may be *realized* at the time of the main clause event. (Italics in the original)

### 3.1.4 Concession–CONTRAEXPECTATION

In the **concession–CONTRAEXPECTATION**<sup>9</sup> relation the key element is that of ‘unexpectedness’. According to Larson’s schema, there are three elements to this relation: 1) a **cause** (i.e. the **concession** element), 2) an **expected effect**, and 3) an **unexpected result** (the **CONTRAEXPECTATION** element). In English, only two of the elements are typically made explicit in the grammar. English frequently makes use of words like *although*, *even though*, *even if*, and *in spite of* to signal this kind of relation. The following example illustrates this type of relation:

- (4) **concession**  
 Me-l-ikwe-le alhe-tye-kwenye-ke ile-ke,  
 mother-ERG-3KinPOSS-ERG go-NMZR-NomNEG-DAT tell-PC,  
 CONTRAEXPECTATION  
 perre re lhe-ke.  
 THOUGH 3sg:S go-PC  
 ‘His mother told him not to go, but he went anyhow.’  
 (example from Wilkins 1989, p. 372)

The particle *perre* ‘THOUGH’ has been translated here using the English ‘but’. The meaning being conveyed is understood as ‘in spite of being told he went anyhow’.

<sup>9</sup>I have used the term **CONTRAEXPECTATION** here, as opposed to **COUNTEREXPECTATION**, to reflect the usage favoured by both Beekman, Callow & Kopesec (1981) and Larson (1984). I am unaware of a semantic difference between the two terms.

### 3.1.5 CONCLUSION–Grounds

CONCLUSION–**grounds** is a relationship in which **grounds** propositions answer the question ‘What fact is this conclusion based on?’ In English the relationship between **grounds** and CONCLUSION can be stated using words like *therefore*, *I conclude that* or *one concludes that* between the two propositions. For example, *The car is gone so Bill must be out* consists of two propositions: the **grounds** *The car is gone* and the CONCLUSION *Bill must be out*. The relationship could be restated as *The car is gone, therefore, I conclude that Bill must be out*. The CONCLUSION–**grounds** relation in English typically employs the words *so* and *must be*. The next two examples illustrate this type:

(5) CONCLUSION–**grounds**

<b>grounds</b>	<i>Ampe</i>	<i>akweke</i>	<i>yanhe</i>	<i>merne-ke</i>
	child	small	that(MID)	veg.food-DAT
	<i>atheke-anthurre-irre-me,</i>			
	in a hurry-INTENS-INCH-NPP			
CONCLUSION	<i>angayakwe</i>	<i>apeke.</i>		
	hungry	if/maybe		

‘That little child is in a great hurry for food, s/he must be hungry.’

(6) *Tyerrtye* *ampwe* *nhakwe* *akwete* *anthurre-arle*  
 person old that(DEM) still INTENS-FOC  
*alerne-lhe-me* *arne* *irreretye* *ikwerenhe-le,*  
 lean on-REFL-NPP thing walking stick 3sg:POSS-LOC  
*rlkerte* *apeke-arle* *awelhe-me.*  
 sick maybe-if-FOC feel-NPP

‘That old woman has been standing there leaning on her walking stick for quite a while, she must be feeling sick.’

### 3.1.6 EXHORTATION–Grounds

The EXHORTATION–**grounds** relation, while quite similar to the CONCLUSION–**grounds** relation, differs in the respect that in CONCLUSION–**grounds** the CONCLUSION proposition is a statement whereas in EXHORTATION–**grounds** the EXHORTATION is always a command. This difference may be exemplified in English in the following pair:

CONCLUSION–**grounds**:

The office is tidy, therefore, someone must have cleaned it.

EXHORTATION–**grounds**:

The office is tidy so keep it that way.

In English the words typically used to mark the EXHORTATION–**grounds** kind of relation are *so* and *therefore*. In Arrernte, this type of relation may be illustrated using the following example:

(7) **grounds** *Re* *urinpe* *uterne* *iperre,* *re* *apurrke,*  
 3sg:S hot sun AFTER 3sg:S tired  
 EXHORTATION *imp-Ø-aye!*  
 leave-IMP-EMPH

‘He’s hot from the sun, he’s tired, leave him!’ [Angepe 95/96]

### 3.1.7 Condition–CONSEQUENCE

As already mentioned, the **condition**–CONSEQUENCE relation is, according to Larson’s approach, also a **cause**–EFFECT type of relation. However, the cause in this relation, that is, the **condition**, is either hypothetical or at least has some element of uncertainty present. Barnwell (1980, pp. 183–4) has pointed to a subdivision in this relation between **contrary-to-fact** and **potential fact**. Both types, however, are signalled in English by use of the word *if*. A prototypical example would be, *If that had happened, then this would have happened*.

The difference between the two posited types can be stated by saying that in a **contrary-to-fact condition**–CONSEQUENCE relation, the **condition** is either hypothetical or imagined and, as such, will not, did not or is not expected to actually transpire. The condition is being described as something

which might have happened but in reality it did not in fact occur nor for that matter is it expected to occur. In this type of **condition**–CONSEQUENCE relation one expects to find the past, in which case they refer to things that might have happened but did not. Alternatively, the future tense is used, in which case they refer to EVENTS which are not expected to happen. An English example of this type would be *If she had not missed the boat, she would be here now.*

In contrast, in the second kind of **condition**–CONSEQUENCE relation, that is, the **potential fact** type, it is also unknown whether the **condition** will be fulfilled and result in the CONSEQUENCE or not; since it has not happened yet, it remains simply **potential fact**. An English example of this type is *If you get there early, you will get a seat.* With this type of relation the propositions are in either present or future tense.

The **condition**–CONSEQUENCE set below comprises (8)a plain (if..then), (8)b temporal, (8)c potential/ hypothetical, counterfactual. Beekman, Callow and Kopesec (1981, p. 104) also use the term *contrafactual* without any apparent distinction in meaning between the two terms.

- (8) a. **condition**     ...*tyerrtye-le*   *apeke*       *akngerre*   *anthurre*   *arlkwe-me*  
                           ...person-ERG   if/maybe   big           INTENS   eat-NPP
- CONSEQUENCE   *arrakerte*   *utyene*   *irre-me.*  
                           mouth       sore       INCH-NPP  
                           ‘...If you eat lots of it (you) get a sore mouth.’
- (8) b. **condition**     *Tyerrtye*   *nhenge*       *aparlpe*   *apeke*       *irre-me*  
                           person       REMEMB   lost       if/maybe   INCH-NPP
- kwatye-arlke*   *ane-tyakenhe*   *apmere*   *ikwere,*  
                           water-also   sit/be-VNEG   camp       3sg:DAT
- mutekaye*   *apeke-arle*       *ultake-lhe-ke-nge,*   *uterne*   *akngerre,*  
                           motorcar   if/maybe-FOC   break-REFL-PC-DS   hot       big
- ‘If a person gets lost at a place where there’s no water, if maybe the car  
                           breaks down, and its very hot,’
- CONSEQUENCE   *kele*   *tyerrtye*   *nhenhe*   *angkethakwe*   *anthurre*  
                           OK       person   this       hungry       INTENS
- Anteme*   *irre-me-le,*       *arerte-arerte*   *irre-me-le,*  
                           then       INCH-NPP-SS   silly-silly   INCH-npp-SS
- kele*   *ahirre-ahirre*   *anteme*   *re*       *awe-tyeke*  
                           OK       imagining   then       3sg:A   hear-PURP
- tharte-irre-me*   *arrpenhe*   *areye*   *angke-rre-rlenge.*  
                           start-INCH-npp   other       plural   talk-RECIP-DS
- ‘then the person gets very thirsty, then they start losing their mind, and start  
                           to hear people talking.’
- (8) c. **condition**     *Tyerrtye*   *apeke*       *uthne-me*   *apmwe*   *arripere*   *nhenhe*   *re,*  
                           person   maybe/if   bite-NPP   snake   (spec)   DEM   3sg:A
- CONSEQUENCE   *tyerrtye*   *re*       *ilwe-me*   *apeke...*  
                           person   3sg:S   die-NPP   maybe/if
- ‘If somebody is bitten by the arripere (type) snake, they can die...’

### 3.2 Implicit relations and constituents

Larson (1984, p. 315) also notes with respect to the above relations that all the information is included in the semantic structure. This is not the case, however, with the grammar, where some information may be left implicit or, in some instances, it may not be encoded at all. An instance of this occurs when either the ‘participants’ or the ‘event’ are left implicit in either the clause slot or the sentence slot. An illustration of this type of behaviour is found when the passive form is used (as it might be in English), in which case the ‘agent’ is not always specified in the clause. At higher levels of the hierarchy, constituents of semantic structure may not be expressed in the grammatical form. Or conversely, the relations themselves may be left implicit.

### 3.3 Logical relation types expressed using NSM

Larson (1984) uses the terms ‘cause–effect’ and ‘reason’ in relation to what might be called reason-type clauses. However, it has been argued elsewhere (see Wierzbicka 1998) that there is stronger justification for using the terms ‘BECAUSE clauses’ or ‘BECAUSE sentences’ with respect to the bi-clausal nature of the relations, rather than ‘reason-clauses’, on the basis that the notion of ‘reason’ is more complex than that of ‘because’ (combining, roughly speaking, BECAUSE and THINK) and because it is BECAUSE, not ‘reason’, which is a lexical universal’. In this light, the term ‘BECAUSE clauses’ (or ‘BECAUSE sentences’) is used throughout the remainder of this work in relation to those relations Larson calls ‘cause–effect’ and ‘reason’ clausal relations.

Taking each of the seven logical types identified by Larson, a semantic explication is proposed for each in terms of NSM semantic primes, focussing only on explicating the relationships between the propositions, not on the detailed semantic content of clauses or lexemes. Following this, an attempt is made to see if the seven SSA types can be captured using NSM syntax and grouped as either ‘BECAUSE sentences’ or ‘IF sentences’. According to NSM theory, the primes BECAUSE and IF function as inter-clausal linkers.<sup>10</sup>

The prototypical context in which the prime BECAUSE occurs may be represented as a sentence-like arrangement of NSM elements in which BECAUSE links the two propositions:

Something (X) happened  
because something else (Y) happened

The prototypical context in which the prime IF occurs may also be represented as a sentence-like arrangement of NSM elements in which IF links the two propositions:

If something (X) happens  
something else (Y) will happen

In this proposed explication, (Y) can stand for any proposition. It needs to be mentioned here that ‘will’, as it appears in the above paraphrase, occurs essentially because tense is assumed to be obligatory in English and is represented when referring to an event in the future as ‘will’. At issue is the fact that temporal elements in the NSM metalanguage include: NOW, BEFORE, AFTER, but not \*WILL. ‘Will’ could be handled by an expression like ‘AFTER NOW’; however, suffice it to say, at this point, that an expression like ‘AFTER NOW’ appears to be frequently grammaticalised into tense systems as ‘will’.

There is a third, special type of sentence that is also considered below (under the heading condition–CONSEQUENCE), which is called IF...WOULD. This is (in at least some languages) a more specialised type of conditional referring specifically to situations where the condition is uninstantiated, that is, where the condition (X) has not been met and hence the CONSEQUENCE (Y) has not occurred. The prototypical context in which IF...WOULD occurs may also be represented as a sentence-like arrangement of NSM elements in which both IF and WOULD link the two propositions (the inclusion of ‘had’ and ‘have’ which are not included in the list of posited NSM primes is discussed below):

If something (X) had happened  
something else (Y) would have happened

For each of Larson’s (1984) logical relation types, a paraphrase using NSM syntax will be proposed, attempting to represent the inter-propositional relations discussed in the previous section (§ 3.1), with reference to specific Arrernte examples. This will place us in a position to assess how these semantic paraphrases are related to the prototypical BECAUSE and IF sentences. A number of the example sentences appearing in the discussion above on the various SSA types are purposefully repeated here for the sake of comparison.

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<sup>10</sup> The prime BECAUSE, can also function as a clause adjunct, as Wierzbicka (1996, p. 137) notes. Functioning in this way BECAUSE occurs frequently in phrases such as, ‘because of this’. This distinction is not considered, at this point in the discussion, to be significant in the sense that it would alter in any substantial way the paraphrase being proposed for the prototypical context of the prime BECAUSE.

## RESULT–reason

For the example of this type, given in § 3.1.1 above and repeated here for both convenience and comparison, the RESULT and reason propositions will be represented in a paraphrase using NSM primes.

- (9)     **RESULT**    *Itne*     *mutekaye*   *akngartiwe-me-le*    *apety-alpe-ke*,  
                  3pl:A    motorcar    change    -NPP-SS    come-return-PC  
**reason**    *akurne-arle*    *irre-ke-nge*.  
                  bad-FOC        INCH-PC-DS

‘They turned their motorcar around and came back because it was giving trouble.’

The RESULT proposition (‘they turned their car around’) can be represented in the form of a NSM proposition ‘X happened’. The proposition ‘they turned their car around’ could also be represented in NSM as ‘X did something’, but for the present purpose this will be treated as included within the proposition type ‘X happened’, which can encompass types of results other than someone’s action (such as ‘their motorcar was noisy’). The reason proposition (‘because it was giving trouble’), can be represented as: ‘BECAUSE Y happened’. This yields the following reductive paraphrase for the type referred to as RESULT–**reason**:

- RESULT**        something (X) happened  
**reason**        because something else (Y) happened

It should be immediately obvious that the proposed reductive paraphrase which explicates the SSA RESULT–**reason** type of inter-propositional relation is identical to the prototypical BECAUSE paraphrase. The implication here is that the REASON–**result** type of relation is precisely the one that is closest to the prototypical BECAUSE inter-clausal relation as expressed in NSM syntax. It is when the other ‘reason’ types of inter-propositional relations are examined that differences emerge, and these differences in turn call for proposing other special types of BECAUSE relations.

While it has already been mentioned above that the RESULT proposition represented using NSM syntax as ‘something (X) happened’ can encompass the alternative NSM proposition ‘someone (X) did something’, further variations can also be included here without compromising the proposed general form which accounts for RESULT–**reason** types of inter-propositional relations. There appear to be instances where some additional component is required to adequately account for the variation in the types of predicates present in RESULT–**reason** relations. In other words, there are occasions when, in order for the reductive paraphrase to account for the surface structure of the example under consideration, there appears to be a requirement to specify that something else happens between the reason and the RESULT. An example of this type of variation is given in (10), where the reason and RESULT propositions are represented using NSM syntax.

- (10)    **RESULT**    *Ilkelhe-tyakenhe*                            *warrke-werne*    *alhe-tyeke*  
                  feel good about something-VNEG    work-ALL        go-VPURP  
                  ‘I don’t feel like going to work (today)’  
**reason**    *urinpe*    *nthurre-nge*.  
                  hot        INTENS-ABL  
                  ‘because it’s so hot.’

The RESULT proposition (‘I don’t feel like going to work (today)’) can be represented using NSM syntax as the proposition: ‘someone (X) didn’t feel like doing something (Y)’. (It may, in fact, with more research, prove perfectly adequate to represent the RESULT proposition more simply in NSM syntax as ‘someone (X) felt something (Y)’). The RESULT proposition (‘I don’t feel like going to work (today)’) is induced by something else happening which is made explicit in the reason proposition ‘because it’s so hot’. The reason proposition can be represented in the same way as above as ‘BECAUSE something (Y) happened’. Between the RESULT proposition and the reason proposition, there appears to be an underlying third proposition, which can be represented as ‘someone (X) thought about something’. In other words, something happened (it was so hot), and this caused some emotional response: ‘someone (X) didn’t feel like doing something (Y)’. This happened, not because X wanted to feel this’ but because something happened. I don’t believe at this stage that the possibility of a third underlying proposition must necessarily be represented in the proposed reductive paraphrase. The following represents this slight variation in a RESULT–**reason** relation:

- RESULT**        someone (X) didn’t feel like doing something (Z)  
**reason**        BECAUSE something else (Y) happened

## RESULT–Means

An example of this type is given in (11), where the RESULT and means propositions are represented in a reductive paraphrase using NSM syntax.

- (11) RESULT    *Anwerne*    *akngerre-ke*    *akalty-irre-ke*  
                  1pl:S           big-DAT           knowledgeable-INCH-PC  
  
          **means**    *[school]-eke*    *irrpe-me-le.*  
                  school-DAT    enter-NPP-SS

‘We learned a lot while we were going to school.’ [*Arltungawerne Alpeke*. ref. 35/36]

With this particular type of relation, it is preferable to discuss the means proposition (‘while we were going to school’) before the RESULT proposition (‘We learned a lot’) on the basis that the BECAUSE proposition is an outcome directly related to the action associated with the means proposition. So the means proposition, which incorporates a temporal element ‘while we were going to school’, can be represented in the form of a NSM proposition ‘at some time someone (X) did something (Z)’. The RESULT proposition (‘we learned a lot’) can be represented as ‘because of this, Y happened’. There is an implicit notion here that Y would not have happened if X had not done Z. There is no requirement here to specify a temporal element in the RESULT proposition because, although it is quite possible that the RESULT came about while X was doing something, it is not demanded by it, and the paraphrase leaves open the possibility that at some other time the RESULT occurred. This then yields the following reductive paraphrase and accounts for the type referred to as RESULT–**means** or as it is represented in the surface structure order **means**–RESULT:

**means**           at some time someone (X) did something (Z)  
RESULT           because of this,  
                  something else (Y) happened

There are times when it may appear preferable to analyse **means**–RESULT as a WHEN-type sentence, in which case it could be paraphrased along the following lines:

WHEN Z happened, Y happened =  
**\*means**           at some time something (Z) happened  
RESULT           at the same time something else (Y) happened

What mitigates against analysing the **means**–RESULT relation in this way, as a WHEN-sentence, is the underlying notion in the result clause that Y would not have happened if someone had not done something (X) at some time. The means proposition implies the presence of an agent and ‘at some time something (Z) happened’ does not encompass this. In other words, it is BECAUSE someone (X) did something at some time that something else (Y) happened; if this person had not done this thing (X) something else (Y) would not have happened. Therefore, we can analyse **means**–RESULT types of sentences as BECAUSE sentences.

## MEANS–Purpose

MEANS–**purpose** relations represent a particularly complex type of BECAUSE-relation and for that reason they are discussed in a separate section (see § 4.1.2). For the present purpose an example of this type is given in (12), and the MEANS and purpose propositions will be explicated using NSM primes. Suffice to say, at this stage, that the anchoring of purposive clauses in the NSM language has to be done in terms of a ‘semantic molecule’ (i.e. a semantically complex expression, see below in § 4.1.2), rather than in terms of a single universal concept (like WHEN or IF). (For a discussion of the concerns raised here see Wierzbicka 1998.)

- (12) MEANS    *[Arltunga]-werne*    *alpe-ke*  
                  Arltunga-ALL           go back-PC  
  
          **purpose**    *[school]-eke*    *irrpe-tyeke.*  
                  school-DAT    enter-PURP

‘(We) went back to Arltunga to go to/enter school.’ [*Arltungawerne Alpeke* . ref. 1/2]

The MEANS proposition (‘(we) went back to school’), can be represented in the form of a NSM proposition ‘someone (X) did something’. The purpose proposition (‘to go to school’), while encompassing a semantically complex notion, may still be considered a BECAUSE-type proposition, albeit a special type of BECAUSE proposition, and can be represented as ‘BECAUSE this person





## EXHORTATION–Grounds

An example of this is given below and is followed by a representation of the EXHORTATION and grounds propositions in a paraphrase using NSM primes.

### (16) EXHORTATION

<i>Kwatye</i>	<i>tyampite</i>	<i>yanhe-ke</i>	<i>thel-Ø-aye</i>
water	tin	that(MID)-DAT	pour-IMP-EMPH

### grounds

<i>ayenge</i>	<i>angkethakwe</i>	<i>anthurre-arle</i>	<i>awe-lhe-me-nge</i>
1sg:NOM	thirsty	INTENS-FOC	feel-REFL-NPP-DS

‘Pour some water into that tin over there because I’m feeling really thirsty.’

The EXHORTATION proposition (‘pour some water into that tie over there’) can be represented in the form of a NSM proposition: ‘someone (Y) says something like this: “I want someone to do something (Z)”.’ The inclusion of ‘something like this’ draws attention to the possibility that Y could say something other than ‘I want someone to do something’. An alternative NSM representation could be ‘someone says to someone else, “Do this”,’ but for the present purpose the proposition ‘I want someone to do something’ can adequately encompass both variants. The grounds proposition (‘because I’m feeling thirsty’) can be represented as ‘this person said this, because X happened’. It can be seen here that the EXHORTATION–**grounds** relation is quite similar to the CONCLUSION–**grounds** relation. The point of difference is that the EXHORTATION proposition comprises an event proposition, whereas the CONCLUSION proposition comprises a state proposition, as they have been described above (§ 2.1). A further distinction between these two types is that grounds is frequently (though not necessarily in that it can be inferred by the hearer) made explicit.

The following reductive paraphrase can therefore account for the type referred to as EXHORTATION–**grounds**:

EXHORTATION	someone (Y) says something like this: ‘I want someone (W) to do something (Z).’
<b>grounds</b>	this person (Y) said this because something (X) happened

The EXHORTATION–**grounds** type is related to the prototypical BECAUSE-type in the sense that Y happened (EXHORTATION) because X happened (grounds). The point of difference is that as a result of X happening, someone specifically tells someone else to do something.

## Condition–CONSEQUENCE

It must be stated with reference to representing **condition**–CONSEQUENCE as a reductive paraphrase using NSM primes that two kinds of ‘conditionals’ are being proposed, one referenced as simply ‘conditionals’, to account for those bi-clausal sentence types referring to situations of genuine possibility, and the other called ‘counterfactuals’, to account for those bi-clausal sentence types referring to an outcome seen as either imagined or as an unrealisable possibility (see Wierzbicka 1997, p. 47). Both, in fact, still can be considered as ‘conditionals’ in the broad sense and therefore belonging to the category of IF-type sentences. It is the potential for outcome to be realised or not realised, whichever may be the case, which can be seen as determining the particular IF-sentence sub-category each bi-clausal relation belongs to.

It should also be noted that prototypically IF sentences are not necessarily ‘conditionals’ in the strict sense (as noted by Wierzbicka 1998) that they specify a condition without which something will not happen. For instance, in the English statement, ‘if you do this, people will say good things about you’, it is still perfectly within the bounds of possibility that people will say good things about you even if the ‘condition’ is not fulfilled, and therefore the sentence is still an IF sentence and not necessarily a ‘conditional’ sentence.

I firstly consider those IF sentences that may be called simply ‘conditionals’, those which correspond precisely with the prototypical IF-type sentence given above. This simple IF-type sentence accounts for both types in the distinction drawn by Beekman, Callow and Kopesec (1981) between ‘potential-fact-particular’ and ‘potential-fact-general’ types. An example of a simple ‘conditional’ is given in (17) and this is followed by the condition and CONSEQUENCE propositions represented in a

paraphrase expressed using NSM primes (this first example corresponds to the ‘potential-fact-general’ type).

(17) **condition**

*...tyerrtye-le*    *apeke*    *akngerre*    *nthurre*    *arlkwe-me,*  
 ...person-ERG    maybe/if    big    INTENS    eat-NPP

CONSEQUENCE

*arrakerte*    *utyene*    *irre-me.*  
 mouth    sore    INCH-NPP

‘...if a person eats lots of them (bush currants), he/she gets a sore mouth.’

The condition proposition (‘if a person eats lots of them (bush currants)’) can be represented using the form of a NSM proposition: ‘if X happens’. In this proposition X can be representative of any event concept, and as proposed it represents the condition upon which the CONSEQUENCE proposition is dependent. The CONSEQUENCE proposition (‘he/she gets a sore mouth’) can be rendered using NSM primes as the proposition ‘something else will happen’. This yields the following reductive paraphrase for the type referred to as **condition**–CONSEQUENCE:

**condition**                    If something (X) happens  
**CONSEQUENCE**            something else (Y) will happen

This second example corresponds to the ‘potential-fact-particular’ type. Note that in this example it is the CONSEQUENCE proposition that precedes the condition proposition:

(18) **CONSEQUENCE**

*The*    *lyete*    *ngenge*    *akakatwe-me*    *unte*    *[warle]*  
 1sg:ERG    today    2sg:ACC    knock in-NPP    2sg:S    wall  
*yanhe-nge*    *anpere*    *itnye-nhe-tyeke,*  
 DEM(MID)-ABL    through    fall-DO.PAST-VPURP

**condition**

*unte*    *atyenge*    *ante*    *ahe*    *akngerre*    *tnake-lhe-me.*  
 2sg:S    1sg:DAT    this way    angry    big    boast-REFL-NPP

‘I’ll knock you through that wall soon and you’ll fall right through, if you keep being rude (as in boasting about yourself) to me.’

This kind of conditional can also be considered simply as a ‘conditional’ in that the CONSEQUENCE proposition (‘I’ll knock you through that wall soon and you’ll fall right through’) and the condition proposition (if you keep being rude (as in boasting about yourself) to me’) can be represented using precisely the same NSM propositions as posited above.

One further matter to mention here is that further research into the most productive way to utilise NSM as a means of capturing all the relevant components in this kind of paraphrase of conditionals may prove to establish the need to include a final component in the CONSEQUENCE proposition like, ‘I don’t say something (Y) will happen’, in this way making explicit that Y need not necessarily come about, but leaving open the possibility that it could.

An example of the second type of conditional—the counterfactual—is given in (19). Again, the labels **condition** and CONSEQUENCE are used to distinguish the propositions, but instances of this type are analysed as an IF...WOULD-type of sentence. The relationship of IF as a semantic primitive to counterfactual (IF...WOULD) conditionals has been discussed by Wierzbicka (1996, 1997) and research on these issues in a number of languages is continuing. For the present purpose, counterfactuals are considered separately from general IF sentences, which we have grouped above as simply ‘conditionals’, because, based on the analysis of the Arrernte examples, the two types of IF sentence yield significantly different reductive paraphrases. (Note that these types account for Larson’s (1984) ‘contrary-to-fact’ (her term) relations.) The condition and CONSEQUENCE propositions of the counterfactual type exemplified here is represented in a paraphrase using NSM primes following the example.

(19)	<b>condition</b>	<i>Unte</i> 2sg:S	<i>apmwerke</i> yesterday	<i>apeke</i> maybe	<i>petye-ke,</i> come-PC
	CONSEQUENCE	<i>Arratye</i> true	<i>unte</i> 2sg:A	<i>re-nhe</i> 3sg-ACC	<i>are-mere.</i> see-HYPO

‘If you had come yesterday ,then you certainly would have seen her.’ [Wilkins 1989, p. 234]

The condition proposition (‘if you had come yesterday’) can be represented in the form of a NSM proposition: ‘if something (Y) had happened’. It is acknowledged here that, strictly speaking, this proposition is not comprised entirely of the posited semantic primes; ‘had’ is not one of the primes. However, without more detailed research on the representation of this IF...WOULD-sentence, it appears that ‘had’ is required to signal the fact that there is a temporal element to the relation. A further observation is that intrinsic to this type of relation is the notion of negation, on which counterfactuals depend, precisely because they refer to things that did not happen. This provides the reasoning for the inclusion of ‘had’, which by implication signals the fact that the condition was not fulfilled. Further research may show that the notion of negation needs to be overtly expressed somewhere in the reductive paraphrase itself.

The CONSEQUENCE proposition (‘then you certainly would have seen her’) can be rendered in the form of a NSM proposition: ‘something else would have happened’. Attention again is drawn to the inclusion of ‘have’, which is not posited as one of the universal primes. The basis for its inclusion here is to account for the underlying notion of negation because something else (Y) did not happen. This explication then yields the following reductive paraphrase for those types referred to as counterfactual **condition**–CONSEQUENCE relations:

<b>condition</b>	If something (Y) had happened
CONSEQUENCE	something else (Z) would have happened

With respect to the polysemy of the prime IF, and the difficulties in distinguishing between ‘if’ and ‘maybe’, it is possible in Arrernte to show quite clearly (as has been done by Harkins and Wilkins 1994) the difference in meaning between *apeke* ‘if’ and *apeke* ‘maybe’. In a simple clause, where a single proposition is presented, the lexeme *apeke* means ‘maybe’ or ‘perhaps’, but in the context of bi-clausal relation, where a dependent clause is present, *apeke* means ‘if’. The following two examples from Harkins and Wilkins (1994, p. 298) show this contrast in meaning:

- (20) *Ingwenthe peke kwatye urnte-me*  
tomorrow maybe water fall-NPP  
‘It could rain tomorrow.’ (‘Maybe it will rain tomorrow.’)  
(The bracketed translation is not in the original)
- (21) *Kwatye peke urnte-me ayenge petye-tyekenhe*  
water maybe fall-NPP 1sg:NOM come-VNEG  
‘If it rains I won’t come.’

### 3.4 Conclusions

I have argued above that each of Larson’s seven logical inter-propositional relation types can be expressed precisely in reductive paraphrase using NSM primes. The proposed reductive paraphrases are reproduced here as they appear above, and grouped as either BECAUSE sentence or IF-type sentences. Each group is followed by a summary statement drawing attention to the points of comparison which distinguish one type from the others.

#### BECAUSE-types

RESULT	something (X) happened
<b>reason</b>	BECAUSE something else (Y) happened
<b>means</b>	at some time someone (X) did something (Z)
RESULT	because of this, something else (Y) happened

<b>MEANS</b>	someone (X) did something (Z)
<b>purpose</b>	because this person thought: ‘I want to do W, if I do Z, I can do W’
<b>CONCLUSION</b>	someone (Y) thought: ‘something (X) happened because something else (Z) happened.’
<b>grounds</b>	this person (Y) thought like this because something (X) happened
<b>EXHORTATION</b>	someone (Y) says something like this: ‘I want someone (W) to do something (Z).’
<b>grounds</b>	this person (Y) said this because something (X) happened

The reductive paraphrase representing the **RESULT–reason** type of relation is identical to the proposed prototypical context in which the prime **BECAUSE** appears. The **means–RESULT** paraphrase is distinguished from the **RESULT–reason** **BECAUSE** sentence by capturing the fact that it is because someone did something that the **RESULT** happened and not simply because something happened. The context in which the prime **BECAUSE** appears in the **MEANS–purpose** paraphrase is that of volition—someone wanting to do something. The **CONCLUSION–grounds** paraphrase is distinguished by the fact that it involves someone thinking about the fact that something happened because something else happened, and this person draws a conclusion. **BECAUSE** appears in the context of the **grounds–EXHORTATION** type relation where someone is telling someone else to do something because something happened. All five types specified can be grouped as representing a core class of **BECAUSE**-types. All can be seen to relate to prototypical context proposed for **BECAUSE**; that is, something happened **BECAUSE** something else happened.

### **IF-types**

#### **conditionals**

condition	If something (X) happens
<b>CONSEQUENCE</b>	something else (Y) will happen
concession	someone (X) did something (Y), this person thought: ‘If I do Y, Z will happen.’
<b>CONTRAEXPECTATION</b>	Z did not happen something else (W) happened

#### **counterfactual conditionals**

condition	If something (X) had happened
<b>CONSEQUENCE</b>	something else (Y) would have happened

IF-sentence conditionals are distinguished largely on the basis of the outcome to the IF proposition. The **condition–CONSEQUENCE** paraphrase provides an identical context for the prime IF as that of the proposed prototypical context. The event in the IF proposition has not yet happened and the outcome therefore is a potential outcome. The **concession–CONTRAEXPECTATION** IF sentence is distinguished on the basis that the event in the IF proposition has already happened and the outcome is contrary to the expectation. Counterfactual IF sentences are distinguished from the other IF sentences on the basis that neither the events of the IF proposition nor the event of the **WOULD** proposition actually occurred.

The significant contribution of the Semantic Structural Analysis approach has been to point to the wide range of possible inter-propositional relations encoding some kind of logical relation that must be taken into account when analysing the expression and representation of logical types, in this case, in Arrernte.

## Chapter 4: Marking of Logical Relations in Arrernte sentences

Having established that each of the seven logical relation types posited by Larson (1984) can be clearly represented using NSM syntax and can be distinguished as belonging to either a core group of BECAUSE sentences, or a core group of IF sentences, the task now remains to show the ways the different logical types are marked in Arrernte. This is done on the basis of the two-way distinction between a core class of BECAUSE sentences and a core class of IF sentences. This distinction takes into account that ‘purpose’ sentences and indeed a number of others can be seen as special types of BECAUSE sentence, albeit, at times, relatively complex types. In the same way, ‘conditionals’ and ‘counterfactuals’ can both be seen as special types of IF sentences.

To accomplish the task set out above, this chapter

- identifies recurrent patterns of marking of logical relations,
- compares those features relevant to both natural and marked prominence,
- examines the different features of same and different subject purpose sentences,
- provides details of the range of devices in Arrernte used to indicate a BECAUSE-relation,
- examines the relevant features of switch-reference marked inter-clausal relations, and
- looks at juxtaposed clauses understood as encoding a BECAUSE-relation.

### 4.1 Salient features of the semantic structure of BECAUSE sentences

The following tables (Table 8a, Table 8b) are provided as a means of showing some of the main distinguishing features of the 77 BECAUSE-type sentences listed in Appendix 1. For the sake of clarity the table is divided into two parts. The first part focuses on a wide range of BECAUSE-type sentences, the second part (Purposive BECAUSE-type sentences) focuses specifically on those special types of BECAUSE sentences encoding a purpose relation. Examples in Appendix 1 (from which the information in Tables 8a and 8b was drawn) come from a range of sources, including published texts, examples from my own corpus of texts, the Eastern and Central Arrernte to English Dictionary (1994) and from a range of other published papers. The examples were selected to demonstrate the range and scope of logical relations and their representation in Arrernte.

By way of introduction to the range of BECAUSE-type sentences appearing in Appendix 1 and represented in the Tables below, attention is drawn to the following select examples, which include at least one of the five variant types comprising the core group of BECAUSE sentences (numbers correspond to the reference numbers associated with each example sentence in Appendix 1): RESULT–reason (see ref. nos 1 & 2), RESULT–means (see ref. nos 57 & 65—note: 57 is a complex construction which includes a RESULT–reason construction in the ‘means’ proposition), MEANS–purpose (see ref. nos 14 & 65 (note: ref. 14 is also a complex construction in that the MEANS–purpose bi-clausal construction is followed by a second BECAUSE proposition), grounds–CONCLUSION (see ref. no. 6), and grounds–EXHORTATION (see ref. no. 12).

The methodology employed in putting together Tables 8a and 8b was to take each example sentence listed in Appendix 1 and, on the basis of the division between the HEAD proposition and the support proposition, analyse those features which were expected to prove relevant for drawing conclusions about the semantic structure of the various logical relation types. The particular features focussed upon were 1) whether the HEAD clause was transitive or intransitive, 2) the identity of the participants in both the HEAD and the support clause and whether they were the same or different in both propositions, 3) the specific tense and aspect markers associated with each proposition and 4) the presence or absence of overt markers. The following example is provided to demonstrate the application of this methodology and to show the way the information is displayed in the table.

Example no. 1 from Appendix 1 and appearing as no. 1 in Table 8a.

- (1) *Tyerrtye ahe-akngerre-le ahele are-me*  
people angry-very-ERG angrily see-NPP  
*merne ikwerenhe-arle ingkerreke anyelknge-le*  
food 3sg:POSS-FOC all steal-LOC(ADV)  
*arlkwe-rrirre-ke-nge*  
eat-PL-PC-DS

‘That angry person is looking around angrily because some people stole his food and ate it.’

In this BECAUSE sentence example the HEAD proposition (‘That angry person is looking around angrily’), in this case representing the RESULT proposition, contains a transitive verb; the participant of this proposition is 3rd person singular and the verb is marked as NPP. In the support proposition (‘because some people stole his food and ate it.’), representing the BECAUSE (reason) relation, the participant is 3rd person plural and the verb is marked as PC as well as being switch-reference marked to show that the participant of the support proposition is different from that of the HEAD proposition. And finally, an element in the support proposition is overtly marked with a Focus marker. This pattern of analysis is applied to all those bi-clausal BECAUSE-type sentences listed in Appendix 1.

There is a specific group of bi-clausal purpose sentences separated off into Table 8b. The reason for this is purely pragmatic. Purpose sentences are singled out for a separate discussion (see § 4.1.2) and for ease of reference a particular group of purpose clauses is brought together so that the reader can readily compare the features which are discussed in relation to this type of BECAUSE sentences. There are a number of purposive sentences in Table 8a also. Other relevant features pertaining to the analysis represented in the tables are discussed following the tables.

TABLE 8A: GENERAL BECAUSE-SENTENCE MARKING PATTERNS

no.	Head clause			support clause		
	trans/ intrans	person	tense/aspect	person	tense/aspect	overt
1	trans	3sg	NPP	3pl	PC.DS	-arle
2	intrans	3sg	NPP	3pl	PC.DS	-arle
3	intrans	2sg/3sg	PERM/REFL.PC	2sg	(DS)IMP.EMPH	-arle
4	intrans	3dl	VPURP	3sg	NPP.DS	-arle
5	trans	3sg	NPP/NPP.SS	3sg	NPP.DS	-arle
6	intrans	3sg	NPP	3pl	NPP.DS	-arle
7	intrans	reciprocal	NPP.SS	reciprocal	RPAST	-iperre
8	trans	3pl	NPP.SS	3sg	NPP.DS	-arle
9	intrans	3sg	PC	3sg	PC-	-arle.iperre
10	intrans	3sg-arle	REFL.PC-iperre, NPP	3sg	NPP.SS, REFL.PC	-iperreke
11	intrans	3sg	NPP	3sg	PC-RELCL	-arle.iperre
12	trans	2sg	EMPH	1sg	NPP.DS	-arle
13	intrans	3sg	-	2sg	NPP	-arle
14	intrans	1sg	NPP, VPURP	3dl	PC.DS	-arle
15	intrans	3pl	NPP, NPP	3pl	NPP.SS, REFL.NPP.DS	-arle
16	trans	2pl	-	3pl	-	-
17	intrans	3sg	REFL.VNEG	3sg	PC, NPP	-nge
18	intrans	3sg	NPP.SS, VNEG	3sg	NPP.SS	akwele
19	trans	3pl	NPP, NPP.SS	3p	FUT	-arle
20	trans	3pl	NPP.SS, PC	3sg	PC.DS	-arle
21	trans, intrans	3dl 3dl	PC,-iperre, NPP.SS, PC	3dl	PC	-arle
22	trans	3sg	PC	3pl	NPP.SS, RECIP.NPP.DS, VNEG.NPP.SS	-arle
23	trans	3sg, 3sg	NPP, NPP	3sg	VNEG.DS	-arle
24	trans	2sg	VPURP	3sg	NPP	-
25	intrans	3sg	NPP	3sg, 1pl	PC.DS, NPP.DS	akwele
26	trans	1sg	PC	3sg	PC.DS	-
27	intrans	3dl	RECIP.PC	3sg	NPP.SS, PC.DS	-arle
28	trans	2pl	Gevet	3sg	PC.RELCL.DS	-
29	trans	3pl	NPP	3sg	VNEG	-
30*	intrans	3dl	NPP.SS	3dl	NPP.SS,	-
31	intrans	3sg	NPP.SS	3sg	VPURP, NPP	-
32	intrans	3sg	NPP	2sg	PC, DS	-arle, kwele

no.	Head clause			support clause		
	trans/ intrans	person	tense/aspect	person	tense/aspect	overt
33	intrans	3sg	PC	2sg	-	-
34	trans	1sg	PC	1pl	PC.DS	
35	trans	1sg	NPP	3dl	PC.DS	-arle
36	intrans	3pl	NPP	2pl	-	-
37	trans	2pl	VPURP	3pl	AVER, NPP.SS	
38	intrans	3sg	-	3sg	NPP	-iperre, -arle
39	trans	3sg	NPP	1sg	PC.DS	-arle
40	intrans	3sg	NPP	3sg	PC.RELCL, PC	-arle, -iperre
41	intrans	1sg	DS, NPP	3pl	NPP.SS, DS, RPAST, DS	-arle
42	intrans	1sg	VNEG, VPURP	3sg	-	-
43	trans	2sg	NPP	3sg	VNEG	-
44	trans	3sg	NPP.SS	3dl	AVER	-
45	trans	3sg	NPP.SS, HPAST, NPP, NPP	3dl	NPP.DS	-arle
46	intrans	3sg	NPP	(3sg), 2sg	(PC), VNEG, PC.DS	-arle
47	trans	3pl	PC	3sg	VNEG.DS	-
48	intrans	1sg	REFL.NPP.SS, NPP	3pl	NPP.DS	akwele
49	intrans	3sg	REFL.NPP.SS	2sg	EMPH, NPP.SS, AVER	-
50	trans	1sg	NPP.SS, FUT	3dl	NPP.DS	-
51	trans	3pl	HPAST	1pl	VNEG.IMP	akwele
52	intrans	1sg 2sg	VPURP, NPP EMPH	1sg	-	-
53	trans	2sg	VPURP	1sg	-	-arle
54	intrans	3sg	NPP	3pl	RPAST.DS	-arle
55	intrans	2sg	VNEG	3sg	-DS	-
56*	intrans	3sg	NPP.DS	3sg	FUT	-
57	trans	3sg	NPP	3sg	NPP.DS, NPP.SS	-arle
58	intrans	1sg	DS, REFL.NPP	1sg	NPP.SS	-arle
59	trans	3dl	NPP.SS, NPP	3pl	FUT.DS	-arle
60	intrans	3pl	NPP.DS	3sg	NPP.DS	-arle
61	intrans	2sg	VPURP, VPURP.EMPH	3sg	-	-
62	trans	1sg	PC	3sg	NPP.SS, HPAST.DS, NPP.SS	-arle
63	intrans	3sg	PP, SUBSQ, NPP.SS	3sg	PP.DS, VPURP, VPURP	kwele
64	trans	2sg	VPURP, IMP.EMPH	3pl	NPP.DS	-arle
65	trans	3sg	DS, PC	3dl	RECIP.PC-IPERRE	-arle

\* Note that in the two sentences marked \*, the supporting clause precedes the main clause.

TABLE 8B: BECAUSE-SENTENCE MARKING PATTERNS ENCODING A PURPOSE RELATION.

no.	Head clause			support clause		
	trans/intrans	person	tense/aspect	person	tense/aspect	overt
67	trans	1pl, 3dl.ACC	SUBSQ	3dl:A	VPURP(DS)	-
68	trans	3pl	NPP.SS, NPP.SS, NPP.SS	(3pl:A)	AVER(DS)	-
69	trans	1pl	PC	-	VPURP(DS), NPP.SS	-
70	trans	1sg, 3sg:poss	NPP.SS, NPP, NPP, NPP	3sg:A	VPURP(DS)	-

no.	Head clause			support clause		
	trans/intrans	person	tense/aspect	person	tense/aspect	overt
71	trans	3pl	SUBSQ, NPP.SS	-	VPURP(SS)	-
72	trans	1pl	NPP.SS	-	SUBSQ (SS)	-
73	trans	3dl	NPP	-	NPP.SS, SUBSQ, NPP.SS	-
74	intrans	3pl	<b>-arle</b> , PC, PC	(3pl:A)	NPP.SS, VPURP(SS)	-
75	trans	1sg	NPP	3dl:A	VPURP(DS, NPP.DS)	-
76	intrans	1pl	-		VPURP(SS) SUBSQ	-
77	intrans	3pl	NPP	(3sg:acc)	VPURP(SS)	-

### Explanatory notes:

The left side shows features associated with the HEAD-clause, while the right shows features associated with the semantically supporting clause. On the left, the ‘trans/intrans’ label specifies whether the main clause is transitive or intransitive, the ‘person’ column specifies the person and number of the referent in the S/A role and the ‘tense/aspect’ column specifies the inflection marked on the verb in the HEAD-clause.

On the right, the label ‘person’ specifies the person and number of the referent in the support clause, ‘tense/aspect’ specifies the inflection carried on the grammatically subordinate verb of the support (dependent) clause, and the column headed ‘overt’ provides an opportunity to refer to any specific clitic or particle associated with the semantic structure of the support clause. Blank boxes indicate that there is nothing overtly specified in the clause. Brackets indicate an underlying feature which is considered relevant to the semantic structure of the bi-clausal relation.

#### 4.1.1 Natural versus marked prominence

One of the features of Larson’s approach to the analysis of the relationship between propositions is the aforementioned idea of ‘natural prominence’ (see § 2.1) and coupled with this concept is the term ‘support’ relation. Larson (1984, p. 275) uses the term ‘subordinate’ in connection with a description of grammatical structures but when discussing the relation between ‘communication units’ in the semantic structure she uses the term ‘support’ relation. In doing so, the intention is to draw attention to the fact that it is semantic relations and not grammatical ones that are in focus. As such, semantic units that are related by ‘support’ relations will be frequently signalled by means of ‘subordinate’ grammatical constructions. For example, in the because-type sentence signalling **reason**–RESULT, the RESULT clause is seen as having ‘natural prominence’ and, as such, is the HEAD of the propositional cluster and the reason clause is seen as the ‘support’ relation. This contrasts with those semantic units categorised as ‘addition’ relations, which one would expect to be frequently signalled by ‘coordinate’ grammatical relations. These ‘addition’ type of relations are not the focus of this work.

If we look at the first 65 BECAUSE-sentence examples in Appendix 1 (examples 66–77 are also BECAUSE-type sentences, but all specifically purposive clauses, considered separately, see § 4.1.2), some interesting and relevant features emerge with respect to the idea of ‘natural prominence’ and ‘support’ relations. Of these 65 examples, 41 are overtly marked with a focal constituent in the supporting clause, that is in the ‘because’ clause (the grammatically subordinate clause) of the bi-clausal relation. Consider the following examples where the FOCUS marker **-arle** is presented in bold typeface:

- (1) *Tyerrtye ahe-akngerre-le ahele are-me,*  
 people angry-very-ERG angrily see-NPP  
*merne ikwerenhe-arle ingkerreke anyelknge-le*  
 food 3sg:POSS-FOC all steal-LOC(ADV)  
*arlkwe-rrirre-ke-nge*  
 eat-PL-PC-DS

‘That angry person is looking around angrily because some people stole his food and ate it.’

- (2) *ampe akweke arrewelhewe-lhile-me,*  
 child small rocking -CAUS-NPP  
*akwete-arle artne-me-nge...*  
 still-FOC cry-NPP-DS...  
 ‘She’s rocking the baby because it’s still crying...’
- (3) *kwatye tyampite yanhe-ke thel-Ø-aye,*  
 water tin that(MID)-DAT pour-IMP-EMPH  
*ayenge angkethakwe anthurre-arle awe-lhe-me-nge*  
 1sg:NOM thirsty INTENS-FOC feel-REFL-NPP-DS  
 ‘Pour some water into that tin over there because I’m feeling really thirsty.’

Note: All examples are BECAUSE sentences where the support proposition follows the HEAD proposition number. According to Larson’s (1984) schema, (1) and (2) would be categorised as RESULT–**reason** and (3) would be categorised as **grounds**–EXHORTATION.

I have already shown that the idea of ‘natural prominence’ according to Larson (1984, p. 306) corresponds with the HEAD of the propositional cluster and, this being the case, it is ‘normally more prominent’. While Larson acknowledges that languages may differ in this respect and that if there was an instance where the other proposition (that is the BECAUSE proposition) was more prominent then it could be marked that way. What emerges in the study of Arrernte BECAUSE sentences is that there is a high proportion of bi-clausal BECAUSE sentences that specifically mark focus on the grammatically subordinate clause.

One of the three related functions identified for the clitic *-arle* (in some instances, the form may be simply *-rle*) is that it marks the focal constituent of the clause. The second function is *-arle* ‘relative’, where it is used in the formation of a relative clause, in which case it may cliticise to the first constituent of a modifying clause or it may attach itself to the end of the verb (for a full discussion of relative clauses and their realisation see Wilkins 1989, pp. 414–431). The third function is *-arle* ‘that’. In this case *-arle*, when cliticised to the first element of a subordinate clause, marks a that-complement clause for particular verbs of cognition, saying/telling and perception. One noteworthy feature of *-arle* ‘that’ clauses is that *-arle* cliticises only to the first element of the subordinate clause and not to any other element, and the complement clause always follows contiguously the verb to which it is subordinate.

With respect to its function as a focus marker, *-arle* marks that element in an utterance, other than a verb, which has focal prominence. One of the common functions it has when used in this way is to bring into particular focus one element which is being put forward as distinct from and in contrast to another given element. Bearing this in mind, it is important to observe that approximately 62% of the BECAUSE sentences surveyed have at least one element in the ‘support’ clause marked with the focal constituent *-arle*. When this fact is considered in the light of Larson’s (1984) comments about ‘natural prominence’ and ‘marked prominence’ it is clear that while the main clause has ‘natural prominence’ in the sense that it is the HEAD clause in a bi-clausal HEAD-support relation, what the speaker intends to convey to the hearer is that it is the ‘support’ clause that is the intended focal point of the utterance. In other words, the proposition that constitutes the ‘because’ part of the utterance is given prominence in contradistinction to the outcome (that is, what happened in response to some other prior event). Using Larson’s (1984) terminology, in a high proportion of cases the reason or grounds proposition has marked prominence in contradistinction to the result proposition (as in examples (1) and (2) above) or as in the case of the proposition signalling the grounds (as in example in (3) above).

In this regard, Young (1994, pp. 39) has made some astute observations with respect to the Chinese notion of causality and how it differs from the English notion of causality.

The notion of causality that attends the Chinese because...so... construction is importantly different from English usage and intent. In English, causality identifies a specific dominant factor—agency. By contrast, Chinese emphasize surrounding circumstances and contingent conditions and accommodation to them. In other words the former is concerned with establishing an isolatable cause for a given event while the latter attempts to take into account a field of conditions that sponsor a given event.

Young goes on point out how Chinese can minimise individual prominence by readily dispensing in discourse with pronominals such as ‘I’, ‘you’, ‘we’, ‘they’ in cases where the referent is understood, and in so doing promote bonds instead of boundaries.

While there a no shortage of available linguistic devices available in Arrernte (see § 4.2) for expressing causation (that is those encoding a BECAUSE relation), with respect to Aboriginal approaches generally to expressing causation, Eades (1983, chap. 5, quoted in Harkins 1984, p. 129) has identified what she describes as

important cultural differences between Aboriginal and non-Aboriginal approaches to giving and seeking reasons for actions...Cultural values of personal autonomy and interior privacy discourage probing into individuals’ reasons for actions. There is also a cultural expectation that legitimate participants in a conversation share relevant background knowledge of the subject under discussion, enabling them to decode utterances that rely on such knowledge.

A second noteworthy feature that emerges in relation to the use of *-arle* ‘focal constituent’ in the BECAUSE sentences surveyed is that, of the 41 examples in which at least one element in the ‘support’ clause is marked with *-arle*, 35 of the verbs are marked with a different subject marker. That is, in 35 of the bi-clausal BECAUSE sentences the subjects of the two clauses in question are different. One further significant observation to note at this point is that in nearly all the examples surveyed it is the clause expressing the BECAUSE-relation that is presented following the event to which it refers and upon which it is dependent. This points to a significant conclusion in relation to the semantic structure of logical types as they are expressed in the context of inter-propositional relations; that is, structurally, the typical pattern is for the BECAUSE clause to follow the clause upon which it is dependent.

#### 4.1.2 Same and different subject purpose clauses

This section is included here because purposives represent a relatively complex type of BECAUSE sentence and therefore require some detailed treatment apart from the more generalised types of BECAUSE sentences.

Thompson and Longacre (1985) in their work on adverbial clauses have identified three distinct types of subordinate clauses. Of particular interest to the discussion here is their identification of a specific group of ‘adverbial clauses’, that is, those which function as modifiers of either verb phrases or entire propositions and which are not substitutable for a single word. One such type of adverbial clause that fits this pattern is that which encodes purpose as the semantic relationship between the main and subordinate clauses. In examining the structure and syntax of those special type of BECAUSE sentences which encode purpose in Arrernte (see examples 67-77 in Appendix 1), some interesting features emerge when contrasting same-subject purpose clauses and different-subject purpose clauses.

The claim by Thompson and Longacre (1985) that propositions encoding a purposive semantic relation are complex constructions in that they are not substitutable for a single word is borne out in the representation of the purposive scenario using NSM syntax. Their expression can only be analysed in terms of ‘semantic molecules’ (that is, a complex combination of NSM elements) rather than directly in terms of ‘semantic atoms’ (that is individual primes). In this light, Goddard (1991, quoted in Wierzbicka 1996, p. 206) has argued that this is the case with the notion of BECAUSE in Australian Aboriginal languages, which is regularly included (as is the case in Arrernte) in ‘semantic molecules’ encoded in various purposive constructions. Goddard (1991, p. 44) writes:

Prime facie, I submit, the meaning of these constructions involves the notion of *because*, in combination with the complex notion of *someone wanting something to happen*...The purposive constructions, in other words, provide a compact means for articulating causal connections within a particularly broad domain—that having to do with people’s motives or reasons for doing things. In P/Y society, I would argue, people tend to be more interested in each other’s reasons for doing things than in other kinds of causal links. Most talk about reasons for actions takes place in the idiom of the purposive, which services the main needs in respect of the expression of causality.

Turning now to an analysis of the expression of purposives in Arrernte, one relevant feature which must be stated at the outset is that, unlike the morphology associated with many of the grammatical devices used for encoding a BECAUSE relation, and unlike some other Australian languages (see

Austin 1981, p. 311), purposive clauses in Arrernte never take any switch-reference marking. Instead, zero anaphora is the means by which the tracking of referents between the HEAD clause and the supporting purposive clause is handled.

In same-subject clauses where the semantic relationship is that of purpose, it is quite possible to use the dependent verb inflection *-tyenhenge* ‘SUBSQ (subsequently)’, indicating action that happens subsequent to the action of the main verb, and not to utilise the common verbal purpose marker *-tyeke* as one might expect. Consider the following examples:

- (4) ...*anwerne kwatye antywe-tyeke-amparre ine-tyenhenge...*  
 1pl:A water drink-VPURP-FIRST get-SUBSQ  
 ‘...we want to get some drinking water first...’
- (5) *Ampe yanhe atherre-le kwatye altyiwe-me ahelhe-ke*  
 child that(DEM) two-ERG water pour out-NPP earth-DAT  
*ahelhe terte atyete-ile-me-le ratherre arrkene-irre-tyenhenge*  
 earth mud soft-CAUS-NPP-SS 3dl:S fun-INCH-SUBSQ  
*merne-nge-merne mpware-me-le*  
 food-ABL-food make/do-NPP-SS  
 ‘Those two kids are pouring water out onto the ground and making it damp so that they can play making little pretend cakes.’
- (6) *Anwerne-arle aywerte-ipenhe arne arlpentye akngerre*  
 1pl:A-FOC spinifex-after stick long big  
*arunthe ake-me-le*  
 many cut-NPP-SS  
*irryarte-nge-irryarte arrkene-irre-tyenhenge*  
 spear-ABL-spear fun-INCH-SUBSQ  
 ‘We’re getting a mob of really long bits of spinifex so that we can play toy spears.’

While *-tyenhenge* may occur in a different-subject bi-causal purpose sentence, it is not used in the clause which expresses the purpose for which the action of the main verb is done. When *-tyenhenge* is used in this way in the main clause there is an assumption that the initial action upon which the subsequent action is based need not be made explicit, as in the following example:

- (7) *Kere aherre ampwerrke renhatherre-nhe anyente*  
 meat kangaroo whole 3dl-ACC one  
*anthe-tyenhenge*  
 give-SUBSQ  
*ikwere-atherre re-atherre-arrpe akalke-lhile-rre-tyeke.*  
 3dl:DAT-two 3dl-two:A-own separate-CAUS-DUAL-VPURP  
 ‘We’ll give them one whole kangaroo (which we had already killed) for them to share.’

By way of contrast, in those purpose clauses utilising the purposive marker *-tyeke* ‘VPURP (verbal purpose)’ and specifically in cases where the dependent clause is functioning as an adjunct, there does not appear to be any restriction governing the co-referentiality of the subjects of both clauses. The notable exception to this is in cases where the purposive is used in a complement purposive clause. Wilkins (1989, p. 237) makes reference to the particular verbs (such as *ile-* ‘to tell someone to do something’ and *uterne-* ‘to force someone or something to do something’) which take a purposive complement, and in these instances there is a requirement that ‘the O of the main clause must be coreferential with the S/A of the purposive clause. In this case, the subject (i.e. S/A) of the purposive clause is obligatorily absent’. However, in those instances where *-tyeke* is utilised in adjunct clauses where no such restriction is clearly in evidence, there appears a marked tendency, at least in those sentences surveyed, to utilise *-tyeke* in bi-clausal sentences where the subjects are different, as in the following examples:

- (8) *Merne alangkwe akwerrke mape urreke-ke*  
 food bush banana young many later-DAT  
*alwarrerne-ke*  
 come back and get later-PC  
*akngerre ulkere irre-tyeke impe-me-le...*  
 big TYPE INCH-VPURP leave-NPP-SS  
 ‘We found some young wild bananas and left them to get bigger...’
- (9) *The nhenhe-ke atherre imerne-me apmere*  
 1sg:ERG this(DEM)-DAT two show-NPP place/camp  
*anwerne-kenhe nhenhe re-nhe*  
 1pl-POSS this(DEM) 3sg-ACC  
*ratherre-le are-tyeke-arle ahentye-ane-me-nge*  
 3dl-ERG see-VPURP-RELCL want-sit/be-NPP-DS  
 ‘I’m showing our country to these two because they wanted to see it.’

#### 4.2 Devices used to indicate a BECAUSE-type relation

Arrernte, in fact, has at its disposal a rich variety of linguistic devices to express the reasons for things happening or occurring. In the sections that follow, a number of these devices are examined, giving some indication of the scope of the variety available and how these devices serve to express the logical relation types discussed above.

##### 4.2.1 *-iperre/-ipenhe* ‘after’

In the following examples, *-iperre/-ipenhe* ‘after’ can be understood as signalling a causal function in that it is used to represent a BECAUSE relation. The bi-clausal relation may be categorised as RESULT–reason (note the use of the focal constituent *-arle* in the ‘support’ clause.).

- (10) *Akngwelye akweke yanhe atnerte ulhelke anthurre*  
 dog small that(MID) stomach full INTENS  
*akwetethe re-nhe-arle arlkwe-me iperre...*  
 always 3s-ACC-FOC eat-NPP after  
 ‘The little dog has a really full stomach because it eats all the time...’
- (11) *Artwe nhakwe re-arrpe-arle aletye ake-lhe-ke*  
 man there(DIST) 3sg-own-RELCL mourning scar cut-REFL-PC  
*iperre uyarne anthurre itirre-me,*  
 after unable INTENS think-NPP  
*iperte anthurre ile-lhe-me-le ake-lhe-ke iperre-ke*  
 deep INTENS CAUS-REFL-NPP-SS cut-REFL-PC after-DAT  
 ‘That bloke over there who has cut himself in mourning is really in agony (because) it is a very deep cut (lit. after he cut himself causing a deep cut).’ [Appendix 1, tx 10]

##### 4.2.2 *-ke* ‘dative’

In example (12), the dative *-ke* is used as benefactive marker, in the sense of indicating the reason or the purpose for doing something for the benefit of someone else. According to Larson’s (1984) labelling system this type of BECAUSE sentence may be categorised as MEANS–purpose (note again, the use of the focal constituent *-arle* in the ‘support’ clause).

- (12) *Ayenge meeting nhenhe-werne apetye-rne atyeye*  
 1sg:NOM meeting this(DEM)-ALL come-RPAST younger sister  
*atyinhe-ke angke-tyeke...*  
 1sg:POSS-DAT speak-VPURP  
 ‘I’ve come to this meeting to talk for my younger sister...’

### 4.2.3 -warte ‘since’

In examples (13) and (14), the clitic *-warte* ‘since’ is used to signal a BECAUSE-relation in the sense of indicating why a situation is the way it is. When used in this way there is also the implication that the addressee should already be acquainted with the reason. Wilkins (1989, p. 348) has offered the following approximate explication of *-warte*: ‘*what else would you expect since, as you would know, X is the case*’ (italics in the original).

- (13) *Kele nhenge irrkwe-rre-ntyewarte arrpenhe uyarne*  
 OK. REMEMB hold on to-RECIP-NMLZR-SINCE other unable  
*mwernte-irre-tyarte,*  
 refuse-INCH-HPAST  
*kenhe arrpenhe-le re-nhe tyarre-knge-tyarte.*  
 BUT other-ERG 3sg-ACC drag-take-HPAST  
 ‘Since they were Siamese twins (lit. held on together) he couldn’t refuse, and the other one would drag him around.’
- (14) *Irretetye-le ayenge lhe-me, ngkwerne kurne-warte.*  
 walking stick-INST 1sg:NOM go-NPP bone bad-SINCE  
 ‘I get around using a walking stick, because of my bad leg (as you should know).’ [Wilkins 1989, p.173]

### 4.2.4 *alakenhe ikwerenge* ‘that’s why’

Another expression, almost formulaic in character, which is used to signal a BECAUSE relation is the phrase *alakenhe ikwerenge*, ‘that’s why’, as in ‘that’s the reason why’, or ‘because of this’.

- (15) *alakenhe ikwere-nge*  
 like so 3sg:DAT-ABL  
 ‘that’s why’

Alternatives to this standard expression include suffixing to *ikwerenge* either *-iperre* (temporal, ‘that’s why after this’), as in *alakenhe ikwerenge-iperre*, or *-ntyeye* (spatial), as in *alakenhe ikwerengentyeye*. Typical uses of this expression are illustrated in the following two examples.

- (16) *Kere re-nhe atne mpwanke ite-rlenge atne ate-me-le*  
 meat 3sg-ACC guts whole cook-DS guts burst-NPP-SS  
*akurne ile-ntyeye akngerre.*  
 Bad CAUS-NMLZR big  
*Alakenhe ikwere-nge kere nhenhe itne-nhe-nhe*  
 like this 3sg:DAT-ABL meat this(DEM) 3pl-ACC-ACC  
*atne ine-ntyeye akngerre-kamparre urreke ite-tyenhe-le.*  
 guts get-NMZR big-FIRST later cook-FUT-SS  
 ‘If you cook the animal complete with the guts, they burst and spoil the meat. That’s why you take the guts out before you cook it.’
- (17) *Kwatye akantyere arrerne-lhe-me rlke-le werne-me*  
 water storm clouds build up-REFL-NPP wind-ERG blow  
*urlpmernte ate-me,*  
 dust rise up-NPP  
*alakenhe ikwere-nge-ntyeye, urlpmernte alkere-le*  
 like this 3sg:DAT-ABL-MOAWAY dust sky-LOC  
*inte-me akwete-ulkere.*  
 lie-NPP still-TYPE  
 ‘The rain clouds come up, the wind starts blowing, and the dust comes up and that’s why (because of this) the dust hangs in the air.’

In the following example (18) from a story by Thomas Stevens (1985), attention is drawn to the use of *alakenhe ikwerenge* ‘that’s why’ in the support proposition, which is used to signal a clear BECAUSE

relation. The context in which this story was told was that the author set out with a group of young people to explain how various sacred sites had been desecrated or destroyed, and to explain why it was important that he has taken photos of the relevant sites.

- (18) [Road] *nhenge* *mpware-tyeke* [Stuart Arm]-*ele*,  
road REMEMB make-VPURP Stuart Arms-LOC  
*nhenge ampe nhenge yanhe pmerrke*  
REMEMB child REMEMB that(DEM) young man  
*tne-rl+ane-m-arteke nhenge itepe-l-ante*  
stand-CONT+BE-NPP-SEMBL REMEMB side-LOC-ONLY  
*therre alakenhe.*  
two like so  
*Kenhe alakenhe ikwere-nge the*  
BUT like so 3sg:DAT-ABL 1sg:ERG  
[*photo*]-*em-ine-ke arrantherre are-tyeke, Ntyarlke*  
photo-?-get-PC 2pl:A see-VPURP Ntyarlke  
*re-awerne intertne-rlenge...*  
3sg(DEF)-poor(thing) lie down-DS

‘(We told them) to make the road go around both sides, and leave this tree standing there, like the ‘young man’ dreaming tree near the Stuart Arms there. That’s why I took this picture for you all to see the poor Ntyarlke lying down there.’

#### 4.2.5 -nge ‘ablative’

The particular element that has been identified (see Harkins & Wilkins 1994, p. 298) as being the most suitable equivalent of the semantic prime BECAUSE is the ablative case marker *-nge*. In addition to being used to indicate cause, and reason for something happening, this versatile suffix can have a variety of other functions, including a spatial (‘away from’) function, a temporal (‘after’) function, and a means (‘by’) function (see Wilkins 1989, pp. 185–187 for a description of these and other functions of the ablative marker *-nge*).

The primary reasons, according to Harkins and Wilkins, that *-nge* was selected as essentially equivalent to BECAUSE were, firstly, that it is the most suitable form to utilise in unalloyed reason contexts, as in examples (19) and (20) and, secondly, it appears that those alternative means of conveying the sense of BECAUSE mentioned above are definable in terms of *-nge*.

- (19) *M-angkwe unte are-tyeke lhe-tyek-aye*  
mother-2KinPOSS(O) 2sg:S see-VPURP go-VPURP-EMPH  
*rlkerte kngerre-nge re.*  
sick big-ABL 3sg:S

‘You should go and visit your mother because she’s very sick.’

[Harkins & Wilkins 1994, p. 299]

- (20) *Tyenge anewe ilwe-ke*  
1sg:DAT spouse die-PC  
*ngkwenge-nge ware.*  
2sg:DAT-ABL ONLY

‘My husband is dead because of you.’ [Ayeye Altyerrengetyele, cl. 140]

In these examples the evidence signals an unequivocal BECAUSE usage. In the case of (19), the speaker is clearly not admonishing the addressee to ‘go away from’ (spatial) or ‘after’ (temporal) ‘his mother’s illness’ but ‘because of’ it. In the same way in (20) the speaker is obviously not suggesting that her ‘husband is dead’ (having just been speared) as a result of the addressee having ‘gone away from (spatial) you’ or ‘after (temporal) you’, but ‘because of you’ and what ‘you’ did.

This last example (20) is particularly interesting for the reason that *-nge* functioning as ‘because’ is not specifically linking two events. In discussing this kind of phenomenon, Wierzbicka (1996, p. 138) has noted:

From a logical point of view, one would expect that BECAUSE always links events, and therefore that it has to connect a clause with another clause or with a clause substitute (a “substantive”—THIS or perhaps SOMETHING—referring to the content of another clause). In natural language, however, the role of BECAUSE does not seem to be similarly restricted, and phrases such as “because of me” or “because of you” may in fact be universally available. If they are, then there is perhaps no need to regard them as elliptical or polysemous.

Example (20), provides a clear instance of the occurrence in natural language of the phrase ‘because of you’, in a context where it is used to signal a logical relation and yet, there is no ‘substantive’ present in the BECAUSE part of the expression. In this particular instance, when ‘because of you’ is considered within its context in the overall text, the content to which it refers is ‘because of what you have done’. The ‘what you have done’ is left implicit.

#### 4.2.6 Switch reference

I have already referred to the high proportion of the BECAUSE-example sentences listed in Appendix 1, where it is evident that the system of switch-reference is in use. It should therefore come as no surprise that switch-reference is readily used to express a BECAUSE relation in bi-clausal sentences. The following examples are two of many.

- (21) *artwe ampwe nhakwe ahel-irre-me,*  
 Man old there(DIST) angry-INCH-NPP  
*re-nhe-arle ampe urreye mape-le ingwe-le*  
 3s-ACC FOC child boy many-ERG night-LOC(ADV)  
*apwerte-le we-ke-nge*  
 rock-INSTR hit-PC-DS  
 ‘That old man there is really angry because some young boys threw stones at him last night.’

- (22) *Tyerrtye yanhe ngkwenge-ketye ularele*  
 people that(MID) 2sg:DAT-AVER deliberately  
*irrinke-me nge-nhe-arle akwele re are-ke*  
 suspicious-NPP 2s-ACC FOC QUOT 3sg:A see-PC  
*urreye arrpenhe uthene arrwanty-irre-rlenge*  
 boy other CONJ kiss-INCH-DS  
 ‘That person is deliberately keeping his distance from you (intending to get back at you) because he reckons he saw you and another man kissing.’

Wilkins (1989, p. 458-459) makes the claim, with respect to the marking of non-identity of referents of the subjects of two clauses in Mparntwe Arrernte, that ‘[o]n “negativised” verbs the form is **-nge** “different subject (ablative)”...while on non-negative verbs it is **-rlenge** “different subject (DS)” or **-rleke** “different subject”’. In his discussion on the functions of the ablative marker *-nge*, and with reference to the topic of switch-reference, Wilkins (1989, p. 187) also makes the claim that the ‘ablative form marks a *different subject “reason” clause* when suffixed to a negativised verb...[i.e. X do (sic) something because Y didn’t do something]’.

However, when these claims are examined in the light of many of the examples listed Appendix 1, they do not hold entirely true. While it is the case that only the *-nge* form of the switch-reference marker is suffixed to ‘negativised’ verbs, the use of the form *-nge* is not restricted to ‘negativised’ verbs; contrary to Wilkins’ claims, it may occur as readily on non-negative verbs. In fact, *-nge* ‘different-subject’ marker may occur suffixed to at least five of the six absolute tenses: the non-past-progressive *-me* as in (23), the past-completive *-ke* as in (24), the recent-past-*rne* as in (25), the habitual-past-*tyarte* as in (26), and the future *-tyenhe* as in (27). The one exception is the past-progressive *-tyame/-tyeme*. There is, however, no obvious reason why one would not expect to find the past-progressive *-tyame/-tyeme* marked with the different subject marker *-nge* in a ‘support’ clause; it is simply the case that no examples were found in texts and example sentences examined.

In each of the following examples, *-nge* ‘different-subject’ is used not only as a means of marking a different subject but specifically so in the context of a BECAUSE sentence. (Despite the polysemous nature of *-nge* it seems highly improbable that it is being used simply as an ablative when in all instances below it appears in the context of a bi-clausal sentence where the S of the main clause and

the S of the semantically supportive clause are different.) The reader's attention is drawn to the elements in bold typeface. In each example the particular finite tense inflection is highlighted in bold, and each tense inflection is followed by *-nge* marking 'different subject', which is also in bold.

- (23) *Kele arelhe ampwe yanhe atherre alpe-tyeke*  
 OK woman old that(MID) two return-VPURP  
*ahentye-ane-me, irrernte-arle-irre-me-nge*  
 want-sit/be-NPP cool-FOC-INCH-NPP-DS  
 'OK, those two old women want to go home now because it's getting cold.'

- (24) *Itne mutekaye akngartiwe-me-le apety-alpe-ke,*  
 3pl:A motorcar change-NPP-SS come-return-PC  
*akurne-arle irre-ke-nge*  
 bad-FOC INCH-PC-DS  
 'They turned their motorcar around and came back because it was giving trouble.'

- (25) *Ampe anhe erne-ke rrare-me,*  
 child that(MID) food-DAT miss out-NPP  
*arrpenhe nhakwe-le areye-arle merne ingkerreke*  
 other that(DEM)-ERG PL-FOC food all  
*arkwe-rlte+alhe-rne-nge*  
 eat-do(PL)+go-RPAST-DS  
 'That child missed out on the food because those others ate all the food just before they left.'

- (26) *Artwe nhenge the apmere Alkwerte-ke are-ke*  
 man REMEMB 1sg:ERG place/camp Alcoota-DAT see-PC  
*apmere arrule ulkere-arle alwirre-ke anewe*  
 place/camp long.time TYPE-FOC run away-PC spouse  
*ikwerenhe-l-arle akwetethe ikwere*  
 3sg:POSS-ERG-FOC always 3sg:DAT  
*ingkerte-ingkerte-irre-me-le ahe angke-tyarte-nge*  
 jealous-jealous-INCH-NPP-SS aggressive say-HPAST-DS  
*marle arrpenhe areye-ke anewe arlke ile-me-le*  
 girl other PI-DAT spouse TOO CAUS-NPP-SS  
 'I saw that man out at Alcoota that ran away a while ago because his wife used to get very jealous of him and used to accuse him of having lovers.'

- (27) *Arelhe yanhe-le atherre antyame*  
 woman that(MID)-ERG two blanket  
*alparre-ile-me-le antyame-iwe-me,*  
 flatten out-CAUS-NPP-SS blanket-throw-NPP  
*lyete-arle akwele mane akngerre-ke*  
 today-FOC QUOT money big-DAT  
*arrkene-irre-rirre-tyenhe-nge*  
 fun-INCH-PL-FUT-DS  
 'Those two women are spreading out a blanket and straightening it out because people are going to be playing (cards) for a lot of money today.'

#### 4.2.7 Juxtaposition

One particular device used to express a BECAUSE semantic relation in a bi-clausal sentence is the juxtaposition of the HEAD and support clauses. When clauses are juxtaposed in this way, and where a BECAUSE-relation is evident, there is no overt grammatical device used to signal such a relation. Yet, in these instances, a BECAUSE interpretation is clearly acceptable in the sense that the supporting proposition provides the 'reason' for the assertion in the main clause. A further observation regarding these examples is that the particular clause which specifies the BECAUSE part of the sentence uniformly follows the clause it modifies.

- (28) *Ampe akweke yanhe rlkerte*  
 baby small that(MID) sick  
*artepe-arle akwetethe nentye-nentye-ke*  
 back-FOC always thumping sound-thumping sound-DAT  
*unte atwe-me*  
 2sg:A hit/kill-NPP  
 ‘That little child is sick (because) you are always thumping him on the back. (lit. hitting so as to make a thumping sound)’ [Appendix 1, tx 13]
- (29) *Merne atyankerne arlkwe-nty e akngerre kwenye*  
 veg.food mistletoe(type) eat-NMLZR big NOMNEG  
*aleny e-ke ikerrke-iwelhe-nty e akngerre*  
 tongue-DAT stick to-feel-NMLZR big  
 ‘You don’t chew on the fruit of the mistletoe (because) they stick to your tongue.’ [Appendix 1, tx 16]
- (30) *Inngerre tyerrtye ingkerreke-le alhe ane-me*  
 face person all-LOC nose sit/be-NPP  
*alhe nhenhe re impene anthurre*  
 nose DEM:P 3sg:DEF special INTENS  
*ntyerne-nty e akngerre ntyerrknye itnye-nty e*  
 to smell-NMLZR big sneeze sneeze-NMLZR  
*akngerre-arlke*  
 big-TOO  
 ‘Everybody’s face has got a nose, the nose is very special (because) you can smell with it and also sneeze.’ [Appendix 1, tx 36]

### 4.3 Molecules

Thus far the attention on BECAUSE relations has focussed primarily on the semantic structure of bi-clausal relations and the grammatical means used to signal these relations; these have been discussed under the general heading of ‘primes’. There are additionally in Eastern Arrente a number of ‘molecules’ that can be used to signal a BECAUSE meaning. At least one straightforward way to illustrate this is to take each of the following five ‘molecules’ and insert them in a frame which responds to a generalised question. The term ‘molecules’ is used here in the sense that the form of certain BECAUSE-relations can only be analysed in terms of a complex combination of NSM elements—‘semantic molecules’—rather than directly in terms of ‘semantic atoms’, that is individual primes (as already mentioned above in § 4.1.2).

The generalised question frame can be explicated as ‘Why is this person (X) doing this thing (Y)?’. The Arrente form of the interrogative ‘why’ is based on *iwenhe* ‘what’+CASE; in this way *iwenhe* may take the full set of cases applicable to common nouns (for a discussion on ‘why’ question forming in Arrente see Ferber & Breen 1984). In each example only the *iwenhe*+CASE word is given and a representative response appropriate to the use of the specific case marker in question is given. The response may be roughly explicated as ‘person X is doing this thing (Y) because...’. The reason for explicating the ‘why’ question here is that there is an underlying assumption of a logical relation between the event proposition, represented in the question itself, and some other related causal event.

Underlying the question ‘Why is this person (X) doing this thing (Y)?’ (it could just as easily be paraphrased as, ‘Why did this person (X) do this thing (Y)?’) is an assumption of a logical relation between the question and some other related causal event. Note that ‘Y’ may refer to any event concept.

#### 4.3.1 *iwenhe+nge* (Ablative)

The form *iwenhe+nge* may be translated into English as ‘Why?’ or ‘What from?’ as in example (31):

- (31) *Iwenhe-nge....?*  
 what-ABL  
 ‘Why (e.g. is she rubbing her eyes)?’

*Apurke-nge*  
tired-ABL  
'Because s/he is tired.'

In this instance the basic semantic structural frame can be roughly paraphrased as:

Why is this person (X) doing this thing (Y)?  
Because something happened.

#### 4.3.2 *iwenhe+ke* (Dative)

The form *iwenhe-ke* can be translated into English as either 'Why?' or 'What for?' There are two distinct meanings assigned to the use of the dative. In one instance, the dative can function as a purposive as in (32), in which case-*ke* indicates the conscious reason for an action being performed; as such it characteristically marks an adjunct which explicates the purpose for an action being performed.

- (32) *Iwenhe-ke...?*  
what-DAT  
'Why (e.g. is she crying)?'  
*Kwatye-ke.*  
water-DAT  
'For water.' ('Because s/he wants a drink of water.')

For the purposive, the basic semantic structural frame is paraphrased as:

Why is this person (X) doing this thing (Y)?  
because X thought something like this:  
'I want something (Z)  
if I do Y, I can do Z.' (e.g. drink water)

Note that there is no requirement that the Y is the same person who does Z. The above paraphrase could readily encompass the proposition 'if I do Y, someone else will do Z (e.g. get me a drink of water).

Example (33) also shows this purposive use of the dative in a BECAUSE-type clause where the relation is one encoding EXHORTATION–**grounds**.

- (33) *Amp-aye!*      *Kwatye*    *in-Ø-aye*      *tea-ke.*  
child-EMPH    water    get-IMP-EMPH    tea-DAT  
'Hey (my) child! Get some water for tea.' (The implication: 'so I can make some tea.')

The dative *-ke* may, in other instances, function as a benefactive, as in (34).

- (34) *Iwenhe-ke...?*  
what-DAT  
'Why...?'  
*Atyey-ikwe-ke.*  
younger brother/sister-3KinPOSS-DAT  
'For his younger brother/sister.' ('Because his younger brother/sister wants him to.')

For the benefactive (see also § 4.2.2) the basic semantic structural frame, in this instance, in response to a question, can be paraphrased as follows:

Why is this person (X) doing this thing (Y)?  
Because X thought something like this:  
'I want to do something (Y) for someone else (W)  
if I do Y, it will be good/bad for W.'

#### 4.3.3 *iwenhe+iperre/ipenhe* (After)

The form *iwenhe-iperre*<sup>11</sup> is not readily translated into English, other than simply as 'Why?' There is

<sup>11</sup> Ferber and Breen (1984, p. 15) draw a semantic distinction between the forms *iwenhe iperre* and *iwenhe ipenhe* whereas Wilkins (1989, p. 205–206) argues against such a distinction on both semantic grounds and morphological grounds claiming, firstly, that he has found no basis for determining 'a semantic split across any of the functions in which these forms participate'. Secondly, Wilkins argues against the claim that these forms have independent morphological status, claiming instead that they, like all other case forms, are bound suffixes.

an underlying meaning here which can be roughly paraphrased along the lines of ‘What caused this to happen?’ as in the following example:

- (35) *Iwenhe-iperre...?*  
 why-AFTER  
 Why...?  
*Kere akenge-arle arlkwe-ke-iperre*  
 meat bad-FOC eat-PC-AFTER  
 ‘After eating bad meat.’ (‘Because s/he ate some bad meat.’)

For this form the basic semantic structural frame can be paraphrased as:

Why is this person (X) doing this thing (Y)?  
 Because something else (W) happened  
 because of this, after this, X is doing Y.

#### 4.3.4 *iwenhe+ketye* (Aversive)

The form *iwenhe-ketye* is translated into English typically as simply ‘Why?’ but with an understanding of ‘for fear of what?’ or ‘because of what?’ The type of relation utilising *-ketye* may be alternatively called ‘negative purpose’ or ‘negative reason’.

- (36) *Iwenhe-ketye...?*  
 why-AVER  
 ‘Why...?’  
*Apmwe-ketye.*  
 snake-AVER  
 ‘For fear of a snake.’ (‘Because a snake might bite me/you.’)

In this case, the basic semantic structural frame can be paraphrased as follows:

Why did this person (X) do this thing (Y)?  
 Because X (had) thought something like this:  
 ‘I don’t want this other thing (W) to happen  
 I know (think) this other thing is bad for me (someone else).’

I have chosen to illustrate the BECAUSE functions of each these above ‘molecules’ thus far by means of looking at the response to a particular kind of question. However, in every instance, the BECAUSE functions of these ‘molecules’ could have been illustrated using a different kind of scenario, that is, a scenario which is not framed as a question. For example, take the above paraphrase which explicates a prototypical scenario for a special type of BECAUSE sentence, one fitting the REASON–result frame, which relates to the use of the aversive molecule *-ketye*.

- (37) *Tyerrtye nhakwe-le ameke-are-me-le*  
 person that(DEM)-ERG keep away from someone-see-NPP-SS  
*ware atwe-me,*  
 ONLY hit-NPP  
*arpenhe yanhe atherre-ketye.*  
 other that(MID) two-AVER  
 ‘That person is holding off hitting him because those other two blokes are here.’

The paraphrase could then be adapted easily to read as follows:

At some time someone (X) did something (Y)?  
 Because X (had) thought something like this:  
 ‘I don’t want this other thing (W) to happen  
 I think (know) this other thing is bad for me (someone else).’

Alternatively, taking the reductive paraphrase proposed for the BECAUSE sentence corresponding to Larson’s (1984) **grounds**–EXHORTATION relation and modifying it slightly (in most instances of this type of BECAUSE sentence, one would expect to find the HEAD proposition preceding the ‘support’ proposition, as in example (37)). The following example illustrates negative EXHORTATION:

- (38) *Inteye-ke irrpe-tyal-aye*  
 cave-DAT enter-VNEGIMP-EMPH  
 ‘Don’t go into the cave,  
*ingwe nthurre-ketye!*  
 dark INTENS-AVER  
 because it’s too dark!’

This yields the following paraphrase which can be used to explicate a scenario in which *-ketye* is the element in the ‘support’ proposition giving rise to a BECAUSE interpretation, in this instance a negative exhortation:

EXHORTATION at sometime someone (X) says something to someone (W) like this:  
 ‘I don’t want you (W) to do this thing (Y).  
 grounds BECAUSE something (Z) happened.  
 after this, because of this, this person (X) thought something like this:  
 ‘I don’t want W to do Y,  
 because I think (know) Y is bad for this person (W)’

One of the interesting features about the occurrence of the inflectional suffix *-ketye* is that it is one of only two inflections in Arrernte<sup>12</sup> that can attach to either verbal or nominal stems. While it is true that a number of other suffixes and clitics do attach to both nominals and fully formed verbs, *-ketye* is the only one of two inflectional suffixes to attach to the verb stem without any other intervening morphology, although, interestingly, *-ketye* can occur following other morphology (39). Notice also in the next example (39), the ‘support’ precedes the HEAD, in this instance the admonition to ‘look out’, it is then followed by a second ‘support’ clause which spells out the potential result. The relation may be paraphrased roughly as ‘Because something (X) is happening, do this (Y) now, because X is happening I think something else (Z) will happen, Z is bad’.

- (39) *Apere yanhe ke-lhe-me-ketye alaye;*  
 gum tree that(MID) break off-REFL-NPP-AVER look out  
*arrekatherre-arleke akertne-ke itnye-me-ketye.*  
 2pl:ACC-CONNECT on top-DAT fall-NPP-AVER  
 ‘Look out! That gum tree is breaking; it might fall on top of all of you.’

#### 4.3.5 *iwenhe-aperte* (MATTER—something bad has happened because of this)

The form *iwenhe-aperte* is translated into English typically using the expression ‘What’s the matter?’ or ‘What happened?’ The underlying assumption here is that something happened and the person asking the question wants to know ‘What has happened to cause this other thing to happen?’ An example of this type is given below in (40) and this will be followed by a reductive paraphrase:

- (40) *Iwenhe-aperte?*  
 what-MATTER  
 ‘What’s the matter?’ (or ‘What caused this to happen?’)  
*Ngkwarle-aperte.*  
 grog-MATTER  
 ‘From grog.’ (‘Because s/he drank too much grog.’)

The basic semantic structural frame for ‘what happened?’ can be paraphrased as follows:

What happened? =  
 I know something (Z) happened  
 I think this happened  
 because something else happened.  
 I don’t know about this other thing  
 I want to know about this other thing  
 I think this other thing is bad for someone.

<sup>12</sup> Wilkins (1989, p. 240) makes the claim that *-ketye* is the only suffix to attach to both nominals and verb roots, in the case of the latter without any other intervening morphology. However, the clitic *-eye* ‘is it?’ may also attach to both nominals and verb roots without any other intervening morphology, as in *Mwerr-eye* (good-is it) ‘Is that good?’ and *Re apeke mpwareye?* (3sg:A, maybe, make/do-is it) ‘Could s/he make it?’

#### 4.3.6 *-arrkngele* (Indirect reason for anger)

Another ‘molecule’ used to represent the reason for something happening, as in the paraphrase ‘something (X) happened BECAUSE something else (Y) happened’, is the clitic *-arrkngele* ‘indirect reason for anger’. In this case however there is the additional component that may be stated as ‘Y happened because something else bad happened’. The reason for using the term ‘indirect’ is specifically to draw attention to the fact that the referent of the NP in question is only indirectly the cause or reason of the aggressive feelings or actions of the protagonists in the main clause, who typically would not know that they caused a problem. This marker is cliticised to dative-marked nominal phrases.

- (41) *Ampe urreye alhe alhwe akngerre-ke atwe-rre-me.*  
 child boy nose blood big-DAT hit-RECIP-NPP  
*Iwenhe ikwere-arrkngele mwarre urreke-arle*  
 what 3sg:DAT-IndReasAng good later-FOC  
*arrkene-irre-ke iperre.*  
 play-INCH-PC AFTER

‘Those two boys gave each other bloody noses. I don’t know why (implied—and I’m angry about it) because they were playing happily together before.’

The semantic structure of this special type of BECAUSE sentence, that is, one which would utilise *-arrkngele*, may be represented using the following paraphrase:

RESULT something (X) happened  
 reason because something else (Y) happened  
 after this, because of this, someone (Z) might think:  
 ‘Y happened because something else bad happened’

Notice in the above paraphrase, that the proposition ‘something (X) happened, could just as easily encompass the following variant: ‘someone (W) did something (X)’. ‘Something (X) happened’ is assumed to encompass this variant.

This same clitic *-arrkngele* may also be used in a BECAUSE sentence based on an EXHORTATION–**grounds** relation as in the following:

- (42) *Kwatye itere nhakwe thayete marte-tyeke alh-Ø-aye,*  
 water side there(DEM:DIST) side shut-VPURP go-IMP-EMPH  
*mperlkere-arle kwatye-ke-arrkngele angke-me-nge.*  
 white(person)-FOC water-DAT-IndReasAng speak-NPP-DS

‘Go and switch that water off over on the other side, because some whitefellas are grumbling something about the water.’

Notice also in both (41) and (42) the focal constituent *-arle* is cliticised to an element in the BECAUSE clause in the bi-clausal relation, thus bringing into marked prominence the semantic ‘support’ clause in the semantic relation, while ‘natural prominence’ is afforded to the HEAD clause in the relation.

#### 4.3.7 *-ile/-lhile* (Causative)

The suffix *-ile*, or the alternate *-lhile*, is used in Arrernte to derive a causative verb from a nominal and, as such, it frequently appears in BECAUSE-type sentences, typically in those encoding a **purpose**–MEANS relation. Note that either variant, *-ile* or *-lhile*, may be used to form transitive verbs from nominals, whereas only the variant *-lhile* may be used to causativise an intransitive verb stem. The following example illustrates this type:

- (43) *Ahelhe atyete-ile-me-le*  
 soil soft-CAUS-NPP-SS  
*tnye-tyeke arne ngkerne-tyenhe-le.*  
 dig-VPURP tree plant-FUT-SS

‘You’ve got to break up the soil so that you can put the plants in.’

The semantic structure of this special type of BECAUSE sentence can be explicated using the following paraphrase:

MEANS            someone (X) did something (Z)  
 purpose        because this person thought:  
                   ‘I want to do W,  
                   if I do Z, I can do W’

Alternatively, a BECAUSE sentence utilising *-ile* ‘causative’ may encode a **grounds–EXHORTATION** relation as in example (44):

(44) *Anewe*    *ikwerenhe-werne*    *alpe-tyeke*  
 spouse    3sg:POSS-ALL    return-VPURP  
*re-nhe*    *ingkerte-lhile-me-le*    *atwe-ketye...*  
 3sg-ACC    jealous-CAUS-NPP-SS    hit-AVER  
 ‘He should go home to his wife so she won’t get jealous and beat him up.’

The implication here is, ‘he should go home because if he doesn’t, he will cause her to get angry with him and she will beat him up’.

The semantic structure of this type of example can be captured using the following reductive paraphrase:

EXHORTATION    someone (X) says something like this:  
                   ‘I want someone to do something (Z).’  
 grounds        this person (X) said this  
                   because X thought:  
                   ‘maybe something (W) bad will happen  
                   I don’t want this thing (Z) to happen’

The causative *-ile* may also be used to encode another kind of BECAUSE-clause relation referred to by Larson (1984) as **means–RESULT**.

(45) *Re*        *ntheke-ntheke*    *anthurre-ile-lhe-ke*  
 3sg:S    shabby            INTENS-CAUS-REFL  
*antywe-nty-le.*  
 drink-NMLZR-ERG  
 ‘He’s made himself really shabby by drinking.’

#### 4.4 Salient features of the semantic structure of IF sentences

Table 9 gives an overview of some of the salient features of the IF sentences listed in Appendix 2, which were drawn from a range of sources, including published texts, examples from my own corpus of texts, the Eastern and Central Arrernte to English Dictionary (1994) and from a range of other published papers. The examples were selected to demonstrate the range and scope of logical IF-type relations and their representation in Arrernte.

The methodology employed in putting together Table 9 was similar to that used in Tables 8a and 8b above. That is, take each example sentence listed in Appendix 2 and, on the basis of the division between the HEAD proposition and the support proposition, analyse those features which were expected to prove relevant for drawing conclusions about the semantic structure of the various IF-type sentences. The particular features focussed upon were

- whether the HEAD clause was transitive or intransitive,
- the identity of the participants in both the HEAD and the support clause and
- whether they were the same or different in both propositions.

In this particular case I also sought to identify the presence of the clitic *apeke* ‘if’, because this was crucially important in determining the nature of the sentence relation (see below). Additionally, I focussed on the specific tense and aspect markers associated with each proposition and, the presence or absence of any other overt markers. Brackets are used to indicate implicit information.

The following example is provided to demonstrate the application of this methodology and to show the way the information is displayed in the table.

Example is no. 4 from Appendix 2, appearing as no. 4 in Table 9.

*Akaperte*    *apeke*    *tyerrtye*    *atningke-ngare*    *atwe-me*  
 head        if            people        many-ORD        hit/kill-NPP  
*tyerrtye*    *arerte*    *irre-me*  
 people        mad        INCH-NPP

‘If a person gets hit on the head too many times they can go mad.’

In this example, the HEAD proposition is represented by a transitive clause and the participant (agent) is 3rd person singular but is not overtly referred to in the text, whereas the affected participant is referenced. This proposition is overtly marked with the *apeke* ‘if’ and the verb is inflected as NPP. In the support proposition the participant being referenced is the same as the affected. There is no further occurrence of *apeke* ‘if’ and the verb in this second proposition is also inflected as NPP.

TABLE 9: SALIENT FEATURES OF IF SENTENCES

no.	Head			support		
	trans/ intrans	person ± ‘if’	tense/aspect	person	overt	tense/ aspect
1	trans	3sg <i>apeke</i>	NPP	3sg:A(SS)	-	NPP
2	trans	1sg:ERG, 2sg:S	NPP DO.PAST, VPURP	2sg:S (DS)	-	REFL.NPP
3	trans	2sg:DAT <i>apeke</i>	VPURP	2sg:S (DS)	<i>apeke</i>	NPP
4	trans	(3sg) <i>apeke</i>	NPP	3sg:S (DS)	-	NPP
5	intrans	2sg:S <i>apeke</i>	NPP.DS	(SS)	-	-
6	intrans	3sg:S	NPP.DS	(DS)	<i>-ketye</i>	NPP.SS, NPP.SS, NPP.AVER
7	trans	3sg:ACC	NPP.SS, NPP	(SS)	<i>apeke</i>	NPP
8	trans	1sg:ERG-FOC	PC	2sg:S (DS)	<i>apeke-arle</i>	-
9	trans	-, <i>apeke</i>	NPP	1sg:NO(SS)	-	SUBSQ
10	intrans	2sg:S <i>apeke</i>	PC	2sg:A(SS) 3sg:ACC	-	HYPO
11	trans	3sg:A	SUBSQ	2sg:POSS 3pl:S(SS)	<i>apeke-arle</i> <i>apekele-arle</i> <i>apeke</i>	VPURP FUT
12	trans	-, 3pl:ACC	PC, VPURP	3pl:S(SS)	<i>apeke</i>	NPP.DS
13	trans	3sg:A	NPP.SS	3sg:S(SS)	<i>apeke</i>	NPP
14	trans	(2sg:A)	VPURP	3sg:A(DS)	<i>apeke</i>	-
15	intrans	(3sg:S) <i>apeke</i> (or)	PC.RELCL PC. <i>iperre</i>	(3sg:S) SS	<i>apeke</i>	NPP
16	intrans	(3sg:S) <i>apeke</i> , <i>apeke-arle</i>	NPP, VNEG, PC.DS, NPP.SS	3sg:S(SS)	-	VPURP, NPP, RECIP.DS
17	trans	3pl:A	DS	(3sg:A)-ERG	-	HYPO
18	intrans	(3sg:S) <i>apeke</i>	Gevet	3sg:ACC, 3sg:A(DS)	-	DS.RELCL
19	intrans	(3sg:S) <i>apeke</i>	NPP	1sg:NOM(DS)	-	VNEG
20	trans	3pl:A	PC	(1pl:A)(SS)	-	HYPO

no.	Head			support		
	trans/ intrans	person ± 'if'	tense/aspect	person	overt	tense/ aspect
21	trans	(2sg:A)	NPP.SS, IMP.EMPH	(2sg:A) (SS)	-	SUBSQ

**Explanatory notes** (these notes are essentially the same as those provided for Tables 8a and 8b; they are repeated here for ease of reference):

The left side shows features associated with the HEAD-clause, while the right shows features associated with the semantically supporting clause. On the left, the 'trans/intrans' label specifies whether the main clause is transitive or intransitive, the 'person ± 'i'' column specifies the person and number of the referent in the S/A role and indicates the presence of the conditional lexeme *apeke* 'if'. The 'tense/aspect' column specifies the inflection marked on the verb in the HEAD-clause.

On the right, the label 'person' specifies the person and number of the referent in the support clause, 'tense/aspect' specifies the inflection carried on the grammatically subordinate verb of the support (dependent) clause, and the column headed 'overt' provides an opportunity to refer to any specific clitic or particle associated with the semantic structure of the support clause. Blank boxes indicate that there is nothing overtly specified in the clause. Brackets indicate an underlying feature which is considered relevant to the semantic structure of the bi-clausal relation.

I have already stated (§ 3.3), with reference to IF sentences and the polysemy of the primary exponent of the semantic universal IF *apeke*, that in a simple clause—where a single proposition is presented—the lexeme *apeke* means 'maybe' or 'perhaps', whereas in the context of bi-clausal relation (the focus of interest here)—where a dependent or 'support' clause is present—*apeke* means 'if'.

Looking at the details in Table 9 above it is immediately obvious that of the 21 bi-clausal (or multi-clausal) sentences examined, 15 have a clause overtly marked with the propositional particle *apeke* and may therefore be assumed to be encoding an IF-relation. The remaining 6 clauses can also be classified as IF sentences but they do not contain the particle *apeke* 'if'. It should also be noted here, with reference to the polysemy of *apeke* 'if, maybe' that it can additionally be used to convey a contrast between a given number of states or events (as in example 12 from Table 9 above) and thus be glossed as 'or' or, in the case of example (16), as '(or) if'.

Before proceeding with an examination of some of the details expressed in Table (9), it is pertinent to look briefly at some claims made by Bain (1992) with respect to conditionals which take a contrary view to the one expressed above, which states that IF sentences can be clearly distinguished from WHEN sentences. Bain (1992, pp. 86–92) discusses the construction of conditionals in Pitjantjatjara, commenting on simple conditionals, counterfactual (she uses the term 'contrary-to-fact') conditionals and conditionals in statements of habit and custom. When discussing causality she makes the statement that 'Aboriginal understanding of sacred affairs, specifically causality, is characterised by concepts and categories of thought that are no more than one step removed from reality' (Bain 1992, p. 79). She goes on to discuss what she claims is an absence of any hypothetical conditional sentence in Pitjantjatjara, stating (1992, p. 87), 'The hypothetical conditional sentence is not found in Pitjantjatjara. In Pitjantjatjara one cannot put forward a purely hypothetical condition, something that is merely possible, or a supposition. In practice, when Westerners attempt to do so, the Aboriginal person receives the idea as a fact'. Bain also makes the claim with respect to Pitjantjatjara that no distinction is drawn between 'if' and 'when'.

In arguing against such a view with respect to Aboriginal languages, McConvell (1991, p. 15) states, 'Lack of formal distinction between *if* and *when* in Aboriginal languages, in contrast to English, is supposedly linked to absence of hypothetical conditional statements in Aboriginal discourse'. McConvell (1991, p. 16) resolutely rejects such claims arguing that indeed Aboriginal languages do have both the lexical and grammatical means to mark 'conditionality', and he asserts that even if the words for 'if' and 'when' have an identical form, they may never-the-less appear in different frames,

thus establishing the contrast.<sup>13</sup> Wierzbicka has also argued against Bain, characterising her claim as ‘disturbing’ and suggests the solution lies in the need to ‘state explicitly...that one is not asserting the condition’ (1996, p. 189), as could be accomplished according to the following reductive paraphrase:

I don’t know whether X will happen  
if it happens, then Y

In his discussion on conditionals and their realisation in Mparntwe Arrernte, Wilkins (1989, p. 234), specifically with reference to the inflectional suffix *-mere* ‘hypothetical’, draws a distinction in the non-past between conditionals with ‘projected’ or ‘hypothesised’ consequences and those with definite consequences. With respect to the former case the following example is offered:

- (46) *Dam itne mpware-rlenge, kwatye-le atake-mere.*  
dam 3pl:A make/do-DS water-ERG destroy-HYPO  
‘When they build the dam, then the water could (hypothetically) destroy it (and put us all in danger).’ [Wilkins 1989, p. 234]

He goes on to say that in the latter case, ‘the consequent clause has the structure of a declarative main clause with the main verb taking a non-past tense.’ What he is contending here is that, if the tenses *-me* ‘non-past progressive’ or *-tyenhe* ‘non-past completive’ replaced *-mere* ‘hypothetical’ as in example (46), the consequent clause would then mean that the dam is definitely going to break if they build it. The following paraphrase is suggested for an explication of the suffix *-mere* and it represents a simplification of the definition offered by Wilkins (1989, p. 234):

*-mere* =  
something (Y) has not happened  
it could happen  
I can’t/don’t say: ‘It will happen.’

Returning to further analysis of the results displayed in Table 9 above, and looking specifically at the bi-clausal sentences marked with the inflectional suffix *-mere* (see Appendix 1 example sentences 10, 17 and 20), it can be observed that *-mere* occurs in a clause following either a declarative clause ordinarily containing the particle *-apeke* ‘maybe, if’ (as in 10) or a temporal adverbial switch-reference clause (as in 17). Concerning the semantic structure of these ‘hypothetical’ sentences, the initial clause establishes the conditions that might happen, or could have happened, and the following *-mere* ‘hypothetical’-marked clause postulates what could happen, or what could have happened if the conditions put forward in the initial clause had happened. Regarding the outcome, no claim is being made that what could happen necessarily will happen. In this way *-mere* is used to convey counterfactuals (as in example 10), as noted by Wilkins (1989, p. 234). In the case of example sentence 20 (a hypothetical conditional, not a counter-factual) the expected switch-reference marked verb is reduced to a simple ‘proprietary’-marked NP and there is no explicit mention of the referent in the *-mere* ‘hypothetical’ inflected clause.

In the extended example (47) from *Ayeye Altyerrengetyele* ‘A Dreamtime Story’ text [ref. 22–25], which concludes with a hypothetical conditional, once again the expected switch reference-marked clause which establishes the condition is reduced to a simple dative-marked NP, which is understood as ‘I don’t know if you could do this thing for me’. In this example, where some context has been provided, the referents of the *-mere* ‘hypothetical’ inflected clause are obligatorily stated.

- (47) *Yenge ane-tyarte ampe-kerte*  
1sg:NOM sit/be-HPAST child PROP  
‘I’ve been living here with just the child  
*kere arrwe arlkwe-tyekenhe,*  
meat(CLASS) rock wallaby eat-VNEG  
and never had any wallaby to eat,

<sup>13</sup> It is of interest to compare what has been said here with what Hasada (1997) has said in relation to conditionals and counterfactuals Japanese bi-clausal sentences. The claim is made that ‘in actual speech, many bi-clausal Japanese sentences are compatible with an even wider range of interpretations— temporal, conditional, hypothetical conditional, or counterfactual. In practice, it seems that native Japanese speakers are often not concerned with overtly marking these distinctions’ (1997, p. 286). The implication drawn from this is that frequently the ‘speaker’s attitude toward the factuality or likelihood of the situation is left open’.

*yanhe kenhe atningke.*

that(MID) BUT many

but there are lots and lots of them close by.

*Urreye akweke mpwele peke tyenge atwe-mere ingwenthe.*

boy small 2dl:A if 1sg:DAT hit/kill-HYPO tomorrow

(I'll be very glad) if you and my son could kill some for me tomorrow.'

When the above example is examined in the light of the reductive paraphrase proposed for hypothetical conditionals:

I don't know whether X will happen

if it happens, then Y

Then, it can be easily seen that the proposed explication adequately accounts for the Arrernte conditional at this point. The hypothetical conditional expressed here could be rephrased as:

I don't know whether you will kill some kangaroo for me

if you do, then we will have some to eat (and be very glad).

It is noteworthy to mention at this point that, while Arrernte has the grammatical means available to convey counterfactuals in the corpus of texts and example sentences surveyed in the course of researching this paper, bi-clausal IF sentences of this specific type containing-*mere* are quite rare. It is also of interest to note that while it has been argued that Arrernte has at its disposal the means to distinguish hypothetical and counterfactual conditionals, Thompson and Longacre (1985, p. 195) make the claim that at least some of the world's languages do not make a distinction between these two types. Thompson and Longacre (1985) are however, restricting their comments to the distinction between hypothetical and counterfactual conditionals; they are not suggesting a lack of distinction between counterfactuals and conditionals generally. The case for considering the concept of IF as a semantic primitive as distinct from the counterfactual IF...WOULD, which is also postulated as a semantic primitive, has been argued elsewhere by Wierzbicka (1996, 1997).

A further observation concerning the semantic structure of the more generalised IF sentences, those classified as 'plain' or 'temporal' **condition**-CONSEQUENCE sentences (see § 3.3), is that while there doesn't appear to be any stringent ordering of the two propositions in the relation, there is a tendency for the clause conveying the IF meaning, that is the condition, to precede the clause expressing the consequence. In other words, the more common pattern to emerge is that the consequent proposition follows its antecedent. In the case of the 14 sentences which may be classified as 'plain' or 'temporal' IF sentences, 8 of the 14 present the condition preceding its consequent.

Another way in which an IF sentence may be formed is through the use of the dependent verb inflection-*tyenhenge* 'subsequent'. See examples (48)/[ref. 9], (49)/[ref. 11] and (50)/[ref. 21] from Appendix 2 (Appendix 2 numbers are given in square brackets);-*tyenhenge* 'subsequent' may be used either in conjunction with *apeke* 'if', as in (48) and (49), or without it *apeke* 'if', as in (50). In this latter instance, a conditional interpretation is perfectly consistent with the primary use of-*tyenhenge* (but certainly not demanded of it). That is, it indicates an event whose fulfilment is conditional upon the event in the clause upon which it depends happening and, temporally subsequent to it. The elements in focus here are in bold typeface to draw attention to their occurrence:

(48) *Ntange ularte-arle arlkwe-me iperre **apeke***  
edible seed exclusively-FOC eat-NPP after if

*atnerte anhelke ayenge awelhe-**tyenhenge***  
stomach satisfied 1sg:NOM feel-SUBSQ

'I'll probably feel full in the stomach if I eat just seeds.' [Appendix 2, ref 9]

- (49) *Itne akwele are-tyenhenge ampe ngkwinhe*  
 3pl:A QUOT see-SUBSQ child 2sg:Poss  
*apeke-arle akwetethe ulkere akaltye-le-anthe-tyeke*  
 if-FOC always TYPE knowledge-INSTR-give-VPURP  
*itne apeke-le-arle mwerre anthurre ulkere apeke akaltye-irre-tyenhe*  
 3pl:S if-INSTR-FOC good INTENS TYPE if knowledgeINCH-FUT  
 ‘They have to see if your child needs this extra teaching and if they will learn better from it.’  
 [Appendix 2. ref. 11]
- (50) *Tyate yanhe ine-me-le ngkwenge-arleke*  
 shirt that(DEM) get-NPP-SS 2sg:DAT-CONTACT  
*ampekiwe-lh-Ø-aye mwerre-ke are-tyenhenge*  
 put up against-REFL-IMP-EMPH good-DAT see-SUBSQ  
 ‘Get that shirt and hold it up against yourself and see if it looks all right!’  
 [Appendix 2, ref. 21]

In terms of tracking arguments between the two clauses in a bi-clausal IF sentences, if the identity of the referents of both clauses are shared then tracking them may be accomplished by either pronominals or zero anaphora. However, in those instances where the arguments of the clauses in question are different, then the change of subject is obligatorily marked using an NP, typically, some pronominal reference.

A common way to express a negative conditional is through the use of the clitic-*kwenye* ‘nominal negator’. In this case-*kwenye* ‘nominal negator’ is used in a way that resembles the English ‘unless’. Consider the following example in which the expected consequence of not doing something or of something not happening precedes the condition upon which the assumption is based:

- (51) *Ngkwerne-ngkwerne irre-me,*  
 bone-bone INCH-NPP  
*merne arlkwe-ntyte akngerre-kwenye ane-me-le.*  
 veg.food eat-NMLZR big-NOMNEG sit/be-NPP-SS  
 ‘You get bony if you don’t eat.’

The final IF-type sentence to be commented on here is that which may be described using Athanasiadou and Dirven’s (1997) typing of conditionals as ‘pragmatic conditionals’, that is, those that entail their antecedent or their consequent. Athanasiadou and Dirven (1997, p. 62) draw attention to the point of commonality in all conditionals, that is, ‘the mutual dependency between the two propositions in the subclause and in the main clause of conditional sentences’. In the case of ‘pragmatic conditionals’ this mutual dependency is not as clearly evident as it is in other kinds of conditionals. For this group of conditionals, according to their definition, the speaker is giving out an ‘implied, metapragmatic signal’, which is in turn providing information for the addressee about a solution to a perceived problem. A solution to this problem is provided by the information given in the main clause. ‘Pragmatic conditionals’ are defined by Athanasiadou and Dirven (1997, p. 63) in the following way: ‘If there is a need x, let me give you information y, so that you can arrive at solution z’. The following two examples may be categorised as ‘pragmatic conditionals’:

- (52) *The-arle ite-ke unte angayakwe apeke-arle*  
 1sg:ERG-FOC cook-pc 2sg:S hungry if-FOC  
 ‘I’ve cooked it if you’re hungry.’
- (53) *Ngkwenge-werne apeke mane yerne-tyeke,*  
 2sg:DAT-ALL if money send-VPURP  
*unte apeke ahentye-ane-me.*  
 2sg:S if want-sit/be-NPP  
 ‘Your money can be sent to you, if you want.’

#### 4.5 Conclusions

There are several important conclusions that have emerged in the analysis presented in this chapter in relation to the expression and structure of logical types in Eastern Arrernte. Firstly, in the study of

Arrernte BECAUSE sentences there is a high proportion of bi-clausal BECAUSE sentences that specifically mark focus on the grammatically subordinate clause. When this fact is considered in the light of Larson's (1984) comments about 'natural prominence' and 'marked prominence', it is clear that while the main clause has 'natural prominence', in the sense that it is the HEAD clause in a bi-clausal HEAD-support relation, and typically appears in the initial position in the bi-clausal relation, what the speaker intends to convey to the hearer, by means of including a focal constituent, is that it is the 'support' clause that is the focal point of the utterance. In other words, the proposition that constitutes the 'because' part of the utterance is given prominence in contradistinction to the outcome. Why something happened is thus deemed more prominent than what happened.

A further significant conclusion to emerge in relation to the semantic structure of logical types as they are expressed in the context of inter-propositional relations structurally is that the common structural pattern is for the BECAUSE-clause to follow the clause upon which it is dependent.

I have also shown that Arrernte has at its disposal a rich variety of linguistic devices to express the reasons for things happening or occurring. The particular element that has been identified (as Harkins and Wilkins 1984, p.298, have already noted) as being the most suitable equivalent of the semantic prime BECAUSE is the ablative case marker-*nge*. In those instances where no overt BECAUSE-type element is present, as in the case of juxtaposed clauses, the particular clause which encodes the BECAUSE part of the sentence uniformly follows the clause it modifies.

Regarding IF-type bi-clausal relations, while there doesn't appear to be any stringent ordering of the two propositions in the relation, there is a tendency for the clause conveying the IF meaning, that is the condition, to precede the clause expressing the consequence. In other words, the pattern to emerge is that the consequent proposition typically follows its antecedent. We have also noted that Arrernte can make a clear distinction between 'if' and 'maybe' clauses. Also, Arrernte makes a two-way distinction in the core class of IF-type sentences: those termed simply 'conditionals' and, those termed 'counterfactuals'.

Throughout this chapter I have clearly demonstrated that logical types of inter-propositional relations can be categorised on the basis of a two-way distinction between a core class of BECAUSE-type sentences and core class of IF-type sentences. By providing a reductive paraphrase for each logical type filling the two core-classes identified, I have established a means by which another analyst may verify the findings and enter into a cross-linguistic comparison of types in a way that the Semantic Structural analysis approach to the analysis of these types was found to be lacking.

I also mention here that the analysis represented in the tables above (8 and 9), in relation to all the features present in the examples listed in Appendices 1 and 2, has been necessarily selective, as have been the observations concerning what is presented in the tables. Space does not permit a full analysis of all the relevant features and how they might influence the structure of semantic relations. For instance, the interplay between particular kinds of grammatical expression and semantic structure, the relation between the order of certain syntactic constituents and the ordering of certain logical propositions, the full significance of the presence or absence of overt markers and the specific constituents they mark. These and other questions remain the topic of further research.

## Chapter 5: Logical Relations at Discourse Level

One of the underlying questions raised at the outset of this study concerned the type of reasoning process which might be shown to be evident in Arrernte discourse: inductive or deductive. Thus far, the primary focus of attention has been at the level of inter-propositional relations, specifically the semantic structure of logical relations as expressed in bi-clausal sentences. It is beyond the scope of this paper to undertake an exhaustive account of the semantic structure of Arrernte discourse; neither will I be attempting a thorough appraisal of the syntax of Arrernte discourse. To render an adequate account of the structure of semantic relations at discourse level, it would be necessary to give consideration to the interplay of all the various types of ‘addition’ and ‘support’ relations (i.e. the grammatically coordinate and subordinate structures) identified by Larson (1984) in her chart of ‘communication relations’, at both the semantic and the syntactic levels. Rather, the focus of this chapter will be quite narrow and, necessarily, of a summary nature. The wider challenge, toward which this chapter is a preliminary step, is succinctly stated by Polanyi and Scha (1983, p. 261):

A discourse grammar must characterize the surface structure in a way which accounts for the significant semantic properties of the text. Specifically, we should be able to describe how the meaning of an entire *discourse unit* is built up out of the meanings of its elementary constituents—which may be ‘clauses’ or other discourse units...Every clause uttered is a structural constituent of a discourse unit which may consist of one or more clauses. Every discourse unit is correlated with a semantic frame which is the context for the interpretation of its constituent clauses.

I have already stated (§ 2.1) that a discourse may be assumed to consist of *semantic units* and these units are arranged in a *hierarchical system*. Further to this, it was said that each *semantic unit* is characterised by a set of meaning features. These meaning features or components unite at various levels of the discourse/semantic hierarchy. We have already looked at the features characterising the combination propositions into *propositional clusters* or, as they have been called, bi-clausal sentences. The concern now is to provide a brief overview of the semantic structure associated with the grouping of propositional clusters into what Larson (1984) has called *semantic paragraphs* and how these units unite to form *larger units of the discourse*. By seeing the way smaller semantic units unite to form larger semantic units, we will be able to give some indication of the reasoning process that emerges relevant to the focus on narrative genre. The discussion at this point is necessarily limited to features associated with the realisation of BECAUSE-type and IF-type relations.

### 5.1 Cohesion in narrative discourse

The purpose of narrative discourse is to *recount events*, usually in the *past*. The thread that weaves the discourse together is the recounting of a series of events which are most commonly *actions*. The agent of the events is usually *third person* or *first person*; that is, the narrator tells about things which happened either to someone else or to him/herself. The presence of participant, time and location strings are involved in determining groupings (i.e. semantic and propositional clustering) and for giving cohesion to the narrative. The two texts under consideration here are both narrative. In the first instance, *Arltunga-werne Alpeke* ‘Returning to Arltunga’, the agent of events is first person and the story recounts a childhood memory of the time the individual was taken back to Arltunga so that she could attend school. The second and longer text, *Ayeye Altyerregentyele* ‘A Dreamtime Story’, is, as the title suggests, a ‘Dreamtime’ narrative; in this case the agent of events is third person. Additionally, this text includes a small amount of dialogue. Both texts are found in the published volume of Arrernte short stories *Arrernte Ayeye* (Henderson (ed.) 1986).

Some pertinent questions in relation to the study of discourse, particularly with reference to cohesion and the markers and various constituents used to signal cohesion, have been raised by Schiffrin (1987), who queries the scope of particular markers and their ability to mark relationships at different discourse levels and the range and level at which they operate within a discourse. For the purposes of analysing Arrernte narrative the focus is, at least initially, centred on semantic relations, what basis there is for determining the kinds of relations identified and what markers can be identified which give an indication of coherence. The grammatical relations have not received the same attention.

The points of grammar that have caught my attention in this limited study are *phoric reference*, anaphora in particular, understood as a coreferential link between some element in a text and a prior

element in the same text—in this light pronouns have a cohesive function in discourse as well as contributing to participant orientation. Related to anaphora is *ellipsis*, understood as the ultimate in economy; when used properly, the missing information can be infallibly supplied, so there is both redundancy and cohesion (Pickering 1980, p. 31). Pickering also notes the danger of confusing ellipsis, which is a strictly grammatical matter, with implicit or implied information.

There are various ways that the structure of a discourse can signal cohesion. The most obvious ways are through grammatical agreement, phoric reference (anaphoric, cataphoric or exophoric), semantic relations (what Pickering (1980, p. 33) calls ‘conjunction’), lexical association and given information (i.e. information that the writer/speaker treats as already available to the reader/hearer). The idea of given information comes from Halliday’s (1967 and 1968) ‘given/new’ dichotomy.

However, with reference to cohesion as a semantic relation, to say that two sentences cohere by virtue of their relation in meaning is not very precise. Practically any two sentences might be shown to have something to do with one another as far as their meaning is concerned. However, there is one specific kind of meaning relation that is critical for the creation of texture: that in which one element is interpreted by reference to one another. What cohesion has to do with it is the way in which the meaning of the elements is interpreted. Where the interpretation of any item of the discourse requires making reference to some other item in the discourse, there is cohesion (e.g. ‘he said so’ is intelligible but unable to be interpreted semantically) (Halliday & Hasan 1976, p. 26).

## **5.2 Observations on the semantic structure of Arrernte narrative**

In the interests of clarity and ease of observing and discussing the particular features of interest in the two narrative texts examined here, the texts have been annotated using two different systems. In the first instance, the Arrernte texts have been annotated using the system of interlinear glossing and morpheme analysis used elsewhere throughout this paper. The interlinearised text has been divided into separate units mainly on the basis of sentence boundaries. In the second system of analysis, only the English gloss has been provided, with the texts having been analysed on the basis of their propositional structure. Using this system, the various kinds of inter-relations have been labelled according to the semantic structural analysis system advocated by Larson (1984) and according to the principles laid out above (§ 2.2) specified as a standard format for representing propositions. The reason for presenting the analysis of the two texts in this way is to draw attention to a number of different features. An attempt to combine the range of interests in a single representation appeared to demand too much of only one representation. The English propositional display focuses, in particular, on the structure of semantic relations at various levels in the discourse.

Having discussed at length the way in which Larson’s labelling system can be clarified using NSM syntax (see Chapter 3), and having defined each of the set of logical relations using NSM syntax, I have made no attempt here to apply the NSM approach to the total labelling system of all the various types of semantic relationships throughout the texts; to do so remains the subject of further research.

An initial generalised observation concerning the analysis, specifying and labelling of the semantic relationships associated with each different level in the semantic hierarchical structure is that the higher one goes in the semantic hierarchy the more critical the issue of context and inter-dependency between propositions and groups of propositions becomes. In regard to the relations between propositions in a discourse van Dijk (1997a, p. 9) reinforces this point:

As is the case for all other levels of discourse analysis, here we find the *discursive relativity* principle: propositions are influenced by previous propositions in text or talk. Indeed, one need not be a discourse linguist to know that the meaning of a sentence depends on what has been said (meant) before.

### ***Arlunga-werne Alpeke* ‘Returning to Arlunga’ semantic structure**

The English propositionalised translation of *Arlungawerne Alpeke* ‘Returning to Arlunga’ is a narrative text, shown in Appendix 3, which comprises 42 propositions. Eight levels of grouping propositions together have been used to express the structure of semantic relationships and label them

accordingly<sup>14</sup>. The intention here is to draw attention only to those semantic relations identified as specifying a ‘logical relation’, understood as representing either a BECAUSE-relation or an IF-relation, and to draw from these observations some preliminary conclusions regarding the process of reasoning evident in the structure.

In Table 10, attention is focussed on tracking referents and the tense/aspect markers associated with each proposition. These two features were selected because a change of participant reference and the incidence of particular tense/aspect markers were considered significant markers in determining relevant features of the semantic structure of the text. Table 10 corresponds to the interlinearised text in Appendix 4.

TABLE 10: *Arltungawerne Alpeke* ‘Returning to Arltunga’ CLAUSE ANALYSIS

CI	Referent	Tense/aspect	CI	Referent	Tense/aspect
1	(1pl:S)	pc	19	1sg:NOM	npp
2		vpurp	20		vpurp
3	1sg:Poss.ERG, 1pl.ACC	pc	21		pc-SS, fut
4		vpurp, vpurp	22	1sg:NOM	DS
5	1sg:NOM	npp-SS	23		pc
6		pc	24	1sg:NOM	npp-SS, pc
7		-/DS	25	1sg:NOM	VNEG, vpurp
8	1pl:S	vpurp	26		pc
9		vpurp	27		HPAST
10	1sg:NOM	refl.pc	28	1pl:S	pc
11		pc-relcl	29		npp-SS
12		npp-SS, vpurp	30	3pl:Poss	npp-SS
13	1sg:NOM	pc	31	1pl:S	pc
14	1pl:S	vpurp, npp	32		npp-SS
15	(3sg:S) 1sg:Poss	pc	33		npp-SS
16	2pl:S	npp-SS	34	1sg:NOM	pc
17		vpurp, vpurp	35	3sg:S	pc-DS
18	1sg:DAT	npp-SS			

In this section, I refer to both the English propositionalised version of this text as it appears in Appendix 3 and the interlinearised version of the this same text as it appears in Appendix 4. The first set of unbracketed numbers refers to the reference numbers in the English propositionalised text. The second set of number (those contained in brackets) refers to the text reference numbers in the interlinearised version of this text. The particular focus of attention in the analysis presented here is the semantic structure of both BECAUSE-type and IF-type relations.

At the first structural level, an inter-clausal level, five relations have been labelled as representing a BECAUSE-type relation, specifically, the relation between propositions 1 (1) and 2 (2), 15 (13) and 16 (14), 35 (28) and 36 (29), 38 (31) and 39 (32), and 40 (34) and 41 (35). In every one of these five BECAUSE-type relations identified, the semantically supporting clause (i.e. the BECAUSE clause) follows the HEAD clause.

At the second structural level, generalised as a sentence level (which includes both bi-clausal and multi-clausal relations), a further five relations have been identified as representing a BECAUSE-type relation. The specific groupings of propositions are; 3–5 (3–4), 6–8 (5–6), 12–14 (10–12), 18–20 (16–18) and 29–32 (24–25).

The varying structures represented by the grouping of these BECAUSE-type relations show different ordering possibilities. For 3–5 (3–4), 12–14 (10–12) and 29–32 (24–25), the specific constructions

<sup>14</sup> Although the grouping of various semantic units into a hierarchical structure, as used in the analysis of both texts, includes one more level than the levels suggested above (§ 2.1), this need not present a challenge to the findings specified in relation to levels. Rather it confirms, as specified, that the number of levels is not rigidly fixed or agreed upon and that for the analysis of certain texts it is perfectly appropriate to add another level, if this is seen to aid the analysis of the types of semantic relations identified.

encoding the BECAUSE-type relation follow their respective HEADs. For 6–8 (5–6) and 18–20 (16–18), the propositions encoding the BECAUSE-type relation precede their HEADs.

In the case of propositions 6–8 (5–6), where the BECAUSE proposition precedes the RESULT proposition, the actual BECAUSE proposition is left implicit and only made explicit in the following propositions, 9–11. There is also a change of pronominal reference following proposition 5 (‘so that we could learn’), from first person plural, to first person singular in proposition 6 (‘When I first heard’), and with the change of subject reference the new participant is given prominence and introduced in the first clause of the relation.

In propositions 18–20 (16–18), where the proposition analysed as encoding the BECAUSE-type relation precedes the MEANS, there is also a change of subject. On this occasion from first person plural in the preceding proposition 17 (‘about why we had to go to school) to third person singular in proposition 18 (‘My grandfather said this’). Again, the new participant is given prominence in the ordering of clauses. There is also, in this second instance, a degree of skewing evident between the syntactic level and the semantic level. The particular grammatical device used to encode the ‘means’ proposition in 19 (17) (‘you have to go and live Arltunga’) is in fact the purposive (marked *-tyeke* ‘VPURP). Whereas 18 (16) (‘in order that you can learn’) is understood semantically as the ‘purpose’, but marked as non-past-progressive, it is in fact 19 (17) (‘you have to go and live at Arltunga’), which functions semantically as the MEANS by which this purpose is to be accomplished.

(1) (15) *Tyemeye atyenhe alakenhe angke-ke,*  
MoFa 1sg:POSS like this say-PC

(16) *‘Arrantherre akalbye-irre-me-le*  
2pl:S knowledge-INCH-NPP-SS

(17) *[Arltunga]e-le ane-tyeke alhe-tyeke...’*  
Arltunga-LOC sit/be-VPURP go-VPURP

‘My grandfather said this, (in order that) ‘you can learn, you have to go and live at Arltunga...’ 17, 18, 19

### *Ayeye Altyerregentyele* ‘Dreamtime Story’ semantic structure

The English propositionalised translation of the *Ayeye Altyerregentyele* ‘Dreamtime Story’ text contains 169 propositions as is represented in Appendix 5. As in the *Arltungawerne Alpeke* text, eight levels of semantic structure have been identified and these have been labelled using the Semantic Structural Analysis theory approach. The intention here is the same as that specified in relation to Table 10, specifically, to draw attention only to those semantic relations identified as specifying a ‘logical relation’, understood as representing either a BECAUSE-type relation or an IF-type relation, and to draw from these observations some preliminary conclusions regarding the process of reasoning evident in the structure.

Tables 11a and 11b represent an analysis of the salient points in relation to pronominal referents, and tense/aspect markers carried by the verbs in each clause. The table is divided into two parts, simply for the sake of convenience. The information contained in the table refers to the interlinearised version of the text as it appears in Appendix 6 and the ‘CI’ numbers refer to the ‘c’ reference numbers in this version of the text. In this table, attention was focussed on tracking referents and the tense/aspect markers associated with each proposition. These two features were selected because a change of participant reference and the incidence of particular tense/aspect marker were considered significant markers in determining relevant features of the semantic structure of the text. The features highlighted in Tables 11a and 11b correspond to the interlinearised text in Appendix 6.

TABLE 11A: *Ayeye Altyerregentyele* ‘Dreamtime Story’ PART 1,  
CLAUSE ANALYSIS (CLAUSES 1–83)

CI	Referent	Tense/aspect	CI	Referent	Tense/aspect
1		PC	43	3sgS(DEF)	PC
2	3plS	HPAST	44		
3		HPAST	45	3plS, 2sgDAT-ABL	
4		HPAST	46		IMP.EMPH

CI	Referent	Tense/aspect	CI	Referent	Tense/aspect
5		HPAST	47	3KinPOSS-ERG	DS
6		PC	48	3sgS(DEF)	TWD-PC
7		PC	49	3KinPOSS-ERG, 3sgACC	PC
8		SUBSQ	50	3sgS	DO+DOWNWARDS- PC
9		NPP-DS	51	3sgS(DEF)	TWD-NPP-SS
10	3sgS(DEF)	NPP-SS, NPP-SS, VPURP	52		PC
11	3plS	NPP-RELCL	53	3plPOSS-ALL	DO.BACK-NPP-SS
12	3sgA	SUBSQ	54	3sgAcc	PC
13	3sgA(DEF)	SUBSQ	55	3sgA, 2sgDAT	FUT
14	3sg RELCL	SUBSQ, TWD-PC, NPP.SS	56	3dlA, 3sgACC	PC
15	3sgS(DEF)	NPP-SS, PC	57		VNEG.SS, PC
16		REFL-GO.BACK+DO-PC	58	3sgA	VNEG.SS, PC
17		NPP-SS, NPP.SS	59	3sgA(DEF)	PC
18			60	3sgS	PC, VPURP
19		PC	61	3sgS	DS
20	3sgS(DEF)	DO.BACK-PC	62	3sgA	VPURP, HPAST
21	3sgS(DEF)	PC	63	3sgS	HPAST
22	1sg:NOM	HPAST	64		NPP, NPP
23		VNEG	65	3sgS	VNEG, PC
24			66	3plA, 3sgACC	HPAST
25	2dlA, 1sgDAT	HYPO	67		PC
26	3sgS(DEF)	PC	68		HPAST
27	3sgS(DEF)	PC	69	3sgS(DEF)	PC
28	3sgS	NPP-SS	70		
29	3KinPOSS-DAT	PC	71	3sgACC	DS
30	3sgA, 3sgACC	PC	72	3sgACC	PL-HPAST
31		CONT+SG-DS	73		PC
32	3sgS	PC	74		PC-RELCL
33	3sgACC	NPP-SS	75	3sgS	FUT-SS
34		SUBSQ	76	3sgA	PC
35	1sgA, 3plAcc	NPP	77	3sgS	FUT-SS
36	3plS	CONT+PL-NPP	78	3sgA	PC
37	1sgS	NPP, VPURP	79		PC
38	2sgA, 1sgDAT	DS	80	3sg-COMPL	REFL-PC
39	1sgS, 3plACC	VNEG, VPURP	81	3sgS	REFL-PC
40	3sgA(DEF)	DO.PAST-PC	82	3sgA	PC
41	3KinPOSS, 3sg	PP(-ALL)	83		CONT+SG-DS
42	3sgAcc	VPURP			

TABLE 11B. *Ayeye Altyerrengeyete* ‘Dreamtime Story’: PART 2, CLAUSE ANALYSIS  
(CLAUSES 84–153)

CI	Referent	Tense-aspect	CI	Referent	Tense-aspect
84		CONT+SG-NPP-SS	119	-, 2sgDAT.ABL	NPP.SS
85	3sgS	DS	120	2sgA	SUBSQ
86			121		-
87	3sgA	PC, CONT+SG.DS	122	3sgA, 2sgACC, 3sgACC	FUT
88	3sgS(DEF)	DS-RELCL	123	2sgACC	VPURP
89			124	2sgS	REFL-VPURP
90	3sgS	PC	125	3sgS(DEF)	PC

CI	Referent	Tense-aspect	CI	Referent	Tense-aspect
91	3sgS(DEF)	VPURP, NPP-SS	126	1sgErg, 3sgACC	VPURP
92	3sgS(DEF)	REFL-DO.PAST-PC	127	3sgA, 1sgACC	AVER
93	3sgS, 3sgDAT	NPP-SS	128	3sgA	PC
94	-, 2sgPOSS.DAT	IMP.EMPH	129		PC
95	3sgS		130	(3sgA), 3sgDAT	VPURP, PC
96		IMP.EMP	131	3sgS	PC
97	3sgS	VPURP	132	3sg-Compl, 3sgDAT-ABL	PC-DS
98	3sgS	PC	133	3sgA	PC
99	3sgS(DEF)	AVER	134	3sgACC	PC
100	3sgA(DEF)	PC, NPP-SS	135		CONT+SG-DS
101			136	3sgS(DEF), 3sgDAT	PC
102		PC	137	3sgA, 3sgPoss	PC
103	3sgACC, 3dIA	NPP-SS	138	3sgS	PC
104		PC	139	(3sgA)	PC
105	1sgA	ITER-NPP	140	1sgDAT, 2sgDAT.ABL	PC
106	3pl-FOC	TWD-NPP	141	3sgDAT	NPP-SS
107	1sgNOM	ITER-NPP	142	3sgS, 3sgPOSS-PROP	PC
108	2sgA, 1sgACC	VPURP	143	3sgACC, 3sgA(DEF)	DS-RELCL
109	2sgDAT	DS	144		PC
110	2sgA, 3sgACC	SUBSQ	145	3sgA, 3sgACC	PC
111	2sgDAT	DS	146		PC
112	3sg-COMPL	VNEG, ITER-NPP	147	3sgA	HPAST
113	3sgA, 2sgDAT	FUT	148	3sgA, 3sgACC	NPP-SS
114		NPP	149		PC
115		DS, RELCL	150	1sgNOM, 1sgERG	-, PC
116		NPP	151	1sgA-COMPL	ITER-NPP
117	3sgA	PC	152	3sgS(DEF), 3sgDAT	PC
118	3sgS	FUT	153	3sgACC, 3sgDAT-ABL, 3sgPOSS.ALL	DO.BACK-PC

At the first level of inter-propositional relations, 18 can be grouped as expressing a logical relation, of which 16 are BECAUSE-type relations. Of these, there are 7 instances where the ‘support’ relation precedes the HEAD: 26–27, 44–45, 51–52, 67–68, 73–74, 77–78 and 150–151. There are 9 instances where the ‘support’ proposition follows the HEAD: 38–39, 50–51, 61–62, 64–65, 106–107, 108–109, 133–134, 138–139 and 153–154. (Note again that the unbracketed numbers refer to the numbers at the beginning of each line in the English propositionalised text, as in Appendix 5, and the bracketed numbers refer to the clause reference numbers in the interlinearised text, as in Appendix 6).

There are two instances of IF-type sentences: 29a–29b (25) and 157–158 (142–143); in both the condition precedes the anticipated outcome. At the second level, which includes sentences with more than two propositions, there are 7 instances of the inter-propositional relations encoding a BECAUSE-relation: 7–9, 10–12, 40–42, 118–121, 122–123, 128–130 and 133–135. At the third level, which includes both multi-clausal relations and relations between two and three sentences, four logical relation types, all BECAUSE-types, have been identified: 10–13, 75–80, 84–90, 110–115. At the fifth level, which includes relations up to the level of paragraphs, three types of relations can be grouped as representing a logical relation: 10–16, 110–125, 163–169.

One noteworthy feature of those three relations analysed as logical at the fifth level of the semantic structure (i.e. within a single paragraph) is that in all three cases—10–16 (10–14), 110–125 (100–114) and 163–169 (148–153)—the onset of the relation is marked by the contrastive particle *kenhe* ‘BUT’. It is worth noting here that *kenhe* often translates as the English word ‘but’. In each instance where *kenhe* occurs, the narrator is contrasting what is happening now, in relation to the activity spoken of in the text under consideration, with what has just happened previously and, in each instance, the point of contrast is that what is happening now is in some way different from what was just being spoken of.

Interestingly, and as one would expect, Wierzbicka (1996) explicates ‘but’ in terms of ‘wanting to say something different about this now’.

One of the more obvious points of observation regarding the expression of logical relations within the narrative texts being considered here is that the significant majority of logical relations are expressed at the level of propositions in a bi-clausal relation. As each higher level in the semantic hierarchy is analysed, the less frequently logical relations are encountered. In both texts, the highest level where logical relations are expressed is within paragraphs and not across paragraph boundaries.

In terms of the reasoning process that emerges with only two texts having been examined it is difficult to draw decisive conclusions. In the case of *Ayeye Altyerregentyele* ‘Dreamtime Story’, the text can be divided into two distinct episodes with the denouement of each episode coming at the very end of each episode. The first episode is concluded with the statement ‘This is the way things were in the Dreamtime’. Up to this point, the process of argumentation has been inductive. In the second episode, precisely the same pattern emerges with the denouement being expressed in the final clauses. Again the pattern of argumentation is inductive. This pattern of argumentation is in contrast to that which emerges in the *Arltungawerne Alpeke* ‘Returning to Arltunga’ text by the same author. In this instance the plot is stated quite clearly at the beginning of the story, and throughout the story, the tendency is to follow a deductive reasoning process, that is, state the thesis and then follow this with the supporting arguments.

### 5.3 Topics for further research

One topic for further research here concerns the question of whether inductive versus deductive reasoning strategies might be related to genre types, and in relation to this, what philosophical attitudes are associated with them. The question is of interest because both texts are by the same author and yet they reveal different reasoning strategies. This begs the question: Could this be related to the fact that one, *Ayeye Altyerregentyele*, is a Dreaming narrative and the other, *Arltungawerne Alpeke*, is a narrative focussing on human activities? Perhaps there is a philosophical orientation whereby in relation to Dreaming, people can only observe how things are now and engage in some inductive reasoning about how they came to be this way? One immediate piece of evidence to support this proposal is the high incidence of the quotative particle (sometimes called ‘hearsay’ particle) *kwele* which indicates the person is not speaking from personal experience of the events being described. Conversely, in narrative that recounts human activities, people are perhaps more confident about formulating a thesis and presenting evidence for it using deductive strategies? This concern has particular implications for the task of Bible translation and certainly opens the way for further investigation.

A further question, touched on at the end of Chapter 4, and emerging from the brief look at some of the salient features of the semantic structure of logical relations, concerns the relation between syntactic structure and semantic structure. The question can be stated as: Does the order of certain headed constituents at the syntactic level have an influence on the ordering of certain headed semantic propositional structures?

Further to this point is the fact that in current generative grammar (government and binding theory), according to Roberts’ (1997, p. 17) observation there is also a parameter relating to constituent order in the phrase structure in a language. It is *head-first* versus *head-last*. A language will tend to have the heads on the same side in all phrases. For example, English is considered to be a head-first language; as such, verbs occur before complements and prepositions occur before complements:

*get the ball* (the verb (head) is to the left of the NP)  
*on the chair* (the preposition (head) is to the left of the NP)

Eastern Arrernte, on the other hand, is considered to be a head-last language:

*merne arlkweke* ‘food he ate’ (the verb (head) is to the right of the NP)  
*atwerrentyete-ureke* ‘during the war’ (the postposition (head) is to the right of the NP)

This observation, addressed in a study undertaken by Roberts (1997), where he compared the syntax of discourse structure in both New Testament Greek and Amele, a Papuan language, has to do with the syntax of propositional structures. In examining these, the need arises to investigate whether there is any evidence to suggest that the order of certain propositional relationships in a language (head-first vs head-last) can be correlated with ordering of certain syntactic constituents (also head-first vs head-

last), in particular the verb–object and adposition–NP patterns. If so, is this significant? Of significance here is the fact that as a general rule, in the places where English uses prepositions to express a particular relation between constituents, Arrernte uses a case-marking system.

The relation existing between syntactic structure and semantic structure needs further research and investigation in much greater detail than touched upon here in order to discover an answer to the question raised above: Does, in fact, the order of certain headed constituents at the syntactic level have an influence on the ordering of certain headed semantic propositional structures?

## Chapter 6: Conclusions

I began this study by introducing the main concerns and aims that provided the impetus to the analysis of the semantic structure of logical relations in Eastern Arrernte, and why they were considered significant. By analysing the structure and expression of logical types of relations in Arrernte, this study attempts to provide a clear statement that addresses and answers these concerns.

The study began by approaching the analysis of logical relations using the Semantic Structural Analysis approach as set forth by Beekman, Callow and Kopesec (1981), and developed by Larson (1984). This approach proved inadequate of itself to clearly explicate the semantics of logical relations in a way that could be verified and readily understood by another analyst. Natural Semantic Metalanguage theory has been shown to provide a solution to this problem. I have argued that each of the seven logical types of inter-propositional relations distinguished by Larson (1984) can be expressed clearly and precisely in various reductive paraphrases using NSM primes, and grouped as two core-categories: BECAUSE-types, and IF-types.

There are several important conclusions that have emerged in the analysis presented throughout this thesis in relation to the expression and structure of logical types in Eastern Arrernte and these can be summarised as follows: Regarding the semantic structure of logical types as they are expressed in the context of inter-propositional relations, the common structural pattern is for the BECAUSE-clause to follow the clause upon which it is dependent; that is, the BECAUSE clause follows the event to which it refers.<sup>15</sup> There is a high proportion of bi-clausal BECAUSE sentences that specifically mark focus on the grammatically subordinate clause. This points to the fact that the support proposition which constitutes the ‘because’ part of the utterance is given prominence, in contradistinction to the outcome. **Why** something happened is thus deemed more prominent than **what** happened.

I have shown that Arrernte has at its disposal a rich variety of linguistic devices to express the reasons for things happening or occurring. The particular element which is identified as being the most suitable equivalent of the semantic prime BECAUSE is the ablative case marker *-nge*. In those instances where no overt BECAUSE-type element is present (as in the case of juxtaposed clauses), the particular clause which encodes the BECAUSE part of the sentence uniformly follows the clause it modifies.

Regarding IF-type bi-clausal relations, it has been shown that, while there doesn’t appear to be any stringent ordering of the two propositions in the relation, there is a tendency for the clause conveying the IF meaning (that is the condition) to precede the clause expressing the consequence; in other words, the pattern to emerge is that the consequent proposition typically follows its antecedent. It has also been shown that Arrernte makes a clear distinction between ‘if’ and ‘maybe’ clauses, as well as showing that a two-way distinction in the core class of IF-type sentences is made: those termed simply ‘conditionals’ and those termed ‘counterfactuals’.

It has been clearly demonstrated that logical types of inter-propositional relations can be categorised on the basis of a two-way distinction between a core class of BECAUSE-type sentences and a core class of IF-type sentences. By providing a reductive paraphrase for each logical type filling the two core-classes identified, I have established a means by which another analyst may verify the findings and enter into a cross-linguistic comparison of types in a way that the Semantic Structural analysis approach to the analysis of these types was found to be lacking.

Regarding the analysis of logical relations at discourse level, and specifically within narrative texts, the significant majority of logical relations are, in fact, expressed at the level of propositions in a bi-clausal relation and much less commonly at higher levels in the semantic hierarchy. As each higher level in the semantic hierarchy is analysed, the less frequently logical relations are encountered. In the texts analysed, the highest level where logical relations are expressed is within paragraphs and not

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<sup>15</sup> Interestingly, this conclusion (specifically in relation to the so-called ‘RESULT–reason’ types) is in contrast with that reached by Swartz (unpub.) in his examination of those instances where the English word ‘because’ had been translated into the languages he was working in: Warlpiri and Djambarrpuyngu. Swartz’s particular focus in that paper was on how CONCLUSION–grounds and RESULT–reason bi-clausal sentences were translated into those Aboriginal languages, which he claims have a discrete ‘because’ word. His recommendation was ‘that such constructions be routinely restructured grounds before CONCLUSION and reason before RESULT’. He goes on to say that this restructuring obviates the need to use ‘because’ as a logical link.

beyond this level. Further research may prove that this conclusion needs to be modified. In terms of the reasoning process that emerges through the analysis of the semantic structure of logical relations in Arrernte, at the level of inter-propositional relations, a deductive type of process is prevalent. At the discourse level, both the inductive and the deductive reasoning processes are in evidence. Two narrative texts were examined, representing different genre types, one a Dreaming narrative genre, the other a recount narrative genre. While this points to the need for further research, the preliminary conclusions point to the fact that reasoning strategies might be related to genre types. For a full account of the semantic structure of logical relations in Eastern Arrernte to be rendered, further research remains to be done.

## Appendix 1: BECAUSE sentences

\ref	0 tx 1							
\tx	<i>Tyerrtye</i>	<i>ahe</i>	<i>-akngerrele</i>	<i>ahele</i>	<i>areme</i>	<i>merne</i>	<i>ikwerenhe-arle</i>	
\ma	tyerrtye	ahe	-akngerre-le	ahele	are-me	merne	ikwerenhe-arle	
\mg	people	angry-very	-ERG	angrily	see-NPP	food	3sg:POSS-FOC	
\tx	<i>ingkerreke</i>	<i>anyelkngele</i>		<i>arlkwerrirreke</i>	<i>enge</i>			
\ma	ingkerreke	anyelknge-le		arlkwe-rriire-ke	-nge			
\mg	all	steal	-LOC(ADV)	eat	-PL	-PC-DS		
\ft	That angry person is looking around angrily because some people stole his food and ate it.							
\ref	0 tx 2							
\tx	<i>Artwe</i>	<i>ampwe</i>	<i>nhakwe</i>	<i>ahelirreme</i>		<i>renhe</i>	<i>arle</i>	
\ma	artwe	ampwe	nhakwe	ahel -irre -me		re -nhe	arle	
\mg	man	old	there(DIST)	angry-INCH-NPP		3sg-ACC	FOC	
\tx	<i>ampe</i>	<i>urreye</i>	<i>mapele</i>	<i>ingwele</i>		<i>apwertele</i>	<i>wekenge</i>	
\ma	ampe	urreye	mape -le	ingwe-le		apwerte-le	we-ke -nge	
\mg	child	boy	many -ERG	night -LOC(ADV)		rock -INSTR	hit-PC-DS	
\ft	That old man there is really angry because some young boys threw stones at him last night.							
\ref	0 tx 3							
\tx	<i>Amp</i>	<i>akweke</i>	<i>nhakwe</i>	<i>areye</i>	<i>ahentyeke</i>	<i>-arle</i>	<i>merne</i>	
\ma	ampe	akweke	nhakwe	are -ye	ahentye-ke	-arle	merne	
\mg	child	small	there(DIST)	see-PERM	throat	-DAT-FOC	food	
\tx	<i>mwernelheke</i>			<i>Renhe</i>	<i>artepe</i>	<i>atwaye</i>	<i>kunye</i>	
\ma	mwerne		-lhe -ke	re -nhe	artepe	atw-ø -aye	kunye	
\mg	stick to something-REFL-PC			3sg-ACC	back	hit -IMP-EMPH	poor thing	
\ft	That little one over there is choking because some food got stuck in her throat. Give her a hit on the back, poor thing.							
\ref	0 tx 4							
\tx	<i>Kele</i>	<i>arelhe</i>	<i>ampwe</i>	<i>yanhe</i>	<i>atherre</i>	<i>alpetyeke</i>	<i>ahentye-aneme</i>	
\ma	Kele	arelhe	ampwe	yanhe	atherre	alpe -tyeke	ahentye-ane -me	
\mg	OK	woman	old	that(MID)	two	return-VPURP	want -sit/be-NPP	
\tx	<i>irrernte-arle</i>	<i>-irremenge</i>						
\ma	irrernte-arle	-irre	-me	-nge				
\mg	cool							
\ft	OK, those two old women want to go home now because it's getting cold.							
\ref	0 tx 5							
\tx	<i>Arelhe</i>	<i>wenke</i>	<i>yanhele</i>		<i>altyerre</i>	<i>akurne</i>	<i>areme</i>	<i>ikwere -arle</i>
\ma	arelhe	wenke	yanhe -le		altyerre	akurne	are -me	ikwere -arle
\mg	woman	young woman	that(MID)-ERG		dream	bad	see -NPP	3s:DAT-FOC
\tx	<i>akurne</i>	<i>ilemele</i>	<i>mpwaremengo</i>		<i>artwele</i>	<i>ikwere -arle</i>	<i>uye</i>	
\ma	akurne	ile -me -le	mpware -me -nge		artwe-le	ikwere -arle	uye	
\mg	bad	CAUS-NPP-SS	make/do-NPP-DS		man -ERG	3sg:DAT-FOC	unable	
\tx	<i>ahentye-irremele</i>	<i>renhe</i>	<i>re</i>	<i>arerte</i>	<i>ileme</i>			
\ma	ahentye-irre	-me -le	re -nhe	re	arerte	ile -me		
\mg	want	-INCH-NPP-SS	3sg-ACC	3sg:A	mad	CAUS-NPP		
\ft	That young woman is having bad dreams about herself because that man made it happen. Because he fancies her, but she doesn't want him, he is going to make her go mad.							

\ref 0 tx 6  
\tx *Arelhe yanhe uye aheye angkeme urlpmenge; atningke*  
\ma arelhe yanhe uye aheye angke-me urlpme-nge atningke  
\mg woman that(MID) unable breathe say -NPP tight -ABL many  
\tx *anthurre-arle irrpemenge. Re akwetethe uye aheye angkentye akngerre.*  
\ma anthurre-arle irrpe -me -nge Re akwetethe uye aheye angke-nty akngerre  
\mg very -FOC enter-NPP-DS 3sg:S always unable breathe say -NMLZR big  
\ft That woman can't breathe properly, because it's closed in; too many people inside. She always gets asthma.

\ref 0 tx 7  
\tx *Nhakwe areye akwaketyakerreme akangkemele, lyete ante arle*  
\ma nhakwe areye akwaketyake-rre -me akangke-me -le lyete ante arle  
\mg that(DEM) Pl hug -Recip-NPP happy -NPP-SS today ONLY FOC  
\tx *arerrerne iperre. Arrulenge arrpenhele*  
\ma are-rre -me iperre arrule -nge arrpenhe-le  
\mg see-Recip-RPAST after long.time-ABL other -ERG  
\tx *arerrirtnalpenheke -arle.*  
\ma are-rr -irtn -alpe -nhe -ke -arle  
\mg see-RECIP-DO.BACK -return-DO.PAST-PC-REL  
\ft Those people are happily hugging one another because they are just seeing one another today. This is the first time that they have seen one another for a very long time.

\ref 0 tx 8  
\tx *Itne nhakwe akakatwemele apmere arteme iparrpe-iparrpe*  
\ma Itne nhakwe akakatwe -me -le apmere arte -me iparrpe -iparrpe  
\mg 3pl:A that(DEM) hammer in-NPP-SS place/camp build-NPP quickly-quickly  
\tx *kwatye akngerre-arle apetyemenge.*  
\ma kwatye akngerre-arle apetye-me -nge  
\mg water big -FOC come -NPP-DS  
\ft They are hammering some wood into the ground to build some shelter very quickly because there's rain coming.

\ref 0 tx 9  
\tx *Artwe akurne angkeke arerte -irremele antywekarle iperre; akaperte*  
\ma artwe akurne angke-ke arerte-irre -me -le antywe-k -arle iperre akaperte  
\mg man bad say -PC mad -INCH-NPP-SS drink -PC-RELCL after head  
\tx *arerte-irreke re antywekarle iperre akurne imernte angkemele.*  
\ma arerte-irre -ke re antywe-k -arle iperre akurne imernte angke-me -le  
\mg mad -INCH-PC 3sg:A drink -PC-RELCL after bad THEN(PART) say -NPP-SS  
\ft The man said bad things because he was a bit mad after drinking; he was silly from drinking and talking wrongly.

\ref 0 tx 10  
\tx *Artwe nhakwe re -arrpe-arle aletye akelheke iperre uyarne*  
\ma artwe nhakwe re -arrpe -arle aletye ake-lhe -ke iperre uyarne  
\mg man there(DIST) 3sg-own -RELCL mourning scar cut-REFL-PC after unable  
\tx *anthurre itirreme, iperte anthurre ilelhomele akelheke iperreke.*  
\ma anthurre itirre -me iperte anthurre ile -lhe -me -le ake-lhe -ke iperre-ke  
\mg very think-NPP deep very CAUS-REFL-NPP-SS cut-REFL-PC after -DAT  
\ft That bloke over there who has cut himself in mourning is really in agony (lit. can't think) (because) it is a very deep cut.

\ref 0 tx 11  
\tx *Re akiwarre-irreme arelhe arrpenhele renhe terangeke ake -k -arle -iperre.*  
\ma re akiwarre-irre -me arelhe arrpenhe-le re -nhe terangeke ake -k -arle -iperre  
\mg 3sg:S enraged -INCH-NPP woman other -ERG 3s-ACC drunk name-PC-RELCL-after  
\ft He lost his temper because that woman said he had been drinking.

\ref 0 tx 12  
\tx *Kwatye tyampite yanheke thelaye ayenge angkethakwe*  
\ma kwatye tyampite yanhe -ke thel -ø -aye ayenge angkethakwe  
\mg water tin that(MID)-DAT pour -IMP -EMPH 1sg:NOM thirsty  
\tx *anthurre-arle awelhemenge.*  
\ma anthurre -arle awe -lhe -me -nge  
\mg INTENS-FOC feel -REFL-NPP-DS  
\ft Pour some water into that tin over there because I'm feeling really thirsty.

\ref 0 tx 13  
\tx *Ampe akweke yanhe rlkerte artepe-arle akwetethe*  
\ma ampe akweke yanhe rlkerte artepe -arle akwetethe  
\mg baby small that(MID) sick back -FOC always  
\tx *nentye -nentyeke unte atweme.*  
\ma nentye -nentye -ke unte atwe -me  
\mg thumping sound-thumping sound -DAT 2sg:A hit/kill-NPP  
\ft That little child is sick because you are always thumping him on the back. (lit. hitting so as to make a thumping sound)

\ref 0 tx 14  
\tx *Nhakwe ayenge lyete alheme kere arlewatyerre unthetyeke,*  
\ma nhakwe ayenge lyete alhe-me kere arlewatyerre unthe-tyeke  
\mg there(DIST) 1sg:NOM today go -NPP meat sand goanna hunt -VPURP  
\tx *apmwerrike-arle yaye atyinhele uthene anewe ikwerenhele uthene*  
\ma apmwerrike-arle yaye atyinhe -le uthene anewe ikwerenhe-le uthene  
\mg yesterday -FOC sister 1sg:Poss-ERG CONJ spouse 3s:POSS -ERG CONJ  
\tx *arlewatyerre atningke anthurre atwekenge.*  
\ma arlewatyerre atningke anthurre atwe -ke -nge  
\mg sand goanna many INTENS hit/kill-PC-DS  
\ft I'm going out over there today looking for goannas because yesterday my sister and her husband got a whole lot of goannas.

\ref 0 tx 15  
\tx *Mane -akerte akwele ikerlte anthurre aneme irreme arrpenheme-arle*  
\ma mane -akerte akwele ikerlte anthurre ane -me irre -me arrpenheme -arle  
\mg money-PROP QUOT stubborn very sit/be -NPP INCH -NPP some -FOC  
\tx *urrtyirremele ware ampeke -artweye ilelhemenge mane*  
\ma urrty -irre -me -le ware ampe-ke -artweye ile -lhe -me -nge mane  
\mg pretend-INCH-NPP-SS JUST child -DAT -relations tell-REFL-NPP-DS money  
\tx *inetyeke ware*  
\ma ine -tyeke ware  
\mg get -VPURP ONLY  
\ft They are getting very strict giving out money because some people make out that they have got kids just to get money.

\ref 0 tx 16  
\tx *(Merne atyankerne) arlkwentye akngerre kwenye*  
\ma merne atyankerne arlkwe-ntyeye akngerre kwenye  
\mg food mistletoe(type) eat -NMLZR big NOMNEG  
\tx *alenyeye ikerrke -iwelhentye akngerre.*  
\ma alenyeye -ke ikerrke -iwelhe-ntyeye akngerre  
\mg tongue-DAT stick to -feel -NMLZR big  
\ft You don't chew on the fruit of the mistletoe because they stick to your tongue.

\ref 0 tx 17  
 \tx *Re akaperte akngelhetyakenhe anthurre aneme ikwere -arlenge artwekere*  
 \ma re akaperte aknge-lhe -tyakenhe anthurre ane -me ikwere -arlenge artwekere  
 \mg 3sg:A head take -REFL-VNEG really sit/be-NPP 3sg:DAT-COMIT boil  
 \tx *akngerre akertarnngenge arrateke renhe rlkerte anthurre ileme.*  
 \ma akngerre akertarnnge -nge arrate -ke re -nhe rlkerte anthurre ile -me  
 \mg big back of the head-ABL come out-PC 3sg-ACC sick INTENS CAUS-NPP  
 \ft He can hardly move his head because he has got a big boil coming up on the back of his head and its making him really sick.

\ref 0 tx 18  
 \tx *Akethele akwete tnemele warrkeke apayuthnetyakenhele*  
 \ma akethe -le akwete tne -me -le warrke -ke apayuthne-tyakenhe-le  
 \mg outside -LOC still stand-NPP-SS work[Eng]-DAT ask -VNEG -SS  
 \tx *ware petyalpemele apure tnentye akwele.*  
 \mae ware pety -alpe -me -le apure tne -nty kwele  
 \mg JUST come-return-NPP-SS shy stand-NMLZR QUOT  
 \ft She stood outside and didn't ask about a job because she reckoned that she was too shy.

\ref 0 tx 19  
 \tx *Itne -arle nhakweke arrerneme*  
 \ma itne -arle nhakwe -ke arrerne-me  
 \mg 3pl:A-FOC there(DIST)-DAT put -NPP  
 \tx *apmere itneke akngakemele arne itnekenhe,*  
 \ma apmere itne-ke akngake-me -le arne itne-kenhe  
 \mg place/camp 3pl-DAT select -NPP-SS thing 3pl-POSS  
 \tx *urreke ulkere -arle itne anetyenhe apmere nhenhe ikwerele.*  
 \ma urreke ulkere-arle itne ane -tyenhe apmere nhenhe ikwere -le  
 \mg later TYPE-FOC 3pl:S sit/be-FUT place/camp DEM:P 3sg:DAT-LOC  
 \ft They are putting their things down and picking a place to camp for themselves, because they will be here for a while.

\ref 0 tx 20  
 \tx *Itne mutekaye akngartiwemele apetyalpeke akurne-arle irrekenge.*  
 \ma itne mutekaye akngartiwe-me -le apety-alpe -ke akurne-arle irre -ke -nge  
 \mg 3pl:ERG motorcar change -NPP-SS come-return-PC bad -FOC INCH-PC-DS  
 \ft They turned their motorcar around and came back because it was giving trouble.

\ref 0 tx 21  
 \tx *Ratherre akwele ayeye akurne-arle aweke iperre, utepe -irremele*  
 \ma ratherre akwele ayeye akurne-arle awe-ke iperre utepe -irre -me -le  
 \mg 3dl:A QUOT story bad -FOC hear-PC after turn back-INCH-NPP-SS  
 \tx *apetye-alperreke atnerte ikwere atherrenhe -arle akngarte -anthurre-iweke.*  
 \ma apetye-alpe -rre -ke atnerte ikwere atherre-nhe -arle akngarte -anthurre-iwe -ke  
 \mg come -return-DUAL-PC stomach 3sg:DAT two -ACC-FOC turn back-INTENS-?throw-PC  
 \ft When those two heard the bad news, they turned around and came back because they were so upset.

\ref 0 tx 22  
 \tx *Irrkwentye urrperle Ltyentye Apurte-arenyele arelhe antywentye*  
 \ma irrkwe-ntyé urrperle Ltyentyé Apurte-arenyé -le arelhe antywe-ntyé  
 \mg grab -NMLZR black Santa Teresa -ASSOC-ERG woman drink -NMLZR

\tx *akngerre mape arle ulileke ingwartentyele arle*  
 \ma akngerre mape arle ulile -ke ingwartentyele arle  
 \mg big many FOC send someone away -PC all night FOC

\tx *arlkemele atwerremenge ankwe arlke intetyakenhe ilemele.*  
 \ma arlke -me -le atwe -rre -me -nge ankwe arlke inte-tyakenhe ile -me -le  
 \mg shout -NPP-SS hit/kill-Recip-NPP-DS sleep TOO lie -VNEG CAUS-NPP-SS

\ft The Police Aide (lit. black policeman) from Santa Teresa told the women drinkers to get out (sent them away) because they were fighting and screaming all night and not letting anyone sleep.

\ref 0 tx 23  
 \tx *Arripere apele apmwe akurne anthurre. Tyerrtye apeke uthneme apmwe*  
 \ma arripere apele apmwe akurne anthurre tyerrtye apeke uthne-me apmwe  
 \mg snake(SPEC) FACT snake bad very people maybe bite -NPP snake

\tx *arripere nhenhe re, tyerrtye re ilweme apeke, iparrpe*  
 \ma arripere nhenhe re tyerrtye re ilwe-me apeke iparrpe  
 \mg snake(SPEC) DEM:P 3sg:DEF people 3sg:DEF die -NPP maybe quickly

\tx *renhe apmwele -arle uthneme mpwaretyakenhenge ngkartele.*  
 \ma re -nhe apmwe-le -arle uthne-me mpware -tyakenhe -nge ngkarte-le  
 \mg 3sg-ACC snake -ERG-FOC bite -NPP make/do-VNEG -DS doctor -ERG

\ft The (arripere) snake is highly poisonous. If somebody is bitten by this snake, they can die, because the doctor can't do anything.

\ref 0 tx 24  
 \tx *Kere awengkere iparrpe anthurre atyerretyeke, re ltare akweke*  
 \ma kere awengkere iparrpe anthurre atyerre -tyeke re ltare akweke  
 \mg meat duck quickly INTENS cook/shoot-VPURP 3sg:A sharp noise small

\tx *apeke aweme iparrpe anthurre kwatyete irrperlalhentyeakngerre.*  
 \ma apeke awe -me iparrpe anthurre kwatyete-le irrpe -rl +alhe -ntyekngerre  
 \mg if/maybe hear -NPP quickly INTENS water -LOC enter-DO+GO -NMLZR big

\ft You have to shoot a duck really quickly, (because) if it hears even a little noise it immediately dives down into the water.

\ref 0 tx 25  
 \tx *Ahele akwete re aneme anwerneke, renhe -arle akwele*  
 \ma ahele akwete re ane -me anwerne-ke re -nhe -arle akwele  
 \mg angrily still 3sg:S sit/be-NPP 1pl -DAT 3sg-ACC-FOC QUOT

\tx *ipmentye iwekenge ampwe-arle re irremenge akwele.*  
 \ma ipmentye iwe -ke -nge ampwe-arle re irre -me -nge akwele  
 \mg not care about throw-PC-DS old -FOC 3sg:S INCH-NPP-DS QUOT

\ft He is still angry with us because (he reckons) we don't want to know him because he is getting old.

\ref 0 tx 26  
 \tx *The renhe akwenpele atweke, atyele -angkekenge.*  
 \ma the re -nhe akwenpe -le atwe -ke atyele -angke-ke -nge  
 \mg 1sg:ERG 3sg-ACC without thinking-LOC(ADV) hit/kill-PC jealousy-say -PC-DS

\ft I just hit her without thinking about it, because she was talking about me behind my back.

\ref 0 tx 27  
\tx *Arelhe nhakwe atherre kwenthe -awenthe anthurreke*  
\ma arelhe nhakwe atherre kwenthe-awenthe anthurre-ke  
\mg woman that(DEM) two flog -blood covered very -DAT  
\tx *atwerreke ingwe-le,*  
\ma atwe -rre -ke ingwe-le  
\mg hit/kill-Recip-PC night -LOC(ADV)  
\tx *ampe akweke arle artnerre-akenhemele ure-ke irrpekenge,*  
\ma ampe akweke arle artnerre -ake.nhe -me -le ure-ke irrpe -ke -nge  
\mg child small FOC crawl -away.past -NPP-SS fire-DAT enter-PC-DS  
\tx *ampe akweke renhe iltye akweke ware ure-le*  
\ma ampe akweke re -nhe iltye akweke ware ure-le  
\mg child small 3sg-ACC hand small ONLY fire-INSTR  
\tx *ampeke mwerre ulkere anteme.*  
\ma ampe-ke mwerre ulkere anteme  
\mg burn -PC good COMPAR NOW(PART)  
\ft Those two women are just covered in blood from fighting one another, because a little child crawled away into the fire, the child got his hands burnt just a little, not so badly.

\ref 0 tx 28  
\tx *[(You don't)] altyerre arerle mwerre, kwerrene alhekerlenge.*  
\ma you don't altyerre are -rle mwerre kwerrene alhe-ke -rlenge  
\mg you don't dream see-GEVET good life/being/soul go -PC-DS  
\ft (When you are sick) you don't dream well because your spirit is gone.

\ref 0 tx 29  
\tx *Nhenhe renhe tyerrtye arrpenhemele [train] akeme kwerte arlke uyerretyakenhe.*  
\ma nhenhe re -nhe tyerrtye arrpenheme-le train ake -me kwerte arlke uyerre -tyakenhe  
\mg DEM:P 3sg-ACC people some -ERG train name-NPP smoke TOO finish -VNEG  
\ft Some people call him 'train' because he never stops smoking.

\ref 0 tx 30  
\tx *Urreye apmerrke nhenhe itneke ahentye irremele*  
\ma urreye apmerrke nhenhe itne-ke ahentye irre -me -le  
\mg boy young man(untitiated) DEM:P 3pl -DAT like INCH-NPP-SS  
\tx *ratherre alakenhe-irreme.*  
\ma ratherre alakenhe-irre -me  
\mg 3dl:S like.this -INCH-NPP  
\ft (Because) they fancy those lads, those two are acting like that.

\ref 0 tx 31  
\tx *Kweye yanhe alkngge alelpalarrkeme, ngkwenge anewe anetyeke ahentye-aneme.*  
\ma kweye yanhe alkngge alelpalarrke-me ngkwenge anewe ane -tyeke ahentye-ane -me  
\mg girl that(MID) eye flutter.eyes -NPP 2sg:DAT spouse sit/be-VPURP like -sit/be-NPP  
\ft That girl is fluttering her eyes at you (because) she wants to be your girl -friend.

\ref 0 tx 32  
\tx *Tyerrtye yanhe ngkwenge -ketye ularele irrirkeme, ngenhe arle areke*  
\ma tyerrtye yanhe ngkwenge-ketye ularele irrirkeme -me nge-nhe arle are-ke  
\mg people that(MID) 2sg:DAT -AVER deliberately suspicious-NPP 2sg-ACC FOC see-PC  
\tx *akwele re urreye arrpenhe uthene arrwanyirrerlenge.*  
\ma akwele re urreye arrpenhe uthene arrwany-irre -rlenge  
\mg QUOT 3sg:A boy other CONJ kiss -INCH-DS  
\ft That person is deliberately keeping his distance from you (intending to get back at you) because he reckons he saw you and another man kissing.

\ref 0 tx 33  
\tx *Atyenge anewe ilweke ngkwengenge ware.*  
\ma atyenge anewe ilwe-ke ngkwenge-nge ware  
\mg 1sg:DAT spouse die -PC 2sg:DAT -ABL JUST  
\ft My husband is dead just because of you.

\ref 0 tx 34  
\tx *Atyeye atyinhe areye the ingkirreke amangkelhileke anyentele,*  
\ma atyeye atyinhe areye the ingkirreke amangke-lhile -ke anyente-le  
\mg brother/sister(y) 1sg:Poss PI 1sg:ERG all grow -CAUS-PC one -ERG  
\tx *arrule anwerne lhampwe-irrekenge.*  
\ma arrule anwerne lhampwe-irre -ke -nge  
\mg long.time 1pl:S orphan -INCH-PC-DS  
\ft I raised my younger brothers and sisters on my own (because) we became orphans a long time ago.

\ref 0 tx 35  
\tx *Yanhe atherre alharlkweme apmere nhenhe -ntyeye,*  
\ma yanhe atherre alharlkwe-me apmere nhenhe -ntyeye  
\mg that(MID) two sent away-NPP place/camp DEM:P -from  
\tx *ratherrele arle akurne anthurre arelthe ampwe yanheke mpwarekenge.*  
\ma ratherre-le arle akurne anthurre arelthe ampwe yanhe -ke mpware -ke -nge  
\mg 3dl -ERG FOC bad very woman old that(MID)-DAT make/do-PC-DS  
\ft Those two are being sent away from here, because they did something very bad to that old woman.

\ref 0 tx 36  
\tx *Inngerre tyerrtye ingkerreke alhe aneme,*  
\ma inngerre tyerrtye ingkerreke-le alhe ane -me  
\mg face people all -LOC nose sit/be-NPP  
\tx *alhe nhenhe re impene anthurre*  
\ma alhe nhenhe re impene anthurre  
\mg nose DEM:P 3sg:DEF special very  
\tx *ntyernentye akngerre ntyerrkngge itnyentye akngerre arlke.*  
\ma ntyerne -nty akngerre ntyerrkngge itnye-nty akngerre arlke  
\mg to smell-NMLZR big sneeze fall -NMLZR(idiom) big TOO  
\ft Everybody's face has got a nose, the nose is very special (because) you can smell with it and also sneeze.

\ref 0 tx 37  
\tx *Ampe akweke areye irrpetyekwenyeke iletayeke,*  
\ma ampe akweke areye irrpe -tye -kwenye -ke ile -tyeke  
\mg child small PI enter-TWD-NOMNEG-PC CAUS-VPURP  
\tx *itne alhekwarle-irreketye ntarnekekathene irrpemele.*  
\ma itne alhekwarle-irre -ketye ntarne -ke -kathene irrpe -me -le  
\mg 3pl:S drown -INCH-AVER shallow-DAT-(DAT)mistaken thought enter-NPP -SS  
\ft Tell those kids not to get in because they will drown if they mistakenly think it is shallow and hop in.

\ref 0 tx 38  
\tx *Akngwelye akweke yanhe atnerte ulhelke anthurre akwetethe*  
\ma akngwelye akweke yanhe atnerte ulhelke anthurre akwetethe  
\mg dog small that(med) stomach full very always  
\tx *renhe arle arlkweme iperre, ntyelhe akngerre anthurre*  
\ma re -nhe arle arlkwe-me iperre ntyelhe akngerre anthurre  
\mg 3sg-ACC FOC eat -NPP after greedy very very  
\tx *atnerte -arle arlware-irreme kwenyekathene.*  
\ma atnerte -arle swell -irre -me kwenye -kathene  
\mg stomach-FOC swell -INCH-NPP NOMNEG -(DAT)mistaken thought  
\ft The little dog has a really full stomach because it eats all the time; it's really greedy and doesn't even realise that its stomach is so swollen.

\ref 0 tx 39  
\tx *Ayenge re apwerte alhileme, the -arle renhe anthekege.*  
\ma ayenge re apwerte alhile-me the -arle re -nhe anthe-ke -nge  
\mg 1sg:ACC 3sg:A money owe -NPP 1sg:ERG-FOC 3sg-ACC give -PC-DS  
\ft He owes me money because I gave him some.

\ref 0 tx 40  
\tx *Re alhwarrpe lyete aneme*  
\ma re alhwarrpe lyete ane -me  
\mg 3sg:S sad today sit/be-NPP  
\tx *ipmenhe ikwerenhe -arle ilweke -arle re aweke iperre.*  
\ma ipmenhe ikwerenhe -arle ilwe-ke -arle re awe -ke iperre  
\mg MoMo 3sg:POSS -RELCL die -PC-RELCL 3sg:A hear -PC after  
\ft He is sad today because he has just heard that his grandmother has passed away.

\ref 0 tx 41  
\tx *Atnerite ayenge urlkere anthurre irrinyelenge awelheme*  
\ma atnerite ayenge urlkere anthurre irrinye -lenge awelhe-me  
\mg stomach 1sg:NOM queasy very be touchy-DS feel -NPP  
\tx *tyerrtye nhakwele arle arleye antere ware -ware renhe arkwemele*  
\ma tyerrtye nhakwe -le arle arleye antere ware -ware re -nhe arlkwe-me -le  
\mg person that(DEM)-ERG FOC emu fat JUST-JUST 3sg-ACC eat -NPP-SS  
\tx *kwernerleke arerne iperre angayakwe akngerrele arteke,*  
\ma kwerne -rleke are-rne iperre angayakwe akngerre-le arteke  
\mg put something in-DS see-RPAST after hungry very -INSTR SEMBL  
\tx *arrakerte iterele-ntyeye akenhe antere ware re altyiwelhelenge.*  
\ma arrakerte itere -le -ntyeye akenhe antere ware re altyiwe -lhe -lenge  
\mg mouth side -LOC-from BUT fat JUST 3sg:S pour.out-REFL-DS  
\ft I feel really queasy in the stomach because I just watched a man eating emu fat and really getting into it as if he was starving; the fat was running out the sides of his mouth.

\ref 0 tx 42  
\tx *Ilkelhetyakenhe warrke -werne alhetyeke urinpe anthurrenge.*  
\ma ilkelhe -tyakenhe warrke -werne alhe-tyeke urinpe anthurre-nge  
\mg feel good-VNEG work[Eng]-ALL go -VPURP hot very -ABL  
\ft I don't feel like going to work today because it's so hot.

\ref 0 tx 43  
\tx *Unte renhe alkngetherre ileme re ngenhe apwerte ngkwinhe anthetyakenhe.*  
\ma unte re -nhe alkngetherre ile -me re nge -nhe apwerte ngkwinhe anthe-tyakenhe  
\mg 2sg:A 3s-ACC tell.off tell-NPP 3sg:A 2sg-ACC money 2sg:Poss give -VNEG  
\ft You are telling him off (because) he didn't give you your money.

\ref 0 tx 44  
\tx *Tyerrtye nhakwele ameke -aremele ware atweme,*  
\ma tyerrtye nhakwe -le ameke -are -me -le ware atwe -me  
\mg person that(DEM)-ERG keep away from someone-see -NPP-SS ONLY hit/kill -NPP  
\tx *arrpenhe yanhe atherre-ketye.*  
\ma arrpenhe yanhe atherre -ketye  
\mg other that(MID) two -AVER  
\ft That person is holding off hitting him because those other two blokes are here.

\ref 0 tx 45  
\tx *Arrule -arrule -arle irrpelthe -irremele atwetyarte*  
\ma arrule -arrule -arle irrpelthe -irre -me -le atwe -tyarte  
\mg long.time-long.time-FOC put something over someone-INCH-NPP-SS hit/kill -HPAST  
\tx *aterele anteme re renhe ameke -areme,*  
\ma iperre-le atere-le anteme re re -nhe ameke -are -me  
\mg after -LOC(ADV) fear -INSTR NOW(PART) 3sg:A 3sg-ACC keep away from someone-see -NPP  
\tx *atyene apeke yanhe re lyeteke ware anerliweme*  
\ma atyene apeke yanhe re lyete -ke ware ane -rliwe -me  
\mg protected maybe that(MED) 3sg:S today-DAT JUST sit/be-DO.QUICK -NPP  
\tx *arrpenhe yanhe atherre-arle ikwerenge anemenge.*  
\ma arrpenhe yanhe atherre -arle ikwere -nge ane -me -nge  
\mg other that(MID) two -FOC 3sg:DAT-ABL sit/be-NPP-DS  
\ft She usually always hits him and acts smart to him, but he is protected for a little while because the others are staying with him.

\ref 0 tx 46  
\tx *Re akwele anpere -alheme ngkwenge-ketye unte -arle*  
\ma Re akwele anpere -alhe-me ngkwenge-ketye unte -arle  
\mg 3sg:S QUOT passing-go -NPP 2sg:DAT -AVER 2sg:A-FOC  
\tx *akwele atyeye ngkwinhe arle rlkerte aneke akerte ilettyekenhe anekenge.*  
\ma akwele atyeye ngkwinhe-arle rlkerte ane -ke akerte ile -tyekenhe ane -ke -nge  
\mg QUOT brother(younger) 2sg:Poss -FOC sick sit/be-PC PROP tell-VNEG sit/be-PC-DS  
\ft He is just walked straight past you because you didn't tell him about your younger brother being sick.

\ref 0 tx 47  
\tx *Alknгентhe ware marteke, payemilettyakenhenge.*  
\ma alknгентhe ware marte-ke payem-ile -tyakenhe-nge  
\mg light ONLY close -PC buy -CAUS -VNEG -DS  
\ft They just cut the electricity off (because) someone hadn't paid the bill.

\ref 0 tx 48  
\tx *Ayenge martelhemele aneme artwe atningke akwele apmere*  
\ma ayenge marte-lhe -me -le ane -me artwe atningke akwele apmere  
\mg 1sg:NOM close -REFL-NPP-SS sit/be-NPP man many QUOT place/camp  
\tx *nhenhe -werne apetyemenge.*  
\ma nhenhe -werne apetye-me -nge  
\mg DEM:P-ALL come -NPP-DS  
\ft I'm locking myself in (because) there's supposedly a mob of men coming here.

\ref 0 tx 49  
\tx *Ampe akweke yanhe ure itereke ampekiwelhemele*  
\ma ampe akweke yanhe ure itere-ke ampekiwe -lhe -me -le  
\mg child small that(MID) fire near -DAT lean on something-REFL-NPP-SS  
\tx *arne tyekeke -arleke apeke,*  
\ma arne tyeke-ke -arleke apeke  
\mg thing loose -DAT-CONTACT maybe  
\tx *renhe mwantyele araye kerrtyelhemele ureke itnyeketye.*  
\ma re -nhe mwantye-le ar -ø -aye kerrtyelhe-me -le ure-ke itnye-ketye  
\mg 3sg-ACC carefully-INSTR see-IMP-EMPH slip -NPP-SS fire-DAT fall -AVER  
\ft That child is near the fire leaning on something that doesn't seem too strong; you watch him carefully in case he (because he might) falls into the fire.

\ref 0 tx 50  
\tx *Lyete the apmere atyinhe mwerrentye anthurre ulkernemele*  
\ma *lyete the apmere atyinhe mwerre-ntyete anthurre ulkerne-me -le*  
\mg today 1sg:ERG place/camp 1sg:Poss good -NMLZR very clean -NPP-SS  
\tx *mpwaretyenhe, ampe atyinhe atherre ingwenthe*  
\ma *mpware -tyenhe ampe atyinhe atherre ingwenthe*  
\mg make/do-FUT child 1sg:Poss two tomorrow  
\tx *apmere antekerrenge -ntyete apetyalperremenge.*  
\ma *apmere antekerre-nge -ntyete apety-alpe -rre -me -nge*  
\mg place/camp south -ABL-MOAWAY come-return-DUAL-NPP-DS  
\ft I'll clean my house up really well today, (because) my two daughters are coming back from down south tomorrow.

\ref 0 tx 51  
\tx *Tyerrtye arrwekelenyele anwerneke ilerrirretyarte atnetye*  
\ma *tyerrtye arrwekele-nye -le anwerne-ke ile -rrire-tyarte atnetye*  
\mg people first -ADJVR-ERG 1pl -DAT tell-PL -HPAST banana root  
\tx *nhenhe renhe ulkere akwele atningke arlkwetyale,*  
\ma *nhenhe re -nhe ulkere akwele atningke arlkwe-tyale*  
\mg DEM:P 3sg-ACC TYPE QUOT many eat -VNEGIMP  
\tx *utyewe ilentye akngerrenge.*  
\ma *utyewe ile -ntyete akngerre-nge*  
\mg thin/skinny CAUS-NMLZR big -ABL  
\ft The old people used to tell us not to eat too much the wild banana root, because it makes you skinny.

\ref 0 tx 52  
\tx *Apwerte alyelke nhakwe the aretyeke alheme unte nhenhele*  
\ma *apwerte alyelke nhakwe the are -tyeke alhe-me unte nhenhe -le*  
\mg rock smooth there(DIST) 1sg:ERG see-VPURP go -NPP 2sg:S DEM:P-LOC  
\tx *akarelhaye kwatye arnerre -akerteke apeke,*  
\ma *akare-lh -ø -aye kwatye arnerre -akerte-ke apeke*  
\mg wait -REFL-IMP-EMPH water rockhole-PROP-DAT maybe  
\tx *ilerne kwatye akweke anthurre akertenge aneme.*  
\ma *ilerne kwatye akweke anthurre akerte-nge ane -me*  
\mg 2dl:S water small very PROP-ABL sit/be-NPP  
\ft You wait here while I go and have a look at that smooth rock to see if there's a rockhole there, (because) we've only got a bit of water left.

\ref 0 tx 53  
\tx *Kwerre-malangke, unte atyenge kwatye inetyeke tyampite akweke*  
\ma *kwerre -malangke unte atyenge kwatye ine-tyeke tyampite akweke*  
\mg girl -good sort 2sg:A 1sg:DAT water get-VPURP tin small  
\tx *nhenhele ware ayenge arle angkethakwe anthurrenge.*  
\ma *nhenhe -le ware ayenge arle angkethakwe anthurre-nge*  
\mg DEM:P-LOC ONLY 1sg:NOM FOC thirsty very -ABL  
\ft My good girl, could you get some water in this little can for me, because I'm really thirsty.

\ref 0 tx 54  
\tx *Ampe yanhe merneke arrareme arrpenhe*  
\ma *ampe yanhe merne-ke arrare -me arrpenhe*  
\mg child that(MID) food -DAT miss out-NPP other  
\tx *nhakwele areye arle merne ingkerreke arlkwerlte -alhernenge.*  
\ma *nhakwe -le areye arle merne ingkerreke arlkwe-rlte -alhe-rne -nge*  
\mg that(DEM)-ERG Pl FOC food all eat -PL -go -RPAST-DS  
\ft That child missed out on the food because those others ate all the food just before they left.

\ref 0 tx 55  
\tx *Ngkwatyele -arlke arrkene ware angketyakenhe kenhe artwe yanhe*  
\ma ngkwatyele -arlke arrkene ware angke-tyakenhe kenhe artwe yanhe  
\mg can't even -TOO fun JUST say -VNEG CONTRAST man that(MID)  
\tx *mpwekare anthurre irrerlenge.*  
\ma mpwekare anthurre irre -rlenge  
\mg race off(colloq) really INCH-DS  
\ft You can't even joke with that man (because) he'll try and race you off.

\ref 0 tx 56  
\tx *Mikwe Adelaide -werne rlkerte alhemenge*  
\ma m -ikwe Adelaide -werne rlkerte alhe-me -nge  
\mg mother-3KinPOSS Adelaide-ALL sick go -NPP-DS  
\tx *ampe akweke nhakwe ikwerele intetyenhe.*  
\ma ampe akweke nhakwe ikwere -le inte -tyenhe  
\mg child small that(DEM) 3sg:DAT-LOC born-FUT  
\ft Because its mother is sick and going down to Adelaide the child will be born there.

\ref 0 tx 57  
\tx *Ampe akweke arrewelhewehileme akwete-arle artnemenge,*  
\ma ampe akweke arrewelhewe-lhile -me akwete-arle artne-me -nge  
\mg child small rocking -CAUS-NPP still -FOC cry -NPP-DS  
\tx *ntertelhileme apeke.*  
\ma nterte-lhile -me -le apeke  
\mg quite -CAUS-NPP-SS maybe  
\ft She's rocking the baby because it's still crying, quietening it down.

\ref 0 tx 58  
\tx *Ayenge atnerte urlkere irrerleke awelheme, anteweke -antewe anthurre*  
\ma ayenge atnerte urlkere irre -rleke awelhe-me antewe-ke-antewe anthurre  
\mg 1sg:NOM stomach queasy INCH-DS feel -NPP vomit -? -vomit very  
\tx *kere aherre antere akngerre-arle atheke -atheke irremele.*  
\ma kere aherre antere akngerre-arle atheke -atheke irre -me -le  
\mg meat kangaroo fat big -FOC in a hurry-in a hurry INCH-NPP-SS  
\ft My stomach feels queasy and I feel like vomiting because I got stuck into eating fatty kangaroo meat last night.

\ref 0 tx 59  
\tx *Arelhe yanhele atherre antyame alparre -ilemele antyame-iweme*  
\ma arelhe yanhe -le atherre antyame alparre -ile -me -le antyame-iwe -me  
\mg woman that(MID)-ERG two blanket flatten out -CAUS -NPP-SS blanket -throw-NPP  
\tx *lyete -arle akwele mane akngerreke arrkene-irrerirretyenhenge.*  
\ma lyete -arle akwele mane akngerre-ke arrkene-irre -rirre-tyenhe-nge  
\mg today-FOC QUOT money a lot -DAT fun -INCH-PL -FUT -DS  
\ft Those two women are spreading out a blanket and straightening it out because people are going to be playing (cards) for a lot of money today.

\ref 0 tx 60  
\tx *Kenhe mape akenhe kele ingkerreke alherltanemiwerlenge,*  
\ma kenhe mape akenhe kele ingkerreke alhe-rlt +ane-m -iwe -rlenge  
\mg BUT many BUT all right all go -CONT+PL -NPP-?throw-DS  
\tx *pmere ikwerenge kwatyarle uyelpuyerremenge...*  
\ma pmere ikwere -nge kwaty-arle uye -lp -uyerre -me -nge  
\mg camp/place 3sg:DAT-ABL water -FOC disappear-INCEP-disappear -NPP-DS  
\ft However, all the others were shifting to another place because the water was drying up...

\ref 0 tx 61  
\tx *Mangkwe unte aretyeke lhetyekaye, rlkerte kngerrenge re.*  
\ma M -angkwe unte are-tyeke lhe-tyek -aye rlkerte kngerre-nge re  
\mg mother-2KinPOSS(O) 2sg:S see-VPURP go -VPURP-EMPH sick big -ABL 3sg:S  
\ft You should go and visit your mother because she's very sick.

\ref 0 tx 62  
\tx *Artwe nhenge the apmere Alkwerteke areke apmere arrule*  
\ma artwe REMEB the apmere Alkwerte-ke are-ke apmere arrule  
\mg man y'know 1sg:ERG place/camp Alcoota -DAT see-PC place/camp long.time  
\tx *ulkere-arle alwirreke anewe ikwerenhele -arle*  
\ma ulkere-arle alwirre -ke anewe ikwerenhe-le -arle  
\mg TYPE-FOC run away-PC spouse 3sg:POSS-ERG-FOC  
\tx *akwetethe ikwere ingkerte-ingkerte-irremele*  
\ma akwetethe ikwere ingkerte-ingkerte-irre -me -le  
\mg always 3sg:DAT jealous -jealous -INCH-NPP-SS  
\tx *ahe angketyartenge marle arrpenhe areyeke anewe arlke ilemele.*  
\ma ahe angke-tyarte -nge marle arrpenhe areye-ke anewe arlke ile -me -le  
\mg aggressive say -HPAST-DS girl other PI -DAT spouse TOO CAUS-NPP-SS  
\ft I saw that man out at Alcoota that ran away a while ago because his wife used to get very jealous of him and used to accuse him of having lovers.

\ref 0 tx 63  
\tx *Re -arle akwele anetyame artwe re -kamparre*  
\ma Re -arle akwele ane -tyame artwe re -kamparre  
\mg 3sg:S-FOC QUOT sit/be-PP man 3sg:S-first  
\tx *uyerrrenhetyenhenge arerlanemele,*  
\ma uyerre -nhe -tyenhenge are-rl +ane-me -le  
\mg disappear-DO.PAST-SUBSQ see-CONT+SG-NPP-SS  
\tx *akweke renhe yernetyamenge kwatye-werne alhetyeke*  
\ma akweke re -nhe yerne-tyame-nge kwatye-werne alhe-tyeke  
\mg small 3sg-ACC send-PP -DS water -ALL go -VPURP  
\tx *anyente-arenye artnerrenhepenhetyeke, akwele.*  
\ma anyente-arenye artnerre-nhe -pe -nhe -tyeke akwele  
\mg one -ASSOC crawl -HREDUP-ITER-HREDUP-VPURP QUOT  
\ft She stayed there until her husband had disappeared before sending the baby off to go crawling to the waterhole on his own.

\ref 0 tx 64  
\tx *Kwatye itere nhakwe thayete martetyeke alhaye,*  
\ma Kwatye itere nhakwe thayete marte-tyeke alh-ø -aye  
\mg kwatye side there(DIST) side(ENG) close -VPURP go -IMP-EMPH  
\tx *mperlkere-arle kwatyeke -arrkngele angkemenge.*  
\ma mperlkere-arle kwatye-ke -arrkngele angke-me -nge  
\mg white -FOC water -DAT-IndReasAng say -NPP-DS  
\ft Go and switch that water off over on the other side please, because some whitefellas are grumbling something about the water.

\ref 0 tx 65  
 \tx *Kenhe arelhe ampe akweke ikwere awenhe -awenhe -le*  
 \ma kenhe arelhe ampe akweke ikwere awenhe -awenhe -le  
 \mg BUT woman child small 3sg:DAT aunt(FaZ)-aunt(FaZ)-ERG  
 \tx *ampe akweke ikwerenhe mikwe interre anthurre arnte atwerlenge*  
 \ma ampe akweke ikwerenhe m -ikwe interre anthurre arnte atwe -rlenge  
 \mg child small 3sg:POSS mother-3KinPOSS hard INTENS ache hit/kill-DS  
 \tx *anthweke -anthweke anthurre-ke arnte alhwente ware ratherre*  
 \ma anthweke -anthweke anthurre -ke arnte alhwente ware ratherre  
 \mg dripping with blood-REDUP INTENS-DAT ache bleed freely JUST 3dl:S  
 \tx *aneke ampe akweke ikwere arrkngele arle atwerreke iperre.*  
 \ma ane -ke ampe akweke ikwere arrkngele arle atwe -rre -ke iperre  
 \mg sit/be-PC child small 3sg:DAT IndReasAng FOC hit/kill-Recip-PC after  
 \ft The child's aunt flogged the (child's) mother and gave her a hiding, they were both covered in blood after fighting over (because of what happened to) the little child.

\ref 0 tx 66  
 \tx *Ampe akweke yanhe nhenhele anetyeke akwete-irreme,*  
 \ma ampe akweke yanhe nhenhe-le ane -tyeke akwete-irre -me  
 \mg child small that(DEM) DEM -LOC sit/be-VPURP still -INCH-NPP  
 \tx *ampe akngerre nhenhele -arlenge areye arrkene-irretyeke.*  
 \ma ampe akngerre nhenhe -le -arlenge areye arrkene-irre -tyeke  
 \mg child big this(DEM)-LOC-COMIT PI fun -INCH-VPURP  
 \ft This little kid wants to stay on here, because he wants to play with these big kids.

\ref 0 tx 67  
 \tx *Kere aherre ampwerrke renhe -atherrenhe anyente anthetyenhenge*  
 \ma kere aherre ampwerrke re -nhe -atherre-nhe anyente anthe-tyenhenge  
 \mg meat kangaroo whole 3dl-ACC-two -ACC one give -SUBSQ  
 \tx *ikwere -atherre re -atherre-arrpe akalkelhillerretyeke.*  
 \ma ikwere -atherre re -atherre-arrpe akalke -lhile -rre -tyeke  
 \mg 3dl:DAT-two 3dl-two:A -own separate-CAUS-DUAL -VPURP  
 \ft We'll give them one whole kangaroo for them to share.

\ref 0 tx 68  
 \tx *Arne walye artepeke -ilemele impatye urrparelhomele*  
 \ma arne walye artepe-ke -ile -me -le impatye urrpare-lhe -me -le  
 \mg stick branch back -DAT -CAUS-NPP-SS tracks erase -REFL-NPP-SS  
 \tx *impeltye-ilemele, arrpenhele areye*  
 \ma impeltye-ile -me -le arrpenhe-le areye  
 \mg smooth -CAUS-NPP-SS other -ERG PI  
 \tx *renhe atherrenhe ingke impatye apentemeketye.*  
 \ma re -nhe atherre-nhe ingke impatye apente-me -ketye  
 \mg 3dl-ACC two -ACC foot tracks follow-NPP-AVER  
 \ft They dragged a branch behind them to smoothe over (the ground) and wipe out their tracks, so that other people won't be able to follow them.

\ref 0 tx 69  
 \tx *Merne alangkwe akwerrke mape urrekeke*  
 \ma merne alangkwe akwerrke mape urreke-ke  
 \mg food bush banana young people many later -DAT  
 \tx *alwarrerneke akngerre ulkere irretyeke impemele,*  
 \ma alwarrerne -ke akngerre ulkere irre -tyeke impe-me -le  
 \mg come back and get later-PC big TYPE INCH-VPURP leave-NPP-SS  
 \tx *merne akngerre ante aketyeke.*  
 \ma merne akngerre ante ake-tyeke  
 \mg food big ONLY cut-VPURP  
 \ft We found some young wild bananas and left them to get bigger, to pick when they are full-sized.

\ref 0 tx 70  
\tx *The mantere ikwerenhe alhewemele,*  
\ma the mantere ikwerenhe alhewe-me -le  
\mg 1sg:ERG clothes 3sg:POSS wash -NPP-SS  
\tx *apmere ikwerenhe urlkerneme, merne ikwere iteme,*  
\ma apmere ikwerenhe urlkerne-me merne ikwere ite -me  
\mg place/camp 3sg:POSS clean -NPP food 3sg:DAT cook -NPP  
\tx *[shop]-werne renhe akngeme re merne ikwerenhe inetyeke...*  
\ma shop -werne re -nhe aknge-me re merne ikwerenhe ine -tyeke  
\mg shop -ALL 3sg-ACC take -NPP 3sg:A food 3sg:POSS get -VPURP  
\ft I wash her clothes, clean her house, cook her food, and then take her to the shop so that she can do her shopping...

\ref 0 tx 71  
\tx *Ampe nhenhe itne akwele akaltye -irretyenhenge aremele*  
\ma ampe nhenhe itne akwele akaltye -irre -tyenhenge are-me -le  
\mg child this(DEM) 3pl:A QUOT knowledge-INCH-SUBSQ see -NPP-SS  
\tx *nthakenhe ntange athetyeke.*  
\ma nthakenhe ntange athe -tyeke  
\mg how edible.seed grind-VPURP  
\ft The kids watch so that they can learn how to grind seeds.

\ref 0 tx 72  
\tx *Anwerne-arle aywerte -ipenhe arne arlpentye akngerre arunthe*  
\ma anwerne-arle aywerte -ipenhe arne arlpentye akngerre arunthe  
\mg 1pl:A -FOC spinifex-after stick long big many  
\tx *akemele irrtiyartenge -irrtiyarte arrkene-irretyenhenge.*  
\ma ake-me -le irrtiyarte-nge -irrtiyarte arrkene-irre -tyenhenge  
\mg cut -NPP-SS spear -ABL-spear fun -INCH-SUBSQ  
\ft We're getting a mob of really long bits of spinifex so that we can play toy spears.

\ref 0 tx 73  
\tx *Ampe yanhe atherrele kwatye altyiweme ahelheke,*  
\ma ampe yanhe atherre-le kwatye altyiwe -me ahelhe-ke  
\mg child that(DEM) two -ERG water pour out-NPP earth -DAT  
\tx *ahelhe terte atyete-ilemele ratherre arrkene-irretyenhenge,*  
\ma ahelhe terte atyete-ile -me -le ratherre arrkene-irre -tyenhenge  
\mg earth mud soft -CAUS-NPP-SS 3dl:S fun -INCH-SUBSQ  
\tx *mernenge -merne mpwaremele...*  
\ma merne -nge -merne mpware -me -le  
\mg food -ABL-food make/do-NPP-SS  
\ft Those two kids are pouring water out onto the ground to make it damp sothat they can play making little pretend cakes...

\ref 0 tx 74  
\tx *Itne ulyentye yakwethe uthene kwatye uthene-arle itne impeke-werne*  
\ma itne ulyentye yakwethe uthene kwatye uthene-arle itne impe -ke -werne  
\mg 3pl:S shade bag CONJ water CONJ -FOC 3pl:A leave -PC -ALL  
\tx *alpeke ure itemele merne arlkwetyeke.*  
\ma alpe -ke ure ite -me -le merne arlkwe-tyeke  
\mg return-PC fire cook -NPP-SS food eat -VPURP  
\ft They went back to the shade where they had left their bag and water, and made a fire so that they could eat their food.

\ref 0 tx 75  
\tx *The nhenhe atherre imerneme apmere anwernekenhe,*  
\ma the nhenhe -ke atherre imerne-me apmere anwerne-kenhe  
\mg 1sg:ERG this(DEM)-DAT two show -NPP place/camp 1pl -POSS  
\tx *nhenhe renhe ratherre aretyeke -arle ahentye-anemenge.*  
\ma nhenhe re -nhe ratherre-le are-tyeke -arle ahentye-ane -me -nge  
\mg this(DEM) 3sg-ACC 3dl -ERG see-VPURP-RELCL want -sit/be-NPP-DS  
\ft I'm showing our country to these two because they wanted to see it.

\ref 0 tx 76  
\tx *...anwerne kwatye antywetyeke -amparre inetyenhenge...*  
\ma anwerne kwatye antywe-tyeke -amparre ine-tyenhenge  
\mg 1pl:A water drink -VPURP-FIRST get-SUBSQ  
\ft ...we want to get some drinking water first...

\ref 0 tx 77  
\tx *Itne ahentye aneme artwe ampwe yanhe akwele akngirtnetyeke...*  
\ma itne ahentye ane -me artwe ampwe yanhe akwele akng-irtne -tyeke  
\mg 3pl:S want sit/be-NPP man old that(DEM) QUOT take -DO.BACK-VPURP  
\ft They want to take the old man back out bush...

## Appendix 2: IF sentences

\ref	0 tx 1								
\tx	<i>Ahakeye</i>	<i>arelhe</i>	<i>urrperle</i>	<i>arlkwentye</i>	<i>akngerre,</i>				
\ma	ahakeye	arelhe	urrperle	arlkwe-nty	akngerre				
\mg	bush currants	people	black	eat	-NMLZR	a lot			
\tx	<i>tyerrtyele</i>	<i>apeke</i>	<i>akngerre</i>	<i>anthurre</i>	<i>arlkweme</i>	<i>arrakerte</i>	<i>utyene</i>	<i>irreme.</i>	
\ma	tyerrtye-le	apeke	akngerre	anthurre	arlkwe-me	arrakerte	utyene	irre -me	
\mg	people -ERG	if	big	INTENS	eat	-NPP	mouth	sore	INCH-NPP
\ft	Aboriginal people eat bush currants; if people eat lots of it you get a sore mouth.								
\ref	0 tx 2								
\tx	<i>The</i>	<i>lyete</i>	<i>ngenhe</i>	<i>akake-atweme</i>	<i>unte</i>	<i>warle</i>	<i>yanhenge</i>	<i>anpere</i>	
\ma	the	lyete	nge-nhe	akake-atwe -me	unte	warle	yanhe	-nge	anpere
\mg	1sg:ERG	today	2sg-ACC	head -hit/kill-NPP	2sg:S	wall	that(MID)	-ABL	through
\tx	<i>itnyenhetyeke,</i>		<i>unte</i>	<i>atyenge</i>	<i>ante</i>	<i>ahe</i>	<i>akngerre</i>	<i>tnakelheme.</i>	
\ma	itnye-nhe	-tyeke	unte	atyenge	ante	ahe	akngerre	tnake-lhe -me	
\mg	fall -DO.PAST-VPURP	2sg:S	1sg:DAT	ONLY	aggressive	big	boast-REFL	-NPP	
\ft	I'll knock you through that wall soon and you'll fall right through, if you keep being rude to me.								
\ref	0 tx 3								
\tx	<i>Ngkwenge-werne</i>	<i>apeke</i>	<i>mane</i>	<i>yernetyeke,</i>	<i>unte</i>	<i>apeke</i>	<i>ahentye-aneme.</i>		
\ma	ngkwenge-werne	apeke	mane	yerne -tyeke	unte	apeke	ahentye-ane -me		
\mg	2sg:DAT -ALL	maybe/if	money	send -VPURP	2sg:S	maybe/if	want	-sit/be-NPP	
\ft	Your money can be sent to you, if you want.								
\ref	0 tx 4								
\tx	<i>Akaperte</i>	<i>apeke</i>	<i>tyerrtye</i>	<i>atningke-ngare</i>	<i>atweme,</i>	<i>tyerrtye</i>	<i>arerte</i>	<i>irreme.</i>	
\ma	akaperte	apeke	tyerrtye	atningke-ngare	atwe -me	tyerrtye	arerte	irre -me	
\mg	head	if	people	many -ORD	hit/kill-NPP	people	mad	INCH-NPP	
\ft	If a person gets hit on the head too many times they can go mad.								
\ref	0 tx 5								
\tx	<i>Unte</i>	<i>apeke</i>	<i>ingke</i>	<i>utyene</i>	<i>-irremenge,</i>				
\ma	unte	apeke	ingke	utyene	-irre -me -nge				
\mg	2sg:S	if	foot	sore	-INCH -NPP -DS				
\tx	<i>kwarte-kwarte</i>	<i>utyene</i>	<i>irrentye</i>	<i>akngerre</i>	<i>antime.</i>				
\ma	kwarte-kwarte	utyene	irre -nty	akngerre	antime				
\mg	egg -egg	sore	INCH-NMLZR	big	PRECISE				
\ft	If you get a sore foot, your groin can get sore at the same time.								
\ref	0 tx 6								
\tx	<i>Apwerte</i>	<i>arnke</i>	<i>yanhe</i>	<i>kwatye</i>	<i>itere</i>	<i>urlkere</i>	<i>anthurrenge</i>	<i>kwatye</i>	<i>yanhe</i>
\ma	apwerte	arnke	yanhe	kwatye	itere	urlkere	anthurre -nge	kwatye	yanhe
\mg	hill	steep sides	that(MID)	water	side	smooth	INTENS -ABL	water	that(MID)
\tx	<i>iperte</i>	<i>anthurre</i>	<i>rarle</i>	<i>ingwemernte-irrerlalthemenge</i>					
\ma	iperte	anthurre	r -arle	ingwemernte-irre -rl +alhe-me -nge					
\mg	hole	INTENS	3sg:S-FOC	dark	-INCH-DO+GO	-NPP-DS			
\tx	<i>kerrtyelhemele</i>	<i>kwatyeke</i>	<i>itnyemele</i>	<i>alhwekarle-irremeketye</i>					
\ma	kerrtyelhe-me -le	kwatye-ke	itnye-me -le	alhwekarle-irre -me -ketye					
\mg	slip -NPP-SS	water -DAT	fall -NPP-SS	drown -INCH-NPP-AVER					
\ft	That steep side of the hill where the water lies is very smooth and slippery and the water down below looks very deep and dark; if anyone slips they might drown.								

\ref 0 tx 7  
\tx *Arrenkwelthe pwarnkape nhenhe renhe anpemele*  
\ma arrenkwelthe pwarnkape nhenhe re -nhe anpe -me -le  
\mg poison things mushroom(SPEC) DEM 3sg-ACC touch-NPP-SS  
\tx *alknge anpelheme, alknge unte pwenge apeke irreme.*  
\ma alknge anpe -lhe -me alknge unte pwenge apeke irre -me  
\mg eye touch-REFL-NPP eye 2sg:S blind if INCH-NPP  
\ft If you touch this poisonous fungus and then touch your eyes, it can make you blind.

\ref 0 tx 8  
\tx *The -arle iteke unte angayakwe apeke-arle.*  
\ma the -arle ite -ke unte angayakwe apeke-arle  
\mg 1sg:ERG-FOC cook-PC 2sg:S hungry if -FOC  
\ft I've cooked it if you are hungry.

\ref 0 tx 9  
\tx *Ntange ularte -arle arlkweme iperre apeke atnerte anhelke ayenge*  
\ma ntange ularte -arle arlkwe-me iperre apeke atnerte anhelke ayenge  
\mg edible seed exclusively-FOC eat -NPP after if stomach satisfied 1sg:NOM  
\tx *awelhetyenhenge.*  
\ma awelhe-tyenhenge  
\mg feel -SUBSQ  
\ft I'll probably feel full in the stomach if I eat just seeds.

\ref 0 tx 10  
\tx *Unte apmwerrke apeke apetyeke, arratyte unte renhe aremere.*  
\ma unte apmwerrke apeke apetye-ke arratyte unte re -nhe are -mere  
\mg 2sg:S yesterday if come -PC true 2sg:A 3sg-ACC see-HYPO  
\ft If you had come yesterday, then you certainly would have seen her. [Wilkins 1989, p.234]

\ref 0 tx 11  
\tx *Itne akwele aretyenhenge ampe ngkwihinhe apeke arle akwetethe ulkere*  
\ma itne akwele are -tyenhenge ampe ngkwihinhe apeke arle akwetethe ulkere  
\mg 3pl:A QUOT see-SUBSQ child 2sg:Poss if FOC always TYPE  
\tx *akaltye -antheyeke, itne apekele arle*  
\ma akaltye -le -anthe-tyeke itne apeke-le arle  
\mg knowledge-INSTR-give -VPURP 3pl if -INSTR FOC  
\tx *mwerre anthurre ulkere apeke akaltye irretyenhe.*  
\ma mwerre anthurre ulkere apeke akaltye irre -tyenhe  
\mg good INTENS TYPE if knowledge INCH-FUT  
\ft They have to see if your child needs this extra teaching and if they will learn better from it.

\ref 0 tx 12  
\tx *Itnenhenhe ileke arelhekenhe angkentyeke akaltye irretyeke*  
\ma itne -nhe -nhe ile -ke arelhe -kenhe angkentye-ke akaltye irre -tyeke  
\mg 3pl:S-ACC-ACC tell-PC people-POSS speech -DAT knowledge INCH-VPURP  
\tx *apeke [interpreter] apeke itneke inetyeke, itne arle irnterre*  
\ma apeke interpreter apeke itne-ke ine -tyeke itne arle irnterre  
\mg or interpreter or 3pl -DAT get -VPURP 3pl:S FOC hard  
\tx *itirremenge [CAAMA]-nge akurne-akerte ilemenge apeke.*  
\ma itirre -me -nge CAAMA -nge akurne-akerte ile -me -nge apeke  
\mg think -NPP-DS CAAMA -ABL bad -PROP tell-NPP-DS if  
\ft They have been told to either learn an Aboriginal language or to use an interpreter if they are worried about whether CAAMA is saying the right thing in its broadcasts.

\ref 0 tx 13  
\tx *Arrpenhemele kwatyeye -arleke arrernemele antyweme rlkerte-arle apeke.*  
\ma arrpenheme-le kwatyeye-ke -arleke arrerne -me -le antywe-me rlkerte-arle apeke  
\mg some -ERG water -DAT-CONTACT put -NPP-SS drink -NPP sick -FOC if  
\ft Sometimes you put it in water and drink it if you are sick.

\ref 0 tx 14  
 \tx *Iparrpe anthurre atyerretyeke re ltare akweke apeke aweme*  
 \ma iparrpe anthurre atyerre -tyeke re ltare akweke apeke awe -me  
 \mg quickly INTENS cook/shoot -VPURP 3sg:A sharp noise small if/maybe hear -NPP  
 \tx *iparrpe anthurre kwatyele irrperlalthentye akngerre.*  
 \ma iparrpe anthurre kwatye-le irrpe -rl +alhe-nty akngerre  
 \mg quickly INTENS water -LOC enter-DO+GO -NMLZR big  
 \ft You have to shoot (a duck) really quickly because if it hears even a little noise it dives down into the water.

\ref 0 tx 15  
 \tx *Ikwentye apele ure ampemele iperre,*  
 \ma ikwentye apele ure ampe-me -le iperre  
 \mg ashes FACT fire burn -NPP-SS after  
 \tx *ure ilweke -arle arrule ampeke iperre ikwentye irrernte apeke,*  
 \ma ure ilwe -ke -arle arrule ampe-ke iperre ikwentye irrernte apeke  
 \mg fire die -PC-RELCL long.time burn -PC after ashes cool or  
 \tx *ikwentye urinpe amperlaneme akwete apeke.*  
 \ma ikwentye urinpe ampe-rl +ane-me akwete apeke  
 \mg ashes hot burn -CONT+SG -NPP still if  
 \ft Ashes (are what are left) after a fire has burnt. A fire that's burnt and gone out some time ago may have cool ashes, or they will be hot if it's still burning.

\ref 0 tx 16  
 \tx *Tyerrtye nhenge aparlpe apeke irreme*  
 \ma tyerrtye REMEB aparlpe apeke irre -me  
 \mg person y'know mistakenly go somewhere if INCH-NPP  
 \tx *kwatye arlke anetyakenhe apmere ikwere,*  
 \ma kwatye arlke ane -tyakenhe apmere ikwere  
 \mg water TOO sit/be-VNEG place/camp 3sg:DAT  
 \tx *mutekaye apeke arle ultakelhekenge, uterne akngerre,*  
 \ma mutekaye apeke arle ultake-lhe -ke -nge uterne akngerre  
 \mg motorcar if FOC break -REFL-PC-DS sun big  
 \tx *kele tyerrtye nhenhe angkethakwe anthurre anteme irremele,*  
 \ma kele tyerrtye nhenhe angkethakwe anthurre anteme irre -me -le  
 \mg then person this(DEM) thirsty INTENS THEN(PART) INCH -NPP-SS  
 \tx *arerte-arerte irremele, kele ahirre -ahirre anteme*  
 \ma arerte-arerte irre -me -le kele ahirre -ahirre aneme  
 \mg mad -mad INCH-NPP-SS then imagining-imagining THEN(PART)  
 \tx *re awetyeke tharte-irreme arrpenhe areye angkerrerleng*  
 \ma re awe -tyeke tharte-irre -me arrpenhe areye angke-irre -rleng  
 \mg 3sg:S hear-VPURP start -INCH-NPP other PI say -RECIP-DS  
 \ft If a person gets lost at a place where there's no water, if maybe the car breaks down, and it's very hot, then the person gets very thirsty, they start losing their mind, and start to hear people talking.

\ref 0 tx 17  
 \tx *Dam itne mpwarerleng, kwatyele atakemere*  
 \ma dam itne mpware -rleng kwatye -le atake -mere  
 \mg dam 3pl:A make/do-DS water -ERG destroy -HYPO  
 \ft When they build the dam, then the water could (hypothetically) destroy it. [Wilkins 1989, p. 234]

\ref 0 tx 18  
 \tx *Kele nhenge ayepe -arenye apeke*  
 \ma kele REMEB ayepe -arenye apeke  
 \mg so then y'know yam(type)-ASSOC(caterpillar) if  
 \tx *akngelherle akaperte, renhe akenhe re ultakerleng -arle.*  
 \ma akngelhe -rle akaperte re -nhe akenhe re ultake -rleng -arle  
 \mg shake(self)-GEVET head 3sg-ACC BUT 3sg:A break -DS -RELCL  
 \ft If the caterpillar moves its head at any time, (the green beetle) chops it off.

\ref 0 tx 19  
\tx *Kwatye apeke urnteme ayenge apetyetyakenhe.*  
\ma kwatye apeke urnte-me ayenge apetye-tyakenhe  
\mg water if fall -NPP 1sg:NOM come -VNEG  
\ft If it rains tomorrow I won't come.

\ref 0 tx 20  
\tx *Itne anwernenhe antheke apwerte akweke ware,*  
\ma itne anwerne-nhe anthe-ke apwerte akweke ware  
\mg 3pl:A 1pl -ACC give -PC money small ONLY  
\tx *nhenge apwerte akngerre-akertele ante warle mape artemere.*  
\ma REMEB apwerte akngerre-akerte-le ante warle mape arte -mere  
\mg y'know money big -PROP-LOC(ADV) CONJ building many build-HYPO  
\ft They gave us only a small amount of money. When we've got enough money we will be able to (hpothetically) build some houses.

\ref 0 tx 21  
\tx *Tyate yanhe inemele*  
\ma tyate yanhe ine-me -le  
\mg shirt that(DEM) get-NPP-SS  
\tx *ngkwenge-arleke ampekiwelhaye mwerreke aretyenhenge!*  
\ma ngkwenge-arleke ampekiwe -lh -Ø -aye mwerre-ke are-tyenhenge  
\mg 2sg:DAT -CONTACT put.up.against -REFL-IMP-EMPH good -DAT see-SUBSQ  
\ft Get that shirt and hold it up against yourself and see if it looks all right!

### Appendix 3: Propositionalised English Version of *Arlunga-werne Alpeke*

‘RETURNING TO ARLTUNGA’  
Veronica Dobson

1 (We) went back to Arltunga	MEANS	contraction	
2 so that we could go to school.	purpose		
3 Long ago my grandfather took us from Ross River to Arltunga	MEANS	AMPLIFICATION	introduction
4 so that we could go to school	HEAD	purpose	
5 so that we could learn.	HEAD		
6 When I first heard	orienter		
7 (that we were being taken back to Arltunga)	CONTENT	reason	
8 I became very frightened.	RESULT	contraction	
9 When my grandfather told us	orienter		
10 that we had to go to school	HEAD	CONTENT <sup>1</sup>	occasion
11 and (that we had) to go back to Arltunga	HEAD		
12 I felt sick in the stomach	HEAD	RESULT	OUTCOME amplification 1
13 and (I) felt really sad	HEAD		
14 because we were leaving Ross River.		Reason	OUTCOME amplification
15 I spent the night thinking really hard	RESULT		
16 about why we had to go to school.	reason	amplification 2	
17 My grandfather said this,		orienter	
18 “In order that you may learn	purpose		
19 you must go to Arltunga	HEAD	MEANS	CONTENT occasion
20 and you must wait for me there.	HEAD		
21 I will be working at this place	move		

<sup>1</sup> I think this could just as easily be labelled as reason and perhaps the only way to be sure is to discuss the matter with the writer of the story.

22 and then I will be going to Atnarpa Station	move						
23 so that I can do some work over there first of all.	GOAL		CONTENT				concession2 (HEAD)
24 After I have gone (with you) to Arltunga	move						
25 then after I have finished the work	move						
26 I will come back.”	GOAL		CONTENT				
27 I was a little child of five years old.	HEAD			occasion			
28 when they put me in the dormitory.	circum-stance						
29 I became really sad	HEAD						
30 and I cried.	HEAD						
31 I did not want	orienter	RESULT					
32 that I should stay in the dormitory.	CONTENT	reason	OUTCOME	HEAD		contraction	
33 A lot of girls lived there.				description			
34 The Sisters used to keep all the girls in that dormi- tory.				description			
35 We learned a lot	RESULT	HEAD	amplification				
36 while we were going to school	means						
37 and we did work for the Sisters as well.		HEAD				CONTRAEXPECTATION (comment)	
38 We learned a lot of things	RESULT	HEAD	contraction				
39 when we went to school	means						
40 while staying at Arltunga.			circumstance				
41 I kept thinking about my grandfather	RESULT3						closing
42 after (because) he had gone back to Ross River.	reason						

2 You could perhaps argue that this relationship is not concession-CONTRA-EXPECTATION but more neutrally HEAD-comment. To determine this, one would have to find out, among other things, what relative weight the writer would give to the major constituents of this text.

3 It could be argued here that this relation is not RESULT-reason but more neutrally OUTCOME-occasion. To determine this would require a determination of the writer's thinking about the reason for recounting the story. However, the relation between the two propositions fits well the frame determined for a BECAUSE-relation and therefore this explanation was chosen.

## Appendix 4: Interlinearised morpheme analysis of *Arltunga-werne Alpeke*

\title: *Arltungawerne Alpeke*  
 \source: Arrernte Ayeye  
 \author: Veronica Dobson

\ref 0 tx 1  
 \tx *[Arltunga]ewerne alpeke*  
 \ma [Arltunga]-werne alpe -ke  
 \mg Arltunga -ALL return-PC  
 \ft (We) went back to Arltunga

\ref 0 tx 2  
 \tx *[school]eje irrpetyeke.*  
 \ma school]e-ke irrpe -tyeke  
 \mg school -DAT enter-VPURP  
 \ft to go to school.

\ref 0 tx 3  
 \tx *Arrule tyemeye atyenhe anwernenhe Inteye Arrkwentyele*  
 \ma arrule tyemeye atyenhe -le anwerne-nhe Inteye Arrkwe-ntyeye  
 \mg long.time.ago MoFa 1s:POSS-ERG 1pl -ACC Inteye Arrkwe-MOAWAY  
 \tx *[Arltunga]ewerne akngeke*  
 \ma [Arltunga]-werne aknge-ke  
 \mg Arltunga -ALL take -PC  
 \ft A long time ago my grandfather took us from Ross River to Arltunga

\ref 0 tx 4  
 \tx *[school]eje irrpetyeke akaltyirretyeke.*  
 \ma school]e-ke irrpe -tyeke akalty -irre -tyeke  
 \mg school -DAT enter-VPURP knowledge-INCH-VPURP  
 \ft to go to school to learn.

\ref 0 tx 5  
 \tx *Ayenge arrwekele awemele*  
 \ma ayenge arrwekele awe-me -le  
 \mg 1s:NOM first hear-NPP-SS  
 \ft When I first heard

\ref 0 tx 6  
 \tx *atere nthurre irreke,*  
 \ma atere nthurre irre -ke  
 \mg fear INTENS INCH-PC  
 \ft I became very frightened.

\ref 0 tx 7  
 \tx *tyemeye ilerleng*  
 \ma tyemeye-le ile -rleng  
 \mg MoFa -ERG tell-DS  
 \ft because my grandfather said (told)

\ref 0 tx 8  
 \tx *anwerne [school]eje irrpetyeke*  
 \ma anwerne school]e-ke irrpe -tyeke  
 \mg 1pl:S school -DAT enter-VPURP  
 \ft that we had to go to school

\ref 0 tx 9  
 \tx *[Arltunga]ewerne alpetyeke.*  
 \ma [Arltunga]-werne alpe -tyeke  
 \mg Arltunga -ALL return-VPURP  
 \ft and go back to Arltunga.

\ref 0 tx 10  
\tx *Ayenge tnerite kurne awelheke*  
\ma ayenge tnerite kurne awe-lhe -ke  
\mg 1sg:NOM stomach bad feel -REFL-PC  
\ft I felt sick in the stomach

\ref 0 tx 11  
\tx *lhwarpe nthurre irrekarle*  
\ma lhwarpe nthurre irre -k -arle  
\mg sad INTENS INCH-PC-RELCL  
\ft and felt really sad

\ref 0 tx 12  
\tx *Inteye Arrkwe impemele alhetyeke.*  
\ma Inteye Arrkwe impe-me -le alhe-tyeke  
\mg Inteye Arrkwe leave-NPP-SS go -VPURP  
\ft to leave Ross River.

\ref 0 tx 13  
\tx *Ingwe ikwerele ayenge irnierre nthurre itirreke*  
\ma Ingwe ikwere -le ayenge irnierre nthurre itirre-ke  
\mg night 3sg:DAT-LOC(ADV) 1sg:NOM hard INTENS think-PC  
\ft I spent the night thinking really hard

\ref 0 tx 14  
\tx *iwenheke anwerne [school]eke irrpetyeke lheme.*  
\ma iwenhe-ke anwerne school]e-ke irrpe -tyeke lhe-me  
\mg what -DAT 1pl:S school -DAT enter-VPURP go -NPP  
\ft why we had to go to school.

\ref 0 tx 15  
\tx *Tyemeye atyenhe alakenhe angkeke,*  
\ma tyemeye atyenhe alakenhe angke-ke  
\mg MoFa 1sg:POSS like.this say -PC  
\ft My grandfather said this,

\ref 0 tx 16  
\tx *'Arrantherre akaltye irremele*  
\ma arrantherre akaltye irre -me -le  
\mg 2pl:S knowledge INCH-NPP-SS  
\ft '(So that) you can learn

\ref 0 tx 17  
\tx *[Arlunga]ele anetyeke alhetyeke*  
\ma [Arlunga]-le ane -tyeke alhe-tyeke  
\mg Arlunga -LOC sit/be-VPURP go -VPURP  
\ft you have to go and live at Arlunga.

\ref 0 tx 18  
\tx *atyenge akarelhemele.*  
\ma atyenge akare-lhe -me -le  
\mg 1sg:DAT wait -REFL-NPP-SS  
\ft and wait for me there.

\ref 0 tx 19  
\tx *Ayenge warrkirreme pmere nhenhele*  
\ma ayenge warrk-irre -me pmere nhenhe-le  
\mg 1sg:NOM work -INCH-NPP camp/place DEM -LOC  
\ft I will be working at this place

\ref 0 tx 20  
\tx *kele imernte [Atnarpa Station]ewerne warrke*  
\ma kele imernte [Atnarpa Station]e-werne warrke  
\mg and then THEN(PART) Atnarpa Station -ALL work[Eng]  
\tx *nhakweke amparre mpwaretyeke.*  
\ma nhakwe -ke amparre mpware -tyeke  
\mg there(DIST)-DAT FIRST make/do-VPURP  
\ft and then (I will be going) to Atnarpa Station to do some work over there.

\ref 0 tx 21  
\tx *[Arltunga]ewerne warrke mpwarekele iperre apetyalpetyenhe.'*  
\ma [Arltunga]-werne warrke mpware -ke -le iperre apety -alpe -tyenhe  
\mg Arltunga -ALL work[Eng] make/do-PC-SS after come -return-FUT  
\ft And I will return to Arltunga after I have finished that work.'

\ref 0 tx 22  
\tx *Ayenge ampe kweke [5 years old] anerlenge*  
\ma ayenge ampe kweke 5 years old ane -rlenge  
\mg 1sg:NOM child little 5 years old sit/be-DS  
\ft I was a little child of five years old

\ref 0 tx 23  
\tx *[dormitory]eke akwerneke*  
\ma [dormitory]e-ke akwerne-ke  
\mg dormitory -DAT put in -PC  
\ft when they put me in the dormitory

\ref 0 tx 24  
\tx *ayenge lhwarrpe irremele artneke*  
\ma ayenge lhwarrpe irre -me -le artne-ke  
\mg 1sg:NOM sad INCH-NPP-SS cry -PC  
\ft and I became really sad and cried.

\ref 0 tx 25  
\tx *Ayenge ahentyanetyekenhe [dormitory]ele anetyeke.*  
\ma ayenge ahenty-ane -tyekenhe [dormitory]e-le ane -tyeke  
\mg 1sg:NOM want -sit/be-VNEG dormitory -LOC sit/be-VPURP  
\ft I did not want to stay in the dormitory.

\ref 0 tx 26  
\tx *Ampe marle atningke nthurre pmere nhenhe ikwerele aneke.*  
\ma ampe marle atningke nthurre pmere nhenhe ikwere -le ane -ke  
\mg child girl many INTENS camp/place this(DEM) 3sg:DAT -LOC sit/be-PC  
\ft A lot of girls lived there.

\ref 0 tx.27  
\tx *[Sister] mapele ampe marle mape nthurre atnyenetyarte*  
\ma Sister mape -le ampe marle mape nthurre atnyene-tyarte  
\mg Sister many -ERG child girl many INTENS keep -HPAST  
\tx pmere [dormitory] ikwerele.  
\ma pmere [dormitory] ikwere -le  
\mg camp/place dormitory 3sg:DAT -LOC  
\ft The Sisters used to keep all the girls in that dormitory.

\ref 0 tx 28  
\tx *Anwerne akngerreke akaltye irreke*  
\ma anwerne akngerre-ke akaltye irre -ke  
\mg 1pl:S a lot -DAT knowledge INCH-PC  
\ft We learned a lot

\ref 0 tx 29  
\tx *[school]eke irrpemele*  
\ma school]e-ke irrpe -me -le  
\mg school -DAT enter-NPP-SS  
\ft while we were going to school

\ref 0 tx 30  
\tx *warrke itnekenhe -arlke mpwaremele.*  
\ma warrke itne-kenhe -arlke mpware -me -le  
\mg work[Eng] 3pl -POSS -TOO make/do-NPP-SS  
\ft and we did work for the Sisters as well.

\ref 0 tx 31  
\tx *Anwerne arne atningke nthurreke akaltyirreke*  
\ma anwerne arne atningke nthurre -ke akalty -irre -ke  
\mg 1pl:S thing many INTENS-DAT knowledge-INCH-PC  
\ft We learned a lot of things

\ref 0 tx 32  
\tx *[school]eke irrpemele*  
\ma school]e-ke irrpe -me -le  
\mg school -DAT enter-NPP-SS  
\ft when we went to school

\ref 0 tx 33  
\tx *pmere [Arltunga] anemele.*  
\ma pmere [Arltunga] ane -me -le  
\mg camp/place Arltunga sit/be-NPP-SS  
\ft while staying at Arltunga.

\ref 0 tx 34  
\tx *Ayenge tyemeye atyenheke kwete itirreke*  
\ma ayenge tyemeye atyenhe -ke kwete itirre -ke  
\mg 1sg:NOM MoFa 1s:POSS-DAT still think -PC  
\ft I kept thinking about my grandfather

\ref 0 tx 35  
\tx *rarle Inteye Arrkwewerne alpekenge.*  
\ma r -arle Inteye Arrkwe-werne alpe -ke -nge  
\mg 3sg:S-FOC Inteye Arrkwe-ALL return-PC-DS  
\ft after (because) he had gone back to Ross River.

### Appendix 5: Propositionalised English version of *Ayeye Altyerrentyele*

1 In the beginning, in the dreamtime, there lived a woman, her husband and her son.	HEAD	identification		
2 They lived beside a hill near a big creek.	amplification			
3 Every day this woman changed into a crow	move			
4 and (she) sat in the big gum tree near their camp,	GOAL	simultaneous	HEAD	introduction
5 while the little boy sat on his own at the bottom of the tree.		simultaneous		
6 One day a man came to this place.			occasion	
7 The crow started talking loudly		MEANS	OUTCOME	simultaneous (contrast)
8 so that (she) could let her husband know	orienter			
9 that someone was approaching their camp.	CONT	purpose		
10 But the little boy ran to meet the man			MEANS	simultaneous reason
11 so that (he) could let him (the man) know/show him (the man)	orienter			
12 where they lived	CONTENT	MEANS	purpose	
13 (and) so that he would make camp some distance away.			purpose	
14 So then the man made camp far from them			move	
15 and (he) started to cook his kangaroo,	HEAD	GOAL	RESULT	setting
16 which he had killed on his way <sup>1</sup> that morning.	identification			
17 But/meanwhile, the crow had flown away	move			
18 (and she) changed back into a woman	move			
19 and (she) pretended to come back to the camp with some water from the creek.	GOAL			initiating incident
20 “What’s up?”,	CONTENT	question		

<sup>1</sup> 'on his way' could be propositionalised by 'while he had been journeying to that place...'; but for simplicity's sake I have not done so.

21 the woman said to the stranger.	orienter						
22 The stranger answered her back,	orienter						
23 “---” <sup>2</sup>	CONTENT	ANSWER				EXCHANGE 1	
24 She then said,						orienter	
25 “I’ve been living here with just the child			HEAD	circumstance			
26 and (I/we?) never had any wallaby	reason		HEAD				
27 so that (I/we?) could eat it/them,	RESULT	CONTEXT					
28 but there are lots and lots of them close by.		concession					
29a (I would be glad) if for me	condition						
29b you and my son could kill some tomorrow.”	HYPOTHETICAL		HEAD	CONTENT	EXCHANGE 2	proposal	
30 That night, the stranger and the child slept together,	simultaneous <sup>3</sup>	setting					
31 but the woman slept by herself.	simultaneous (contrast)						
32 Early in the morning, the woman woke up	sequence	HEAD				sequence 1	
33 and (she) looked for her husband on the hill.	sequence						
34 She saw him		HEAD				sequence 2	
35 (as he was) sitting in a cave	HEAD	circumstance					
36 (which was) way up high above the water.	description						
37 She shouted		HEAD				orienter	
38 (she) yelling out to him	MEANS	manner					
39 so that the stranger could hear,	purpose						
40 “Son, son, I can see those wallabies now!	HEAD		occasion				
41 They are running around in the open everywhere on the hill.	description						

<sup>2</sup> Implied CONT to the orienter in proposition 22.

<sup>3</sup> At the lower level semantically, there is little means of determining which is the more prominent unit.

42 I would like some to eat,		grounds				
43 you would (would you?) kill some for me.		EXHORTATION	OUTCOME	CONTENT	proposal	
44 I can't climb the hill	reason <sup>4</sup>					
45 (so that I) could chase them."		RESULT	grounds			
46 So the stranger went up the hill near to (the place)	HEAD	MEANS			RESPONSE	sequence 3
47 where the husband was waiting/sitting	identification					
48 (so that he/the husband) could kill him( the stranger).			purpose			
49 Then the woman cried out,			orienter			
50 "Not that way!	EXHORTATION		CONTENT			sequence 4
51 They are just below you.	grounds					
52 Come down a bit!"	EXHORTATION					
53 But/meanwhile, the husband got his spear ready.						sequence 4
54 When the stranger came (closer)	occasion					
55 (the result being that the husband could now see him) = into view	OUTCOME		occasion			
56 her husband speared him.		OUTCOME	HEAD			
57 He (the stranger) fell right into the water below.	sequence					
58 But the woman ran towards him with her nullanulla	sequence		HEAD			PEAK
59 and (she) hit him across the nose.	sequence					EPISODE 1
60 Then her husband took him back to their camp			move			
61 and (he/they) cooked him	MEANS	GOAL	HEAD			denouement
62 so that (he/they) could eat (him) in the afternoon (for supper).	purpose					
63 They enjoyed their supper that night.		HEAD	comment			

<sup>4</sup> I have labelled this relationship **reason**-RESULT and not **means**-PURPOSE because I see this statement as being the equivalent of 'I cannot climb the hill and as a RESULT I cannot chase the wallabies.

64 But the little boy never ate men	RESULT	contrast		
65 (that's why) he did not have any.	reason			
66 This is the way things were in the dreamtime.			comment	
67 A couple of years later, when the little boy was old enough	reason			
68 (so that he) could talk	RESULT	occasion		
69 ?? the young men who came to their camp	identification			
70 he (the now older boy) would try to warn them about his father and mother.	HEAD	OUTCOME	contract	problem
71 He used to say,	orienter			
72 "Brother, brother, mummy daddy eat eat."	CONTENT	concession		
73 He could not talk like a grownup yet	reason			
74 (that's why) they could not understand him.	RESULT	CONTEXT	amplification	
75 So things went on as before	HEAD	contrast		
76 as they used to	comparison			
77 until the boy was big (about five years old)	reason			
78 and could talk well enough	RESULT	HEAD	reason	
79 So then when he talked to them	occasion			
80 they could understand him.	OUTCOME		RESULT	REASON
81 One day another man came.				setting
82 This man had a strange dream,	HEAD	contract		initiating incident
83 before he came to the camp.	time			
84 He'd had a powerful dream	HEAD	amplification	reason	
85 before he came to the camp of the woman and her son.	time			
86 He had dreamed	orienter			
87 that there was a man there	CONTENT	amplification		
88 and that he was hiding there somewhere.	CONTENT			

89 He was very cautious.			RESULT	OUTCOME <sup>5</sup>	description
90 When he saw the crow,			HEAD	occasion	
91 it was sitting on the treetop	HEAD				
92 (and it was) shouting away	HEAD	circumstance			
93 when he came.			HEAD	description	
94 (It was) just like in his dream.					comment
95 He saw the boy		HEAD	HEAD	HEAD	sequence 1
96 (as he/the boy was) walking around	HEAD	manner			
97 (and as he was) playing with his spears	HEAD				
98 but the man was missing.				contrast	
99 (It was) just like in his dream.					comment
100 He (man) approached very carefully.					sequence 2
101 The boy ran up to meet him,	HEAD				sequence 3
102 but the crow very quickly changed back into a woman.				contrast	
103 She shouted to the boy,					orienter
104 "Boy, come away from your brother.					CONTENT
105 He's hot from the sun,		grounds			
106 leave him	MEANS	EXHORTATION			CONTENT
107 so that he can rest!"	purpose		HEAD		sequence 4
108 She was afraid	RESULT			comment	
109 lest (that) the boy would tell the man about her and her husband.		reason			
110 But the boy spoke low		manner			
111 he (the boy) did tell the man,		HEAD		HEAD	grounds
112 ("This man and this woman are devils!			CONCLUSION		

<sup>5</sup> This is not RESULT-**reason**! The reason behind this reaction is left unstated and presumably is based on cultural presuppositions regarding the seeing of crows sitting on branches.

113 Brother, all the men who have come here		identification					
114 those two have killed them	HEAD						
115 and (they have) eaten them.	HEAD	HEAD	grounds				
116 But I only eat meat	HEAD	means					
117 that the men bring.	identification						
118 That is how I have been living.		RESULT	contrast				
119 Brother, you must believe	orienter						
120 what I tell you.	CONTENT				EXHORTATION		sequence 5
121 You will hear her			OUTCOME				
122 (when she) tells you	orienter						
123 that she had been sitting down and hasn't eaten any wallaby,	CONTENT	HEAD	occasion				
124 and she will tell you	orienter						
125 that there are lots of them on top of the hill (near the waterhole)."	CONTENT	HEAD					
126 Just then, the woman shouted,	orienter						
127 "Son, there are lots of wallabies on the hill!"	CONTENT						sequence 6
128 The boy continued,					orienter		
129 "She will pretend	orienter						
130 that there are many wallabies down below you	CONTENT	MEANS	HEAD	move <sup>6</sup>			
131 so that you will look down,		purpose					
132 but her husband is really above you.			contrast				
133 She will get him	MEANS	HEAD	GOAL	CONTENT	remark		
134 (so that he ) will spear you right away.	purpose						
135 That's the time you have to watch out for yourself."		comment					

<sup>6</sup> It is very difficult at this point to distinguish between move-GOAL (time focus) vs. MEANS-purpose (no time focus). I lean towards the former simply because this is a narrative.

137 So the man thought,		orienter			
138 "I will try and kill him first,	CONCLUSION	CONTENT		RESPONSE	sequence 7
139 lest/before he kills me and the boy."	grounds				
140 He climbed very carefully,			simultaneous		sequence 8
141 and he thought hard		contact	simultaneous		
142 (as he) tried to remember everything	orienter				
143 that the boy had told him.	CONTENT	amplification			
144 So he went down from the top of the hill,					sequence 9
145 and when he thought	orienter	circumstance			
146 that he was right under the other man,	CONTENT				
147 he looked up,		HEAD			sequence 10
148 and sure enough there he was	HEAD		comment		
149 (as he/the husband) was looking down at him with his spear ready.	description				
150 But the stranger was too quick for him.	reason				
151 he threw his spear.	RESULT				sequence 11
152 But the woman cried out,			orienter		
153 The boy has been telling tales.		HEAD	CONTENT		sequence 12
154 My husband is dead	RESULT	HEAD			
155 because you (have speared him)."	reason				
156 When she said this,		occasion			
157 she ran after the boy with her digging stick,	concession				
158 but the man speared her too.	CONTRA- EXPECTATION <sup>7</sup>	OUTCOME			PEAK EPISODE 2

<sup>7</sup> It could be argued here that this is not a concession-CONTRAEXPECTATION relation but rather a HEAD-comment relation in the absence of any overt IF type word, however, I have chosen to label it this way because the result of the woman's actions are certainly contrary to what she was expecting to happen.

159 When/after he (the stranger) had killed the father and mother,	occasion					
160 the man looked at the boy,	OUTCOME	simultaneous		question <sup>8</sup>		
161 and he wondered,	orienter					
162 "Perhaps he too has been eating men."	CONTENT	simultaneous				
163 But the little boy looked at him with frightened eyes,			simultaneous	ANSWER	reason	
164 and he (the boy) said,	orienter					
165 "Not me brother; I have not been eating men,	CONTENT	simultaneous				
166 I told you	orienter					
167 that I always eat only kangaroo meat."	CONTENT	CONTENT				
168 So the man felt sorry for him,	HEAD				RESULT	denouement
169 and he decided to take him back to his home with him.	HEAD					

<sup>8</sup> This one is interesting. The question implied is merely thought, but the boy responds as surely as if he heard it actually spoken.

## Appendix 6: Interlinearised morpheme analysis of *Ayeye Altyerrengetyele*

\title: *Angepe: Ayeye Altyerrengetyele*  
 \source: Arrernte Yeye  
 \author: Rosie Ferber  
 \original: written  
 \ref: Angepe

\ref Angepe: c 1  
 \tx *Lyetenyenge kwele altyerrege aneke arelhe*  
 \ma Lyete-nye -nge kwele altyerre -nge ane -ke arelhe  
 \mg today-ADJVR-ABL QUOT dreamtime -ABL sit/be-PC woman  
 \tx *ante anewikwe ante ampe urreye.*  
 \ma ante anew -ikwe ante ampe urreye  
 \mg CONJ spouse-3KinPOSS CONJ child boy  
 \ft In the beginning, in the Dreamtime, there lived woman, her husband and her son.

\ref Angepe: c 2  
 \tx *Itne anetyarte apwerte iterele lhere akngerre itwele.*  
 \ma itne ane -tyarte apwerte itere-le lhere akngerre itwe -le  
 \mg 3pl:S sit/be-HPAST hill near -LOC creek big near -LOC  
 \ft They lived beside hill near big creek.

\ref Angepe: c 3  
 \tx *Arlte arrpenenhele, arelhe akngartiwelhetyarte angepewerne*  
 \ma arlte arrpenenhe-le arelhe akngartiwe-lhe -tyarte angepe-werne  
 \mg day every -LOC(ADV) woman change -REFL-HPAST crow -ALL  
 \ft Every day, this woman changed into a crow

\ref Angepe: c 4  
 \tx *ante arne pere akngerrele anetyarte apmere itnekenhe itwele.*  
 \ma ante arne pere akngerre-le ane -tyarte apmere itne-kenhe itwe -le  
 \mg CONJ tree gum tree big -LOC sit/be-HPAST place/camp 3pl -POSS near -LOC  
 \ft and sat in the big gum tree near their camp,

\ref Angepe: c 5  
 \tx *Urreye kweke kenhe anetyarte arne atnartengele rarrpe.*  
 \ma urreye kweke kenhe ane -tyarte arne atnartenge-le r -arrpe  
 \mg boy little BUT sit/be-HPAST tree base -LOC 3sg:S-own  
 \ft while the little boy sat on his own at the bottom of the tree.

\ref Angepe: c 6  
 \tx *Arlte nyentele artwe petyeke apmere nhenhe ikwerewerne.*  
 \ma arlte nyente-le artwe petye-ke apmere nhenhe ikwere -werne  
 \mg day one -LOC(ADV) man come-PC place/camp this(DEM) 3sg:DAT-ALL  
 \ft One day a man came to this place.

\ref Angepe: c 7  
 \tx *Angepe angkentye akngerrirreke*  
 \ma angepe angke-nty e akngerr -irre -ke  
 \mg crow say -NMLZR big -INCH-PC  
 \ft The crow started talking loudly

\ref Angepe: c 8  
 \tx *anewikwele awetyenhenge*  
 \ma anew -ikwe -le awe -tyenhenge  
 \mg spouse-3KinPOSS-ERG hear-SUBSQ  
 \ft to let her husband know

\ref Angepe: c 9  
\tx *tyerrtyarle apetyemenge apmere itnekenhewerne.*  
\ma tyerrty-arle apetye -me -nge apmere itne -kenhe -werne  
\mg person-FOC come -NPP-DS place/camp 3pl -POSS-ALL  
\ft that someone was approaching their camp.

\ref Angepe: c 10  
\tx *Kenhe ampe urreye kweke re kenhe arnekirremele*  
\ma kenhe ampe urreye kweke re kenhe arnek -irre -me -le  
\mg BUT child boy little 3sg:S BUT go and meet-INCH-NPP-SS  
\tx *untemele imernetyeke*  
\ma unte-me -le imerne-tyeke  
\mg run -NPP-SS show -VPURP  
\ft The little boy ran to meet the man to show him

\ref Angepe: c 11  
\tx *apmere nthenhelarle itne anemarle,*  
\ma apmere nthenhe-l -arle itne ane -m -arle  
\mg place/camp where -LOC-RELCL 3pl:S sit/be-NPP-RELCL  
\ft that they lived there,

\ref Angepe: c 12  
\tx *re itnekenge arlengge ulkere apmere mpwaretyenhenge.*  
\ma re itne-ke -nge arlengge ulkere apmere mpware -tyenhenge  
\mg 3sg:A 3pl -DAT-ABL long(way) TYPE place/camp make/do -SUBSQ  
\ft so he would make camp some distance away.

\ref Angepe: c 13  
\tx *Kele artwe re arratye apmere mpwaretyenhenge itnekenge*  
\ma kele artwe re arratye apmere mpware -tyenhenge itne-ke -nge  
\mg so then man 3sg:A true place/camp make/do -SUBSQ 3pl -DAT-ABL  
\ft The man made camp far from them

\ref Angepe: c 14  
\tx *arlengge ulkere ante kere aherre itetyenhenge (rarle mpepeke*  
\ma arlengge ulkere ante kere aherre ite -tyenhenge r -arle mpepe-ke  
\mg long(way) TYPE CONJ meat kangaroo cook-SUBSQ 3sg:A-RELCL middle-DAT  
\tx *atwintyeke ularre apetyemele ingweleme ikwerele.)*  
\ma atw-intye-ke ularre apetye-me -le ingweleme ikwere -le  
\mg kill -TWD-PC this way come -NPP-SS morning 3sg:DAT-LOC(ADV)  
\ft and started to cook his kangaroo (which he had killed on his way that morning).

\ref Angepe: c 15  
\tx *Kenhe angepe re kenhe alkerekirremele lheke*  
\ma kenhe angepe re kenhe alkere-k -irre -me -le lhe-ke  
\mg BUT crow 3sg:S BUT sky -DAT-INCH-NPP-SS go -PC  
\ft Meanwhile, the crow had flown away

\ref Angepe: c 16  
\tx *ante akngartiwelhetyalpeke arelhewerne*  
\ma ante akngartiwe-lhe -ty +alpe-ke arelhe -werne  
\mg CONJ change -REFL-GOBACK+DO -PC woman-ALL  
\ft and changed back to a woman

\ref Angepe: c 17  
\tx *ante urrtvirremele apetyalpemele*  
\ma ante urrtty -irre -me -le apety-alpe -me -le  
\mg CONJ pretend-INCH-NPP-SS come-return-NPP-SS  
\tx *kwatye kerte anteme kwele lherengentyele.*  
\ma kwatye kerte anteme kwele lhere -nge -ntyeye  
\mg water PROP THEN(PART) QUOT creek-ABL-MOAWAY  
\ft and pretended to come back to the camp with some water from the creek.

\ref Angepe: c 18  
\tx *‘Werte’*,  
\ma werte  
\mg what’s up  
\ft ‘What’s up?’,

\ref Angepe: c 19  
\tx *arelhe angkeke artwe alethenge ikwere.*  
\ma arelhe angke-ke artwe alethenge ikwere  
\mg woman say -PC man stranger 3sg:DAT  
\ft she said to the stranger.

\ref Angepe: c 20  
\tx *Artwe alethenge re renhe tyenirtneke.*  
\ma artwe alethenge re re -nhe tyen -irtne -ke  
\mg man stranger 3sg:A 3sg-ACC say back-DO.BACK-PC  
\ft The stranger answered back.

\ref Angepe: c 21  
\tx *Kele arelhe re angkeke,*  
\ma kele arelhe re angke-ke  
\mg and then woman 3sg:S say -PC  
\ft She then said,

\ref Angepe: c 22  
\tx *‘Yenge anetyarte ampe kerte*  
\ma yenge ane -tyarte ampe kerte  
\mg 1sg:NOM sit/be-HPAST child PROP  
\ft ‘I’ve been living here with just the child

\ref Angepe: c 23  
\tx *kere arrwe arlkwetyekenhe,*  
\ma kere arrwe arlkwe-tyekenhe  
\mg meat rock wallaby eat -VNEG  
\ft and never had any wallaby to eat,

\ref Angepe: c 24  
\tx *yanhe kenhe atningke.*  
\ma yanhe kenhe atningke  
\mg that(MID) BUT many  
\ft but there are lots and lots of them close by.

\ref Angepe: c 25  
\tx *Urreye akweke mpwele peke tyenge atwemere ingwenthe.’*  
\ma urreye akweke mpwele peke tyenge atwe -mere ingwenthe  
\mg boy small 2dl:A maybe/if 1sg:Dat hit/kill-HYPO tomorrow  
\ft (I’ll be very glad) if you and my son could kill some for me tomorrow.’

\ref Angepe: c 26  
\tx *Ingwe ikwerele, artwe alethenge*  
\ma Ingwe ikwere -le artwe alethenge  
\mg night 3sg:DAT -LOC(ADV) man stranger  
\tx *re uthene urreye uthene inteke apurte,*  
\ma re uthene urreye uthene inte-ke apurte  
\mg 3sg:S CONJ boy CONJ lie -PC together  
\ft That night, the stranger and the child slept together,

\ref Angepe: c 27  
\tx *kenhe arelhe re inteke anyentele.*  
\ma kenhe arelhe re inte-ke anyente-le  
\mg BUT woman 3sg:S lie -PC one -LOC(ADV)  
\ft the woman by herself.

\ref Angepe: c 28  
\tx *Ingweleme nthurre, arelhe re akemirremele*  
\ma ingweleme nthurre arelhe re akem -irre -me -le  
\mg morning INTENS woman 3sg:S get up-INCH -NPP-SS  
\ft Early in the morning, the woman woke up

\ref Angepe: c 29  
\tx *areke anewikweke apwerte akertne.*  
\ma are-ke anew -ikwe -ke apwerte akertne  
\mg see-PC spouse -3KinPOSS-PC hill on top  
\ft to look for her husband on the hill.

\ref Angepe: c 30  
\tx *Re renhe areke*  
\ma re re -nhe are -ke  
\mg 3sg:A 3sg-ACC see-PC  
\ft She saw him

\ref Angepe: c 31  
\tx *apwerte inteye kwenele anerlanerlenge kwatyenge akertnele.*  
\ma apwerte inteye kwene -le ane -rl +ane -rlenge kwaty -nge akertne -le  
\mg hill cave inside -LOC sit/be -CONT+SG -DS water -ABL on top -LOC  
\ft sitting in a cave above the water, way up high.

\ref Angepe: c 32  
\tx *Re arlkeke*  
\ma re arlke -ke  
\mg 3sg:S shout-PC  
\ft She said out loud

\ref Angepe: c 33  
\tx *arnterre angkemele renhe*  
\ma arnterre angke -me -le re -nhe  
\mg loud say -NPP-SS 3sg-ACC  
\ft yelling out to him

\ref Angepe: c 34  
\tx *artwe alethengele awetyenhenge,*  
\ma artwe alethenge -le awe -tyenhenge  
\mg man stranger -ERG hear-SUBSQ  
\ft so that the stranger could hear,

\ref Angepe: c 35  
\tx *'Ampatyaye, ampatyaye, the areme arrwe itnenhenhe!*  
\ma ampaty -aye ampaty -aye the are -me arrwe itne -nhe -nhe  
\mg son -EMPH son -EMPH 1sg:ERG see -NPP rock wallaby 3pl -ACC-ACC  
\ft 'Son, Son, you can see those wallabies now!

\ref Angepe: c 36  
\tx *Itne arrtyanerltaneme kethe arrpenenhele apwertele.*  
\ma itne arrtyane -rlt +ane -me kethe arrpenenhe -le apwerte -le  
\mg 3pl:S run -CONT+PL -NPP outside everywhere-LOC hill -LOC  
\ft They are running around everywhere on the hill.

\ref Angepe: c 37  
\tx *Yenge ahentyaneme arrpenheme arlkwetyeke*  
\ma yenge ahenty -ane -me arrpenheme arlkwe -tyeke  
\mg 1sg:NOM want -sit/be-NPP some eat -VPURP  
\ft I would like some to eat

\ref Angepe: c 38  
\tx *unte atwerlenge arrpenheme atyenge.*  
\ma unte atwe -rlenge arrpenheme atyenge  
\mg 2sg:A hit/kill -DS some 1sg:DAT  
\ft if you'd kill some for me.

\ref Angepe: c 39  
\tx *Yenge apwerteke antyetyakenhe itnenhenhe alwernetyeke.'*  
\ma yenge apwerte-ke antye -tyakenhe itne-nhe -nhe alwerne -tyeke  
\mg 1sg:NOM hill -DAT climb -VNEG 3pl -ACC-ACC chase -VPURP  
\ft I can't climb the hill and chase them.'

\ref Angepe: c 40  
\tx *Kele artwe alethenge re apwerte kertneke antyenheke*  
\ma kele artwe alethenge re apwerte kertne-ke antye -nhe -ke  
\mg so then man stranger 3sg:S hill top -DAT climb-DO.PAST-PC  
\ft The stranger climbed up the hill

\ref Angepe: c 41  
\tx *artwe anewikwe rarle anetyamewerne itwewerne*  
\ma artwe anew -ikwe r -arle ane -tyame-werne itwe -werne  
\mg man spouse -3KinPOSS 3sg:S-RELCL sit/be-PP -ALL near-ALL  
\ft towards (the place) where the woman's husband was waiting

\ref Angepe: c 42  
\tx *renhe atwetyeke.*  
\ma re -nhe atwe -tyeke  
\mg 3sg-ACC hit/kill -VPURP  
\ft to kill him.

\ref Angepe: c 43  
\tx *Kele arelhe re arlkeke,*  
\ma kele arelhe re arlke -ke  
\mg then woman 3sg:S shout -PC  
\ft The woman cried out,

\ref Angepe: c 44  
\tx *'Yanhe theke kwenyeyaye!*  
\ma yanhe theke kwenye -y -aye  
\mg that(MID) DIR NOMNEG-? -EMPH  
\ft 'Not that way.

\ref Angepe: c 45  
\tx *Itne ngkwengenge kwene ulkere.*  
\ma itne ngkwenge-nge kwene ulkere  
\mg 3pl:S 2sg:DAT -ABL below TYPE  
\ft They are just below you.

\ref Angepe: c 46  
\tx *Kwene ulkere petyaye!'*  
\ma kwene ulkere pety -ø -aye  
\mg below TYPE come -IMP-EMPH  
\ft Come down. Bit'.

\ref Angepe: c 47  
\tx *Kenhe anewikwele irrtartyele arratyilerlenge.*  
\ma kenhe anew -ikwe -le irrtartye-le arraty-ile -rlenge  
\mg BUT spouse-3KinPOSS-ERG spear -INSTR true -CAUS-DS  
\ft Meanwhile, the husband got his spear ready.

\ref Angepe: c 48  
\tx *Kele artwe alethenge re arratintyeke,*  
\ma kele artwe alethenge re arrat -intye -ke  
\mg so then man stranger 3sg:S come out-TWD -PC  
\ft When the stranger came into view,

\ref Angepe: c 49  
\tx *anewikwele irryartele atantheke renhe.*  
\ma anew -ikwe -le irryarte -le atanthe -ke re -nhe  
\mg spouse-3KinPOSS-ERG spear -INSTR spear -PC 3sg-ACC  
\ft her husband speared him.

\ref Angepe: c 50  
\tx *Re atnyetyekerleke kwatyewerne kwenekarle.*  
\ma re atnye-tye +kerle -ke kwatyewerne kwene-k -arle  
\mg 3sg:S fall -DO+DOWNWARDS-PC water -ALL below -DAT-FOC  
\ft He fell right into the water below.

\ref Angepe: c 51  
\tx *Kenhe arelhe re kenhe untetyemele ikwerewerne*  
\ma kenhe arelhe re kenhe unte-tye -me -le ikwere -werne  
\mg BUT woman 3sg:S BUT run -TWD-NPP-SS 3sg:DAT-ALL  
\ft The woman ran towards him (with her nullanulla)

\ref Angepe: c 52  
\tx *alhe talkwe atweke.*  
\ma alhe talkwe atwe -ke  
\mg nose across hit/kill -PC  
\ft and hit him across the nose.

\ref Angepe: c 53  
\tx *Kele anewenhengele akngirtnemele apmere itnekenhewerne*  
\ma kele anewe -nhenge -le akng-irtne -me -le apmere itne-kenhe-werne  
\mg so then spouse-together-ERG take -DO.BACK-NPP-SS place/camp 3pl -POSS-ALL  
\ft Then the husband took him back to their camp

\ref Angepe: c 54  
\tx *renhe iteke*  
\ma re -nhe ite -ke  
\mg 3sg -ACC cook -PC  
\ft and cooked him

\ref Angepe: c 55  
\tx *angwerrele arlkwetyenhele.*  
\ma angwerre -le arlkwe -tyenhe -le  
\mg evening -LOC(ADV) eat -FUT -SS  
\ft for supper.

\ref Angepe: c 56  
\tx *Ratherre mwarre renhe arlkweke*  
\ma ratherre mwarre re -nhe arlkwe -ke  
\mg 3dl:A good 3sg-ACC eat -PC  
\ft They enjoyed their supper that night

\ref Angepe: c 57  
\tx *kenhe urreye akwekele artwe arlkwenharlkwenhe*  
\ma kenhe urreye akweke -le artwe arlkwe -nh -arlkwe -nhe  
\mg BUT boy small -ERG man eat -REDUP -eat -HREDUP  
\tx *anetyakenhele aneke*  
\ma ane -tyakenhe -le ane -ke  
\mg sit/be -VNEG -SS sit/be -PC  
\ft but the little boy never ate men

\ref Angepe: c 58  
\tx *ikwerenge re arlkwetyakenhele aneke.*  
\ma ikwere -nge re arlkwetyakenhe -le ane -ke  
\mg 3sg:DAT-ABL 3sg:A eat -VNEG -SS sit/be-PC  
\ft that's why he didn't have any.

\ref Angepe: c 59  
\tx *Kele alakenhe re kwele aneke altyerre.*  
\ma kele alakenhe re kwele ane -ke altyerre -nge  
\mg all right like.this 3sg:S QUOT sit/be-PC dreamtime-ABL  
\ft This was the way things were in this Dreamtime.

\ref Angepe: c 60  
\tx *Kele arrulenge arrpenhele, nhenge urreye kwele re*  
\ma kele arrule -nge arrpenhe-le REMEB urreye kwele re  
\mg so then long.time-ABL other -LOC(ADV) y'know boy QUOT 3sg:S  
\tx *akngerre ulkere anteme aneke angketyeke,*  
\ma akngerre ulkere anteme ane -ke angke-tyeke  
\mg big TYPE NOW(PART) sit/be-PC say -VPURP  
\ft A couple of years later, when the little boy was old enough to talk,

\ref Angepe: c 61  
\tx *re artwe anthetye mape apmere nhenhewerne apetyerleng*  
\ma re artwe anthetye mape apmere nhenhe -werne apetye-rlenge  
\mg 3sg:S man young(initiated) many place/camp this(DEM)-ALL come -DS  
\ft (he) the young men who came to their camp

\ref Angepe: c 62  
\tx *rarteke ilettyeke irretyarte akngeye ante mikwe ikwerenhe kerte.*  
\ma r -arteke ile -tyeke irre -tyarte akngeye ante m -ikwe ikwerenhe kerte  
\mg 3sg:A -SEMBL tell-VPURP INCH-HPAST father CONJ mother-3KinPOSS 3sg:POSS PROP  
\ft he tried to warn (them) about his father and mother.

\ref Angepe: c 63  
\tx *Re angketyarte*  
\ma re angke-tyarte  
\mg 3sg:S say -HPAST  
\ft He would say,

\ref Angepe: c 64  
\tx *'Kakaye, kakaye, meye akngeye arlkweme arlkweme.'*  
\ma kak -aye kak -aye meye akngeye arlkweme arlkweme  
\mg brother-EMPH brother-EMPH mother father eat -NPP eat -NPP  
\ft 'Brother, brother, mama dada eat eat'.

\ref Angepe: c 65  
\tx *Re akngerre arteke angketyakenhe akwete aneke*  
\ma re akngerre arteke angke-tyakenhe akwete ane -ke  
\mg 3sg:S big SEMBL say -VNEG still sit/be-PC  
\ft He couldn't talk like a grownup yet

\ref Angepe: c 66  
\tx *ikwerenge itne renhe uye awetyarte.*  
\ma ikwere -nge itne re -nhe uye awe -tyarte  
\mg 3sg:DAT-ABL 3pl:A 3sg-ACC unable hear-HPAST  
\ft that's why couldn't understand him.

\ref Angepe: c 67  
\tx *Kele alakenhe aneke,*  
\ma kele alakenhe ane -ke  
\mg so then like.this sit/be-PC  
\ft Things went on as before

\ref Angepe: c 68  
\tx *mape anetyarte.*  
\ma mape ane -tyarte  
\mg many sit/be-HPAST  
\ft as they used to

\ref Angepe: c 69  
\tx *Urreye re kele akngerre anteme aneke*  
\ma urreye re kele akngerre anteme ane -ke  
\mg boy 3sg:S and then big THEN(PART) sit/be-PC  
\ft till the boy was about five years old

\ref Angepe: c 70  
\tx *ante mwarre angkentye akngerre anteme.*  
\ma ante mwarre angke-ntyte akngerre anteme  
\mg CONJ good say -NMLZR big NOW(PART)  
\ft and could talk well enough.

\ref Angepe: c 71  
\tx *Kele renhe mapele angkerleng*  
\ma kele re -nhe mape-le angke-rleng  
\mg so then 3sg-ACC many-LOC say -DS  
\ft So then when he talked to them

\ref Angepe: c 72  
\tx *renhe awerrirretyarte anteme.*  
\ma *re -nhe awe -rrirre -tyarte anteme*  
\mg 3sg-ACC hear -PL -HPAST NOW(PART)  
\ft they could understand him.

\ref Angepe: c 73  
\tx *Kele arlte nyentele artwe arrpenhe apetyeke.*  
\ma kele arlte nyente-le artwe arrpenhe apetye-ke  
\mg and then day one -LOC(ADV) man other come -PC  
\ft One day a new man came.

\ref Angepe: c 74  
\tx *Artwe nhenhele kenhe altyerre arekarle,*  
\ma artwe nhenhe -le kenhe altyerre are-k -arle  
\mg man this(DEM)-ERG BUT dream see-PC-RELCL  
\ft This man had a strange dream,

\ref Angepe: c 75  
\tx *urreke re petyetyenhele.*  
\ma urreke re petye-tyenhe-le  
\mg later 3sg:S come-FUT -SS  
\ft before he came.

\ref Angepe: c 76  
\tx *Re altyerre arrpenhe nthurre areke,*  
\ma re altyerre arrpenhe nthurre are-ke  
\mg 3sg:A dream other INTENS see-PC  
\ft He'd had a powerful dream,

\ref Angepe: c 77  
\tx *re petyetyenhele arelhe nhenhe ante ampe nhenhekenhe apmerewerne.*  
\ma re petye-tyenhe-le arelhe nhenhe ante ampe nhenhe -kenhe apmere -werne  
\mg 3sg:S come-FUT -SS woman this(DEM) CONJ child this(DEM)-POSS place/camp -ALL  
\ft before he came to the camp of the woman and her son.

\ref Angepe: c 78  
\tx *Re kwele altyerre areke*  
\ma re kwele altyerre are -ke  
\mg 3sg:A QUOT dream see-PC  
\ft He had dreamed this

\ref Angepe: c 79  
\tx *nhenhe artwe aneke antime*  
\ma nhenhe -le artwe ane -ke antime  
\mg this(DEM)-LOC man sit/be-PC right here  
\ft that there was a man there too,

\ref Angepe: c 80  
\tx *ante rarle kwele alengkiwelheke yanharlkele.*  
\ma ante r -arle kwele alengkiwe -lhe -ke yanh -arke -le  
\mg CONJ 3sg:S-FOC QUOT hide -REFL-PC that(med)-TOO-LOC  
\ft but was hiding somewhere.

\ref Angepe: c 81  
\tx *Re mwantymwantye mpwarelheke.*  
\ma re mwantye-mwantye mpware -lhe -ke  
\mg 3sg:S carefully-carefully make/do-REFL-PC  
\ft He was very cautious.

\ref Angepe: c 82  
\tx *Kele re areke angepe*  
\ma kele re are -ke angepe  
\mg and then 3sg:A see -PC crow  
\ft When he saw the crow

\ref Angepe: c 83  
\tx *arne kertnele anerlanerleng*  
\ma arne kertne-le ane -rl +ane-rleng  
\mg tree top -LOC sit/be-CONT+SG -DS  
\ft it was sitting on the treetop

\ref Angepe: c 84  
\tx *arnterre arlkerlanemele*  
\ma arnterre arlke -rl +ane-me -le  
\mg loud shout-CONT+SG -NPP-SS  
\ft shouting away

\ref Angepe: c 85  
\tx *re petyerleng.*  
\ma re petye-rleng  
\mg 3sg:S come-DS  
\ft when he came.

\ref Angepe: c 86  
\tx *Altyerre ikwerenhenge arteke.*  
\ma altyerre ikwerenhe -nge arteke  
\mg dream 3sg:POSS -ABL SEMBL  
\ft Just like in his dream.

\ref Angepe: c 87  
\tx *Re areke urreye arrkenirrerlanerleng irrtuarte ikwerenhenge.*  
\ma re are -ke urreye arrken -irre -rl +ane-rleng irrtuarte ikwerenhe -nge  
\mg 3sg:A see-PC boy play -INCH-CONT+SG-DS spear 3sg:POSS -ABL  
\ft He saw the boy walking around playing with his spears,

\ref Angepe: c 88  
\tx *Kenhe artwe re kenhe uyirrerlengarle.*  
\ma kenhe artwe re kenhe uyirre -rleng-arle  
\mg BUT man 3sg:S BUT disappear-DS -RELCL  
\ft but he didn't see the man (who had disappeared).

\ref Angepe: c 89  
\tx *Altyerre ikwerenhenge arteke.*  
\ma altyerre ikwerenhe-nge arteke  
\mg dream 3sg:POSS-ABL SEMBL  
\ft Just like in his dream.

\ref Angepe: c 90  
\tx *Re apetyeke mwantye nthurre.*  
\ma re apetye-ke mwantye nthurre  
\mg 3sg:S come -PC carefully INTENS  
\ft He approached carefully.

\ref Angepe: c 91  
\tx *Kenhe urreye re untetyeke arnekirremele,*  
\ma kenhe urreye re unte-tyeke arnek -irre -me -le  
\mg BUT boy 3sg:S run -VPURP go and meet -INCH-NPP-SS  
\ft The boy ran up to meet him,

\ref Angepe: c 92  
\tx *kenhe angepe re iparrpe nthurre akngartiwelhenheke arelhewerne*  
\ma kenhe angepe re iparrpe nthurre akngartiwe-lhe -nhe -ke arelhe -werne  
\mg BUT crow 3sg:S quickly INTENS change -REFL-DO.PAST-PC woman-ALL  
\ft but the crow changed back to a woman.

\ref Angepe: c 93  
\tx *Re imerte arlkemele urreye ikwere,*  
\ma re imerte arlke -me -le urreye ikwere  
\mg 3sg:S then shout-NPP-SS boy 3sg:DAT  
\ft She shouted to the boy,

\ref Angepe: c 94  
\tx *'Urreye, petyaye kake ngkwinhenge.*  
\ma urreye pety -ø -aye kake ngkwinhe-nge  
\mg boy come-IMP-EMPH brother 2sg:Poss -ABL  
\ft 'Boy, come away from your brother.

\ref Angepe: c 95  
\tx *Re urinpe uterne iperre re apurrke,*  
\ma re urinpe uterne iperre re apurrke  
\mg 3sg:S hot sun after 3sg:S tired  
\ft He's hot from the sun. He's tired.

\ref Angepe: c 96  
\tx *impaye*  
\ma imp -ø -aye  
\mg leave-IMP-EMPH  
\ft Leave him.

\ref Angepe: c 97  
\tx *re ltyirretyeke.'*  
\ma re lty -irre -tyeke  
\mg 3sg:S rest-INCH-VPURP  
\ft Let him rest!'

\ref Angepe: c 98  
\tx *Re aterirreke*  
\ma re ater -irre -ke  
\mg 3sg:S fear -INCH -PC  
\ft She was afraid

\ref Angepe: c 99  
\tx *urreye re ileketye artwe ikwere ikwere kerte*  
\ma urreye re ile -ketye artwe ikwere ikwere kerte  
\mg boy 3sg:A tell -AVER man 3sg:DAT 3sg:DAT PROP  
\tx *ante ane.wikwe kerte.*  
\ma ante anew -ikwe kerte  
\mg CONJ spouse -3KinPOSS PROP  
\ft that the boy would tell the man about her and her husband.

\ref Angepe: c 100  
\tx *Kenhe urreye re artwe ikwere ileke arretyemele,*  
\ma kenhe urreye re artwe ikwere ile -ke arretye -me -le  
\mg BUT boy 3sg:A man 3sg:DAT tell-PC whisper -NPP-SS  
\ft But the boy, in a low voice, did tell the man,

\ref Angepe: c 101  
\tx *'Arelhe uthene artwe uthene nhenhe arrentye therre.*  
\ma arelhe uthene artwe uthene nhenhe arrentye therre  
\mg woman CONJ man CONJ this(DEM) devil two  
\ft 'This man and woman are cannibals.

\ref Angepe: c 102  
\tx *Kakaye, artwe ingkirreke nhenhewernarle apetyeke*  
\ma kak -aye artwe ingkirreke nhenhe -wern -arle apetye-ke  
\mg brother -EMPH man all this(DEM)-ALL -RELCL come -PC  
\ft Brother, all the men who have come here

\ref Angepe: c 103  
\tx *mape renhe ratherre atwemele*  
\ma mape re -nhe ratherre atwe -me -le  
\mg many 3sg-ACC 3dl:A hit/kill -NPP-SS  
\ft those two have killed

\ref Angepe: c 104  
\tx *arkweke.*  
\ma arkwe-ke  
\mg eat -PC  
\ft and eaten.

\ref Angepe: c 105  
\tx *Kenhe the kenhe kere antarle arlkweparlkweme.*  
\ma kenhe the kenhe kere ant -arle arlkwe-p -arkwe -me  
\mg BUT 1sg:ERG BUT meat only-FOC eat -ITER -eat -NPP  
\ft But I only eat meat

\ref Angepe: c 106  
\tx *Nhenge artwe itnarle akngetyeme.*  
\ma REMEB artwe itn -arle aknge -tye -me  
\mg y'know man 3pl -FOC take -TWD -NPP  
\ft the men bring.

\ref Angepe: c 107  
\tx *Alakenhele yenge anepaneme.*  
\ma Alakenhe-le yenge ane -p -ane -me  
\mg like.this -LOC(ADV) 1sg:NOM sit/be -ITER -sit/be -NPP  
\ft That's how I've been living.

\ref Angepe: c 108  
\tx *Kakaye, unte yenge awetyeke*  
\ma kak -aye unte yenge awe -tyeke  
\mg brother -EMPH 2sg:A 1sg:ACC hear-VPURP  
\ft Brother, you must believe

\ref Angepe: c 109  
\tx *nhenge ngkwenge ilerleng.*  
\ma REMEB ngkwenge ile -rlenge  
\mg y'know 2sg:DAT tell-DS  
\ft to what I tell you.

\ref Angepe: c 110  
\tx *Unte renhe awetyenhenge*  
\ma unte re -nhe awe -tyenhenge  
\mg 2sg:A 3sg-ACC hear-SUBSQ  
\ft You'll hear her

\ref Angepe: c 111  
\tx *ngkwenge ilerleng*  
\ma ngkwenge ile -rleng  
\mg 2sg:DAT tell-DS  
\ft tell you

\ref Angepe: c 112  
\tx *rarle kere arrwe arlkwetyakenhe anepaneme*  
\ma r -arle kere arrwe arlke-tyakenhe ane -p -ane -me  
\mg 3sg:A-COMPL meat rock wallaby eat -VNEG sit/be-ITER-sit/be-NPP  
\ft she hasn't eaten any wallaby

\ref Angepe: c 113  
\tx *ante re ngkwenge iletyenhe*  
\ma ante re ngkwenge ile -tyenhe  
\mg CONJ 3sg:A 2sg:DAT tell-FUT  
\ft and she will tell you

\ref Angepe: c 114  
\tx *yanharle atningke aneme apwerte akertnele.'*  
\ma yanh -arle atningke ane -me apwerte akertne-le  
\mg that(med)-COMPL many sit/be-NPP hill on top -LOC  
\ft that there are lots of them on the hill near the waterhole.'

\ref Angepe: c 115  
\tx *Kenhe ikweringe arelhe arlkerlengarle ikweringe,*  
\ma kenhe ikwere -nge arelhe arlke -rleng-arle ikwere -nge  
\mg BUT 3sg:DAT-ABL woman shout-DS -RELCL 3sg:DAT-ABL  
\ft Just then, the woman shouted,

\ref Angepe: c 116  
\tx *'Ampatyaye, arrwe atningke apwerteke aneme.'*  
\ma ampaty-aye arrwe atningke apwerte-ke ane -me  
\mg son -EMPH rock wallaby many hill -DAT sit/be-NPP  
\ft 'Son, there are lots of wallabies on the hill'.

\ref Angepe: c 117  
\tx *Urreye re ileke kwete,*  
\ma urreye re ile -ke kwete  
\mg boy 3sg:A tell-PC still  
\ft The boy continued,

\ref Angepe: c 118  
\tx 'Re *urrtyirretyenhe*  
\ma re *urrty -irre -tyenhe*  
\mg 3sg:S pretend -INCH-FUT  
\ft 'She will pretend

\ref Angepe: c 119  
\tx *yanharle kwele arrwe atningke anemele kwele,*  
\ma *yanh -arle kwele arrwe atningke ane -me -le kwele*  
\mg that(med)-COMPL QUOT rock wallaby many sit/be -NPP-SS QUOT  
\tx *ngkwengenge kwenele,*  
\ma *ngkwenge-nge kwene-le*  
\mg 2sg:DAT -ABL below -LOC  
\ft that there are wallabies, down below you,

\ref Angepe: c 120  
\tx *nhenge nge kwele kwene aretyenhenge,*  
\ma REMEB *nge kwele kwene are -tyenhenge*  
\mg y'know 2sg:A QUOT below see-SUBSQ  
\ft so that you will look down,

\ref Angepe: c 121  
\tx *kenhe anewikwe kenhe akertnele.*  
\ma *kenhe anew -ikwe kenhe akertne -le*  
\mg BUT spouse-3KinPOSS BUT on top -LOC  
\ft but her husband is really above you.

\ref Angepe: c 122  
\tx *Re ngenhe athekelhiletienhe renhe,*  
\ma *re nge-nhe atheke -lhile -tyenhe re -nhe*  
\mg 3sg:A 2sg-ACC in a hurry-CAUS-FUT 3sg-ACC  
\ft She'll hurriedly get him

\ref Angepe: c 123  
\tx *ngenhe atantheyeke.*  
\ma *nge-nhe atanthe-tyeke*  
\mg 2sg-ACC spear -VPURP  
\ft to spear you right away.

\ref Angepe: c 124  
\tx *Yanhengarle kenhe unte areltheyeke.'*  
\ma *yanhe -ng -arle kenhe unte are -lhe -tyeke*  
\mg that(DEM)-ABL-FOC BUT 2sg:S see-REFL-VPURP  
\ft That's the time you have to watch for yourself.'

\ref Angepe: c 125  
\tx *Kele artwe re itirreke.*  
\ma *kele artwe re itirre -ke*  
\mg so then man 3sg:S think -PC  
\ft The man thought,

\ref Angepe: c 126  
\tx *'The kemparre artwe renhe atwetyeke,*  
\ma *the kemparre artwe re -nhe atwe -tyeke*  
\mg 1sg:ERG FIRST man 3sg-ACC hit/kill-VPURP  
\ft 'I will try and kill him first,

\ref Angepe: c 127  
\tx *re yenge atweketye ante urreye uthene.'*  
\ma *re yenge atwe -ketye ante urreye uthene*  
\mg 3sg:A 1sg:ACC hit/kill -AVER CONJ boy CONJ  
\ft before he kills me and the boy'.

\ref Angepe: c 128  
\tx *Re antyeke mwantye nthurre*  
\ma re antye -ke mwantye nthurre  
\mg 3sg:S climb-PC carefully INTENS  
\ft He climbed carefully

\ref Angepe: c 129  
\tx *ante arnterre itirreke*  
\ma ante arnterre itirre-ke  
\mg CONJ hard think-PC  
\ft and he thought hard

\ref Angepe: c 130  
\tx *itelaretyeke iwenharle urreyele ikwere ileke.*  
\ma itelare -tyeke iwenh-arle urreye-le ikwere ile -ke  
\mg remember-VPURP what -COMPL boy -ERG 3sg:DAT tell-PC  
\ft and tried to remember all that the boy had told him.

\ref Angepe: c 131  
\tx *Kele pwerte kertnenge re itirreke*  
\ma kele pwerte kertne-nge re itirre-ke  
\mg so then hill top -ABL 3sg:S think-PC  
\ft So he went down from the top of the hill and when he thought

\ref Angepe: c 132  
\tx *rarle artwe arrpenhe ikwerenge kwenele anekenge,*  
\ma r -arle artwe arrpenhe ikwere -nge kwene-le ane -ke -nge  
\mg 3sg:S-COMPL man other 3sg:DAT-ABL below -LOC sit/be-PC-DS  
\ft that he was right under the other man,

\ref Angepe: c 133  
\tx *re akertnenteme areke*  
\ma re akertne-nteme are-ke  
\mg 3sg:A on top -then see-PC  
\ft he looked up

\ref Angepe: c 134  
\tx *ante arratye areke artwe renhe,*  
\ma ante arratye are-ke artwe re -nhe  
\mg CONJ true see-PC man 3sg-ACC  
\ft and sure enough there he was

\ref Angepe: c 135  
\tx *arerlanerlenge irrtyarte kertele.*  
\ma are-rl +ane-rlenge irrtyarte kerte -le  
\mg see-CONT+SG-DS spear PROP-INSTR  
\ft looking down at him with his spear ready.

\ref Angepe: c 136  
\tx *Kenhe alethenge re kenhe iparrpe nthurrele ikwere aneke.*  
\ma kenhe alethenge re kenhe iparrpe nthurre -le ikwere ane -ke  
\mg BUT stranger 3sg:S BUT quickly INTENS-LOC(ADV) 3sg:DAT sit/be-PC  
\ft But the stranger was too quick for him.

\ref Angepe: c 137  
\tx *Re irrtyarte ikwerenhe iweke.*  
\ma re irrtyarte ikwerenhe iwe -ke  
\mg 3sg:A spear 3sg:POSS throw-PC  
\ft He threw his spear.

\ref Angepe: c 138  
\tx *Kenhe arelhe re arlkeke,*  
\ma kenhe arelhe re arlke-ke  
\mg BUT woman 3sg:S shout-PC  
\ft The woman cried out,

\ref Angepe: c 139  
\tx *'Urreyele ayeyele ileke.*  
\ma urreye-le ayeye-le ile -ke  
\mg boy -ERG story -LOC(ADV) tell-PC  
\ft 'The boy's been telling tales.

\ref Angepe: c 140  
\tx *Tyenge anewe ilweke ngkwengenge ware.'*  
\ma tyenge anewe ilwe-ke ngkwenge-nge ware  
\mg 1sg:Dat spouse die -PC 2sg:DAT -ABL JUST  
\ft My husband is dead because of you!'

\ref Angepe: c 141  
\tx *Alakenhe angkemele,*  
\ma alakenhe angke-me -le  
\mg like.this say -NPP-SS  
\ft So saying,

\ref Angepe: c 142  
\tx *re urreye ikwere unteke arne tnyenhetnyenhe ikwerenhe kerte,*  
\ma re urreye ikwere unte-ke arne tnye-nhe -tnye-nhe ikwerenhe kerte  
\mg 3sg:S boy 3sg:DAT run -PC stick dig -HREDUP-dig -HREDUP 3sg:POSS PROP  
\ft she ran after the boy with her digging stick,

\ref Angepe: c 143  
\tx *kenhe renhe artwe re irryartele atatherlengarle antimarle.*  
\ma kenhe re -nhe artwe re irryarte-le atathe-rleng-arle antim-arle  
\mg BUT 3sg-ACC man 3sg:A spear -INSTR spear -DS -RELCL right there -RELCL  
\ft but the man speared her too.

\ref Angepe: c 144  
\tx *Kele anyikwe uthene mikwe uthenarle*  
\ma kele any -ikwe uthene m -ikwe uthen -arle  
\mg so then father-3KinPOSS CONJ mother-3KinPOSS CONJ-FOC  
\tx *atatheke iperrele,*  
\ma atathe-ke iperre-le  
\mg spear -PC after -LOC(ADV)  
\ft Having killed the father and mother,

\ref Angepe: c 145  
\tx *artwe re areke urreye renhe anteme*  
\ma artwe re are-ke urreye re -nhe anteme  
\mg man 3sg:A see-PC boy 3sg-ACC THEN(PART)  
\ft the man looked at the boy

\ref Angepe: c 146  
\tx *ante itirreke,*  
\ma ante itirre-ke  
\mg CONJ think-PC  
\ft and wondered,

\ref Angepe: c 147  
\tx *'Re apeke artwe arlkwetyarte antime apeke.'*  
\ma re apeke artwe arlkwe-tyarte antime apeke  
\mg 3sg:A maybe man eat -HPAST right here maybe  
\ft 'Perhaps he too has been eating men.'

\ref Angepe: c 148  
\tx *Kenhe urreye re renhe aremele alknge ateraterere*  
\ma kenhe urreye re re -nhe are -me -le alknge ater -atere -le  
\mg BUT boy 3sg:A 3sg -ACC see -NPP -SS eye fear -fear -INSTR  
\ft The little boy looked at him with frightened eyes

\ref Angepe: c 149  
\tx *ante angkeke,*  
\ma ante angke -ke  
\mg CONJ say -PC  
\ft and said,

\ref Angepe: c 150  
\tx ‘Ayenge kwenyaye, kakaye, the kwenhe ileke  
\ma ayenge kweny -aye kak -aye the kwenhe ile -ke  
\mg 1sg:NOM NOMNEG-EMPH brother -EMPH 1sg:ERG ASSERT tell-PC  
\ft ‘Not me, brother; I told you

\ref Angepe: c 151  
\tx *tharle kere aherre ante arlkweparlkweme.’*  
\ma th -arle kere aherre ante arlkwe-p -arkwe -me.”  
\mg 1sg:ERG-COMPL meat kangaroo ONLY eat -ITER-eat -NPP  
\ft that I always eat kangaroo meat’.

\ref Angepe: c 152  
\tx *Kele artwe re alhwarrpirreke ikwere*  
\ma kele artwe re alhwarrp -irre -ke ikwere  
\mg so then man 3sg:S sorry -INCH-PC 3sg:DAT  
\ft The man felt sorry for him

\ref Angepe: c 153  
\tx *ante renhe akngirtneke ikwerenge apmere ikwerenhewerne.*  
\ma ante re -nhe akng -irtne -ke ikwere -nge apmere ikwerenhe -werne  
\mg CONJ 3sg -ACC take -DO.BACK -PC 3sg:DAT -ABL place/camp 3sg:POSS -ALL  
\ft and decided to take him back home with him.

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