

Serial Verb Constructions Revisited: A Case Study from Koro

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Abstract

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In this dissertation a methodology for identifying and analyzing serial verb constructions (SVCs) is developed, and its application is exemplified through an analysis of SVCs in Koro, an Oceanic language of Papua New Guinea. SVCs involve two main verbs that form a single predicate and share at least one of their arguments. In addition, they have shared values for tense, aspect, and mood, and they denote a single event. The unique syntactic and semantic properties of SVCs present a number of theoretical challenges, and thus they have invited great interest from syntacticians and typologists alike. But characterizing the nature of SVCs and making generalizations about the typology of serializing languages has proven difficult. There is still debate about both the surface properties of SVCs and their underlying syntactic structure. The current work addresses some of these issues by approaching serialization from two angles: the typological and the language-specific.

On the typological front, it refines the definition of ‘SVC’ and develops a principled set of cross-linguistically applicable diagnostics. From the existing set of surface properties, four core characteristics are distilled: main verbhood, monoclausality, single eventhood, and argument sharing. A construction must have all of these properties in order to qualify as an SVC. Once these underlying semantic and syntactic properties of SVCs are identified, a detailed and explicit set of criteria is developed that allows these underlying properties to be tested in any language.

The latter part of the dissertation offers a case study in the use of these diagnostic criteria by applying them to multi-verb constructions in Koro. Testing these constructions against the definition of SVCs developed in the dissertation reveals that although there are numerous multi-verb constructions in Koro that appear to fulfill the surface criteria for SVCs, only one of these can be considered a true SVC. This construction has a VP-shell structure, in which V_1 is a path or locative verb that takes V_2 as its complement. The shared argument is the subject of V_2 , providing a counter-example to Baker’s (1989) claim that SVCs obligatorily share an internal argument. Constructions that instead involve adjunction of V_2 to V_1 are shown through detailed semantic investigation to be disqualified as SVCs, because they do not exhibit the expected entailments. This is surprising because they superficially resemble

proto-typical SVCs. The syntactic and semantic analysis of these constructions leads to the hypothesis that true SVCs must have a relation of complementation between the verbs, while adjoined or coordinated constructions cannot be considered SVCs.

This dissertation is dedicated to the people of Papitalai village.

Contents

List of Tables	v
List of Figures	vii
Acknowledgements	viii
Abbreviations and conventions	xi
1 Introduction	1
1.1 Introduction and aims of the dissertation	1
1.2 Consultants and methodology	5
1.3 The Koro language and its speakers	6
1.3.1 Genetic affiliation and dialects	6
1.3.2 Previous research	11
1.3.3 Typological characteristics	12
1.4 Structure of the dissertation	18
2 Functional categories in the Koro verbal clause	21
2.1 Introduction	21
2.2 An overview of Koro verbal clause structure	22
2.3 A Neo-Reichenbachian approach to tense and aspect	28
2.4 Temporal adverbs	31
2.5 Aspect markers	35
2.5.1 Proximative aspect	35
2.5.2 Prospective aspect	38
2.5.3 Perfect aspect	41
2.6 Reality status	44
2.6.1 Background: analyses of reality status	46
2.6.2 Irrealis contexts that do not require an additional morpheme	49
2.6.3 Irrealis contexts that require an additional morpheme	53
2.6.4 Past habitual	54
2.6.5 Contexts that do not trigger irrealis marking	56
2.6.6 Discussion	57
2.7 Negation	60

2.7.1	Asymmetry in the paradigm	61
2.7.2	Asymmetry in the construction	62
2.7.3	Subordination and negation	65
2.8	Conclusion	68
3	Path verbs and locative predicates	69
3.1	Introduction	69
3.2	General properties of path and locative predicates	71
3.2.1	Unaccusativity	72
3.2.2	Inability to be nominalized	76
3.3	Path verbs	77
3.3.1	Prepositional path verbs	79
3.3.1.1	Spatial deixis	79
3.3.1.2	Lexical aspect	80
3.3.2	Non-prepositional path verbs	84
3.4	Locative predicates	86
3.4.1	Locative and posture verbs	88
3.4.2	Locative copula <i>ta</i>	91
3.4.3	Spatial and temporal deixis in locative predicates	92
3.5	Conclusion	95
4	Towards a cross-linguistic definition of serial verb constructions	97
4.1	Introduction	97
4.2	The typological definition of serial verb constructions	101
4.2.1	Main verbhood	102
4.2.1.1	Symmetricality	103
4.2.1.2	Semantic shift and compositionality	109
4.2.1.3	Non-main-verbs in SVCs	112
4.2.1.4	Summary	114
4.2.2	Monoclausality	116
4.2.3	Single eventhood	120
4.3	Parameters of variation	127
4.3.1	Nuclear-layer and core-layer SVCs	127
4.3.2	Argument sharing and semantic function	129
4.3.3	Contiguity, wordhood, and marking of categories	140
4.3.4	Number and ordering of verb roots	147
4.4	Conclusion	151
5	Overview of multi-verb constructions in Koro	154
5.1	Introduction	154
5.2	Identifying SVCs in Koro	155
5.2.1	Main verbhood	159
5.2.2	Monoclausality	173
5.2.3	Single eventhood	178

5.2.4	Argument sharing	189
5.3	Semantics of multi-verb constructions in Koro	193
5.3.1	Directional and allative	195
5.3.2	Associated motion, change of state, and imperfective	201
5.3.2.1	Associated motion	201
5.3.2.2	Change of state	206
5.3.2.3	Imperfective aspect	209
5.3.2.4	Discussion	216
5.3.3	Durative and sequencing	219
5.4	Conclusion	220
6	Syntax of serial verb constructions in Koro	222
6.1	Introduction	222
6.2	Background: Prior analyses of SVCs	223
6.3	Directional and allative	229
6.4	Associated motion, change of state, and imperfective	244
6.5	Discussion: the interaction of syntax and semantics	254
6.6	Conclusion	256
7	Conclusion	258
A	Description of texts	284
B	List of speakers	298
C	Maps of Los Negros Island	300
D	List of languages in the typological survey	303

List of Tables

1.1	Koro independent personal pronouns	12
1.2	Koro subject pronouns	13
1.3	Koro numerals and numeral classifiers	16
1.4	Consonant phonemes in Koro	16
1.5	Vowel phonemes in Koro	17
1.6	Working orthography for Koro	18
2.1	Subject agreement paradigm for irrealis and perfect markers	23
2.2	Surface positional slots in the Koro verbal clause	24
2.3	Characterization of the major categories of tense and aspect (after Klein 1994)	30
2.4	Inflected forms of the perfect	41
2.5	Inflected forms of the irrealis	44
2.6	Comparison of contexts in which irrealis marking is expected in different types of systems	47
2.7	Distribution of irrealis marking in Koro	58
2.8	Comparison of contexts that trigger irrealis marking in Koro (irrealis = tem- porally non-specific) and Nanti (irrealis = unrealized)	60
3.1	Morpho-syntactic properties of path and location predicates	70
3.2	Root allomorphy of path and locative verbs	71
3.3	Demonstrative enclitics and pronouns in Koro	76
3.4	Deictic properties of locative predicates in Koro	95
4.1	Characteristics of true SVCs	100
4.2	Typology of SVC-like constructions, based on criterion of main verbhood . .	115
4.3	Prototypical features of nuclear-layer and core-layer SVCs	128
4.4	Common SVC types in Oceanic	141
5.1	The properties of multi-verb constructions in Koro	156
5.2	Diagnostics for main verbhood in SVCs	159
5.3	Results for main verbhood in Koro multi-verb constructions	160
5.4	Diagnostics for monoclausality in SVCs	173
5.5	Results for monoclausality in Koro multi-verb constructions	174
5.6	Diagnostics for single eventhood in SVCs	178
5.7	Results for single eventhood in Koro multi-verb constructions	179

5.8	Syntactic/semantic argument sharing in Koro multi-verb constructions . . .	192
5.9	Criteria for SVCs as applied to multi-verb constructions in Koro	194
5.10	Deictic properties of locative predicates in Koro	209
5.11	Modal–aspectual functions of Koro locative constructions	210
6.1	Comparison of the properties of auxiliaries, lexical verbs, and associated motion morphemes in Koro	251
7.1	Morpho-syntactic properties of multi-verb constructions in Koro	265
B.1	Speaker IDs and biographical details	299

List of Figures

1.1	The geographical distribution of the Admiralties languages	7
1.2	Higher-order groupings in the Austronesian language family	8
1.3	The geographical position of Admiralties languages within the Oceanic subgroup	8
1.4	Probable first-order groupings in the Oceanic subgroup	9
1.5	The position of Koro within the Admiralties subgroup	10
2.1	The structure of verbal clauses in Koro	25
3.1	The syntax of prepositional path/locative verbs	76
6.1	Structure of SVCs according to Baker (1989)	225
6.2	Structure of resultative SVCs according to Baker and Stewart (2002)	225
6.3	Structure of covert coordination according to Baker and Stewart (1999:11)	227
6.4	Structure of resultative SVCs according to Collins (1997:474)	228
6.5	The structure of verbal clauses in Koro	231
6.6	Complementation analysis of the directional/allative	233
6.7	Adjunction analysis of the directional/allative	234
6.8	Manner adverb after V_1	236
6.9	Manner adverb after V_2	237
6.10	Associated motion construction: SVC analysis	245
6.11	Associated motion construction: auxiliary analysis	246
6.12	Associated motion construction: v analysis	253
C.1	Sketch map of Los Negros Island	301
C.2	Sketch map covers Ndran Tewi, Papitalai and Poloka area	302

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Abbreviations and conventions

Throughout this dissertation I discuss many morphemes that have multiple functions, and it is not always obvious in each example what the most appropriate gloss for a given morpheme is. For instance, should the morpheme *ru*, which is a main verb meaning ‘stay’, have a different gloss when it is used to indicate imperfective aspect in a serial verb construction than when it is used as a main verb in a monoverbal predicate? I have had to make a decision about how to deal with such cases of vagueness, polysemy, heterosemy, homophony, and simple multi-functionality in a principled manner. Partly because of the nature of the argument presented in this dissertation, which examines grammatical functions of verbs in SVCs, I have chosen to be a ‘lumper’ rather than a ‘splitter’. This means that I give the same gloss to the same phonological form wherever possible. (The only exceptions are cases of very clear homophony, where the forms clearly have different semantics, and usually different diachronic sources.) This approach keeps the relationship between main verbs and serialized verbs (or their grammaticalized counterparts) transparent, and hopefully increases the usefulness of examples. It does mean, however, that certain morphemes that I eventually conclude are of different syntactic types end up with identical glosses. The reader should keep this in mind when evaluating arguments and the accompanying examples.

In almost all examples in the dissertation, the verbs in an SVC are underlined. Each example is followed by a citation in parentheses. Where the example is taken from my own corpus and field notes, this citation refers to the particular text or elicitation session it occurred in. Where the citation begins with the word ‘Elicitation’, the example is from an elicitation session, and is usually an elicited sentence, rather than a spontaneously produced one. If the citation does not start with ‘Elicitation’, then the example is from a recorded narrative, conversation, stimulus response, etc., and is usually spontaneously produced rather than directly elicited. The citations can be read as follows: date of the recording in yyyy-mm-dd format (if preceded by ‘v’ this indicates the text was video recorded, rather than just audio recorded); two letter speaker code(s) (see Appendix B); number of the recording in that session; and number of the line in that recording (a line roughly represents an intonation unit). For example, the citation 2011-04-03-BD-03_0033 refers to the 33rd utterance in the third recording made with speaker BD (Kris Pokisel) on April 3, 2011. For a full list of texts quoted from in this dissertation refer to Appendix A.

ABS	absolutive	NON.SG	non-singular
Ad	Admiralties	NONSUBJ	non-subject
An	Austronesian	OBJ	object
ANDAT	andative	OBL	oblique
APPLIC	applicative	Oc	Oceanic
ART	article	PAd	Proto-Admiralties
AV	active voice	PAn	Proto-Austronesian
CAUS	causative	PART	particle
CNJ	conjunction	PAUC	paucal
COMP	complementizer	PERF	perfect
COMPAR	comparative	PERS	person
COMPL	completive	PL	plural
CONS	for consumption	POc	Proto-Oceanic
CONT	continuous	POSS	possessive
DEF	definite	POT	potential
DEM	demonstrative	PREP	preposition
DEP	dependent	PRO	proform
DESID	desiderative	PROSP	prospective
DIST	distal	PROX	proximal
DIST.FUT	distant future	PRXMV	proximative
DO	direct object	REAL	realis
DU	dual	REC.PAST	recent past
EMPH	emphatic	REDUP	reduplication
ERG	ergative	REM.PAST	remote past
EXCL	exclusive	REP	repetitive
F	feminine	REPORT	reported evidential
FOC	focus	SEQ	sequential
INAL	inalienable	SG	singular
INCL	inclusive	SIMIL	similative ('like this/that')
IMM.FUT	immediate future	SIML	simultaneous
IMPERS	impersonal	SVC	serial verb construction
IMPFV	imperfective	TA	tense-aspect marker
INCL	inclusive	TAM	tense-aspect-mood
INDEF	indefinite	TOP	topic
INTENT	intentional future	TR	transitive
IRREAL, IRR	irrealis	TRI	trial
LOG.SP	logophoric (speaker)	V	verb
M	masculine	V ₁	first verb in an SVC
NEG	negative	V ₂	subsequent verb in an SVC
NMLZR	nominalizer	VIS	visual evidential
NOM	nominative		

Chapter 1

Introduction

1.1 Introduction and aims of the dissertation

The types of structures we now recognize as serial verb constructions (SVCs) were first identified in the 60s and 70s by scholars working on Niger-Congo languages of West Africa (e.g., Stewart 1963, Bamgboṣe 1973a,b, Awobuluyi 1973). An example of one such construction from Yoruba is in (1.1).¹

(1.1) YORUBA

Olú *gbé* *aga* *wá*
Olú take chair come

‘Olú brought a chair’

(Awobuluyi 1973:87) (glosses added)

The salient defining properties of an SVC are illustrated in this example. An SVC involves two main verbs — here *gbé* ‘take’ and *wá* ‘come’ — which act together as a single predicate. The verbs share at least one argument — here either *Olú* or *aga* ‘chair’ — and the shared argument or arguments occur overtly only once. In addition, there is no marker of coordination or subordination between the verbs, and they fall under a single monoclausal intonation contour. Finally, the whole SVC describes a single event — here the action of ‘bringing a chair’ — as opposed to denoting two separate events, as a multi-verbal construction typically would. These properties can be contrasted with those of a biclausal construction such as that in (1.2), which is not an SVC.

(1.2) YORUBA

Olú *gbé* *aga*; *Olú* *wá*
Olú take chair Olú come

‘Olú took a chair; Olú came’

(Awobuluyi 1973:87) (glosses added)

¹Throughout this dissertation, the verbs in SVCs are underlined in examples.

In this example the same two verbs occur, but they do not form a single predicate, and although they do share the common argument *Ohí*, it is repeated. The construction does not fall under a single intonation contour, as indicated by the colon, and it describes two separate events — one of ‘taking a chair’ and another of ‘coming’ — instead of a single event of ‘bringing a chair’. In combination, these properties serve to distinguish this biclausal utterance from its SVC counterpart in (1.1).

The unique syntactic and semantic properties of SVCs present challenges to syntactic theory, and thus they have invited great interest from syntacticians of all stripes, as well as typologists interested in morpho-syntactic phenomena. Most early work on the syntax of SVCs focused on Niger-Congo languages (e.g., Bamgboṣe 1973a,b, Awobuluyi 1973, Oyelaran 1982, Ekundayo and Akinnaso 1983, Baker 1989), but the focus soon broadened to include pidgins and creoles (e.g., Jansen et al. 1978, Sebba 1987, Crowley 1990, Seuren 1991, Forman 1993, Hagemijer 2001, Meyerhoff 2001), as well as Chinese (e.g., Li and Thompson 1973, 1981, Chang 1990, Dai 1990, Li 1990, Chen 1993, Hansell 1993, Law 1996, Wang 2007, Paul 2008), and a variety of other languages (e.g., Thai (Muansuwan 2001), Lao (Enfield 2007, 2008), and Hmong (Jarkey 2010, Meister 2010)). By 1990, there was enough interest in the phenomenon that the Ohio State University held a mini-conference on the topic (Joseph and Zwicky 1990), and since then a number of cross-linguistic works have appeared, most notably the edited volumes of Lefebvre (1991) and Aikhenvald and Dixon (2006). More recently, SVCs have been recognized as a highly prevalent areal feature of Oceania. Works specifically focusing on SVCs in the Austronesian and non-Austronesian (Papuan) languages of this area include Bradshaw (1982, 1993, 2010), Brill and Ozanne-Rivierre (2004), Crowley (2002b), Durie (1988), Early (1993), Foley and Olson (1985), François (2006), Givón (1990, 1991), Hamel (1993), Lane (2007), Lichtenberk (2006), Margetts (2005), Næss (2011), Pawley (1987, 2009), Schneider (2007), Senft (2008), Sperlich (1993), Thieberger (2007). However, only a minority of these listed works undertake detailed syntactic analyses of the serializing phenomena under investigation. One of the main aims of the current dissertation is to begin to fill this gap by providing one such thorough syntactic description and analysis of SVCs in Koro, an Oceanic language of Papua New Guinea.

Detailed descriptions of the syntax and semantics of SVCs in individual languages are sorely needed because, despite their apparent frequency in the world’s languages, their structure is still very much up for debate. As Seuren (1990:15) notes, since their identification in African languages, SVCs have fallen victim to what he calls the ‘Me Too Principle’ — a bandwagon effect where a newly-identified grammatical phenomenon is suddenly recognized in languages everywhere. As a result, we are now in a position where a wide variety of quite disparate constructions are labeled as ‘SVCs’ (for similar observations see Stewart (2001) and Haspelmath (2015)). There are two main reasons for this. One is that there are no agreed-upon cross-linguistic diagnostics to determine whether or not a given construction is really an SVC. Most existing characterizations of SVCs make reference to broad concepts such as ‘main verb’ and ‘single event’, without defining exactly what is meant by these terms, or how to determine whether a given construction possesses these properties. The second issue is that the criteria that have been established for SVCs are often applied loosely, and constructions that partially fit the description are admitted to the category.

This heterogeneity of the SVC category is problematic because it hampers the endeavors of typologists and syntacticians to make generalizations about the construction. For example, the ongoing search for a ‘serialization parameter’ — some common grammatical property that all serializing languages possess (Baker 1989) — is pointless unless the purported SVCs in these languages do in fact form a natural class. A second major aim of this dissertation, therefore, is to develop a rigorous and comprehensive cross-linguistic definition of SVCs, and to provide a case study in its application by applying the criteria to a variety of multi-verb constructions in Koro.

To reiterate, this dissertation tackles the issue of SVCs on two fronts: the typological and the language-specific. On the typological front, the major contribution of this work is to refine the definition of ‘SVC’ and develop a principled set of cross-linguistically applicable diagnostics. In Chapter 4 the existing typological definition of SVCs is critically examined, and is found to be wanting. It is inadequate for both typological and language-specific research because it is composed of primarily superficial criteria, such as intonation and surface realization of grammatical categories, and these properties can vary widely from language to language. This dissertation builds on the existing definition by making explicit the structural underpinnings of each surface criterion. For example, the criterion of main verbhood, which requires that each component of an SVC can stand on its own as a main predicate, is intended to differentiate SVCs, which involve two finite main verbs, from distinct syntactic structures such as light verb or auxiliary verb constructions, which involve a finite and a dependent non-finite verb. Once the underlying semantic and syntactic properties of SVCs are revealed, a comprehensive set of criteria can be developed that allows these underlying properties to be tested in any language. A major benefit of this approach is that it provides principled motivation for creating language-specific diagnostics for SVCs. For instance, any tests to distinguish between main verbs and light verbs or auxiliaries in a given language could be adduced in support of an analysis of SVCs in that language.

Alongside the main verbhood criterion, another property that is frequently cited as a defining characteristic of SVCs is single eventhood — in other words, an SVC describes something that is conceptualized as a single event. Despite the ubiquity of this property in definitions of SVCs, it has been of limited value in identifying SVCs cross-linguistically. Because of the lack of concrete diagnostics for single eventhood, the criterion has tended to be applied impressionistically or haphazardly, with claims of single eventhood often predicated on the existence of a monoclausal translation or simply asserted without any supporting evidence. To resolve this problem, I build on a proposal by Bisang (2009), who suggests that the Macro-Event Property (Bohnemeyer et al. 2007) offers a way of testing for single eventhood. The insight of this approach is that certain morpho-syntactic properties of the construction, such as the occurrence and scope of temporal modifiers, can provide indirect evidence of its event structure. These concrete, testable properties can thereby stand in lieu of the nebulous and ill-defined property of ‘single eventhood’.

On the language-specific front, this dissertation provides a major contribution to our understanding of the syntax and semantics of SVCs in Oceanic languages, in particular in the Admiralties language Koro. I show that although there are numerous multi-verb constructions in Koro that appear to fulfill the surface criteria for SVCs, only three of these

constructions (which I later argue are all in fact variations on a single construction) can be considered true SVCs. The import of this finding is that languages that superficially appear to be highly serializing may in fact have only very few true SVCs, and that detailed semantic and morpho-syntactic analysis is necessary in order to determine the extent of serialization in any language.

The analysis presented here for SVCs in Koro has several broader implications. Importantly, it provides a case study in the application of the diagnostic criteria developed in the preceding chapter, and demonstrates the types of insights they offer. Further, it contributes to our understanding of the syntax of SVCs by showing that all SVCs in Koro have a VP-shell structure. There has been much debate in the literature about the syntactic configuration of SVCs, with different scholars proposing distinct structures based on either complementation, adjunction, or coordination. I demonstrate that Koro SVCs unambiguously involve complementation, and that adjoined structures in the language cannot be considered true SVCs. The latter conclusion is based on detailed examination of the semantic entailments of the adjoined constructions, and of the verb roots that occur in them. Without this subtle semantic investigation, the status of these constructions would remain unclear. Another implication of this analysis concerns the types of argument sharing relations that are allowable in SVCs. Baker (1989) makes the bold and controversial claim that all SVCs involve sharing of the internal argument, despite the fact that many SVCs appear on the surface to be subject-sharing. SVCs in Koro provide strong evidence that this claim is untenable, since they exhibit same subject argument sharing. Although Baker attempts to dismiss constructions of the type found in Koro as mere coordination, the investigation undertaken here shows that there is no principled justification for excluding these constructions from the class of true SVCs. We must therefore conclude that sharing of the external argument is possible in SVCs. Finally, the detailed semantic analysis presented in Chapter 5 demonstrates that the semantics of SVCs in Koro is completely predictable from the semantics of the verb roots. In other words, there is no semantic contribution from the construction itself. This has ramifications for different hypotheses about the interaction between syntax and semantics. Oftentimes the semantics of SVCs are discussed under the assumption that the construction itself has semantic content, but this assumption is incompatible with the basic tenets of generative syntax. The analysis of Koro SVCs presented in this dissertation speaks to this issue by demonstrating that the semantics of SVCs in this language are completely compositional.

Aside from the theoretical and typological contributions relating to SVCs, the current work also provides a detailed description of aspects of the syntax and semantics of verbal clauses in Koro. This is an important outcome because, as will be expanded upon below, the Admiralties family of which Koro is a member is severely underdocumented, and thorough grammatical descriptions are scarce.

A note on the adoption of a theoretical framework is in order here. This dissertation is intended to be fully interpretable by, and useful to, scholars working in a variety of theoretical frameworks. Towards this end, I provide extensive theory-neutral descriptions of the phenomena at hand, focusing in particular on the morpho-syntactic and semantic properties of multi-verb constructions. It is necessary, however, to adopt a framework of syntactic

analysis in order to characterize the structures posited. I use the representational format of the Minimalist Program (Chomsky 1995), and assume its theoretical constructs and assumptions where appropriate. My aim is to gain insights and achieve parsimonious representation through the use of a generative syntactic framework, but at the same time not to be unnecessarily bound or hampered in my analysis by its theoretical assumptions. I believe the analysis and the insights it affords are readily transferable to and compatible with many other syntactic frameworks. The reasons I choose to employ a Minimalist framework for representation and analysis are twofold. Firstly, Minimalism is currently the most popular formal framework for syntactic analysis, and comes from a long tradition of generative syntactic theory. Most linguists today have at least some familiarity with this framework or its predecessors, and a version of this framework is likely to persevere into the future. Couching the analysis in Minimalist terms therefore maximizes that number of scholars for whom this work will be accessible and relevant. Secondly, there has been much talk over recent years about the need for the fields of typology and formal theoretical syntax to interact and engage more closely with each other. For example, on the possibility of discovering true cross-linguistic universals, Baker and McCloskey (2007:294) opine that “the range of languages for which reasonably deep and accurate analyses exist must be greatly expanded. In the absence of such a foundation of reliable language-particular work the typological generalizations can only emerge in obscured and incomplete form.” This dissertation represents an attempt to provide one such deep and accurate analysis of SVCs in Koro.

1.2 Consultants and methodology

Unless otherwise indicated, the language data in this dissertation comes from the author’s own fieldnotes and corpus of texts and elicited sentences.² This corpus was collected during four field trips totaling approximately seven months. During each of the four trips, I stayed with a local family in Papitalai village, and only made infrequent short trips to other locations. The majority of the fieldwork was therefore conducted in Papitalai village, although some texts were also collected in the villages of Riu Riu and Lopohan, at residences at Chupon and Camp 5, and in the garden and bush at Lohamon, near Papitalai. (A small amount of data from the Akara and Ele languages was also collected at N’Dranou and in Lorengau town, and a text and wordlist of the Pitiluh language were collected on Pitylu Island. A short Ponam wordlist was elicited in Papitalai village.) All analysis in this dissertation is based on data from the Papitalai dialect of Koro, which is spoken by about 480 people in the villages of Papitalai, Naringel and Riu Riu. The methodology for data collection and analysis involved a mixture of participant observation, recording and analysis of narratives and conversations, and targeted elicitation.

I worked with a number of regular consultants in this endeavor. The majority of texts in the corpus were told by John Kris Hinduwan Lopwar (speaker code AH), an approximately 80 year old man from Papitalai village. His first language is Koro, but he began learning

²The corpus will soon be available in the Endangered Languages Archive at <http://elar.soas.ac.uk/deposit/0190>.

Tok Pisin in very early childhood, and is fully bilingual. John Kris went to school until fifth grade, and has not learnt English, but speaks the Kavieng language in addition to Koro and Tok Pisin. The majority of elicitation was done with three younger speakers — Mary Clara Hinduwan (AV), Rosemary Nayap Paura (AD), and Margaret Nausai Pohnu (BZ). Mary Clara is the daughter of John Kris. She was born in 1955 in Papitalai village, and was formally educated until sixth grade. She has traveled extensively, and is fluent in Koro and Tok Pisin (her first languages), as well as Papua New Guinea English, Tolai, and Motu. Rosemary is John Kris’s niece. She was born in 1971, also in Papitalai village. Tok Pisin is her first and dominant language. She also speaks Koro and Papua New Guinea English, but has slightly lower fluency in Koro than Mary Clara or Margaret. Margaret was born in 1962. She grew up in Naringel, but all of her family is from Papitalai, and she has spent most of her adulthood there. Her first language is Koro, but she began learning Tok Pisin as a very young child. She attended school until sixth grade, and has good fluency in Papua New Guinea English. All four of these speakers primarily use Tok Pisin for everyday communication, and it is their dominant language. However, they still use Koro on a daily basis for at least some of their communication.

All texts were transcribed and translated into English by Sylvia Hilondelis Pokisel (AM). Sylvia was born in Papitalai in 1985, and graduated from Papitalai Secondary College (the local high school). Her father and his parents are from Papitalai and her late mother was from Ponam island. Her first languages are Tok Pisin and Ponam, but she also has a very good passive knowledge of Koro, as well as a fairly good speaking ability. In addition to these languages, Sylvia is fluent in Papua New Guinea English.

In addition to the above-named regular consultants, data from many other speakers also informed the analysis in this dissertation. A full list of speakers and texts can be found in Appendices A–B.

1.3 The Koro language and its speakers

1.3.1 Genetic affiliation and dialects

Koro is a previously undocumented Admiralties language spoken by several hundred people on Manus and Los Negros islands in Manus Province, Papua New Guinea. The map in Figure 1.1 shows where each of the Admiralties languages is spoken.³ On this map the location of Papitalai village, where I conducted the majority of my fieldwork, is indicated with an arrow. (More detailed maps of Los Negros Island and the immediate Papitalai area are presented in Appendix C.) The village is located on small Los Negros Island, which is connected to the larger Manus Island by a short man-made bridge. There are two dialects of the Koro language — Papitalai and Lopohan (labeled ‘Koro’ on the map). The Papitalai dialect, which forms the basis for the description and analysis in this dissertation, is spoken by approximately 480 people in an area that used to be known as Teng. This area includes the modern-day village of Papitalai, as well as the villages of Naringel and Riu Riu, located across the tiny

³Map and population data courtesy of Bill Martin, Bob Uebele, Jerry Pfaff, and Keith Lusk. Used by permission. Available online at <http://novnc.com/billandlenore/manuslm.htm>.

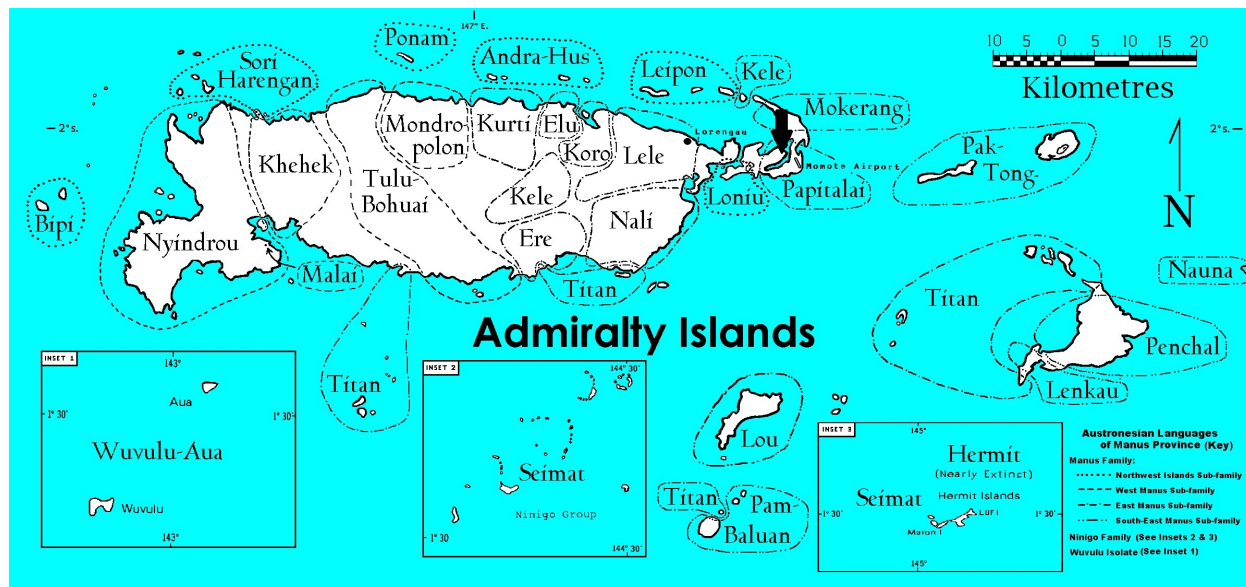


Figure 1.1: The geographical distribution of the Admiralties languages

bay. Recordings made in Lopohan during the course of this research show that the variety spoken there exhibits small differences from the Papitalai dialect. For example, the first person dual exclusive pronoun in the Lopohan dialect retains an intervocalic /h/ that is lost in the Papitalai dialect: Lopohan /johuru/ (often reduced to /huru/), Papitalai /jouru/. Similarly, the verb root ‘get’ has an initial /k/ in the Lopohan dialect and an initial /h/ in the Papitalai dialect: Lopohan /kiri/, Papitalai /hiri/. An example where the Papitalai dialect retains a sound that the Lopohan dialect has lost is the word for ‘snap’, which has a word-initial nasal in Papitalai, but not in Lopohan: Lopohan /rufɨŋi/, Papitalai /nrufɨŋi/. Lexical differences between the two dialects include the interjection *apo* ‘OK’, which is not used in the Papitalai dialect. Further phonological, lexical, and morpho-syntactic differences will undoubtedly be uncovered with further research on these dialects, but it is evident that any differences are minor, and the dialects are fully mutually intelligible.

The Koro language is a member of the Admiralties family, a primary subgroup of the vast Oceanic branch of the Austronesian family. Figure 1.2 shows the highest-order groupings in the Austronesian language family (Lynch et al. 2002:4) and the map in Figure 1.3 shows the geographical extent of the Oceanic subgroup (Lynch et al. 2002:5). Where a triangle appears in the family tree, this indicates that the relevant label (e.g., ‘Formosan languages’) does not refer to a subgroup, but rather covers two or more subgroup branches. For instance, the figure reflects the assumption that there was no proto-Formosan language, nor is there assumed to have been a proto-Western-Malayo Polynesian or proto-Central Malayo-Polynesian language. In contrast, the node labels reflect established subgroups, which are assumed to have developed from proto-languages. As the figure in 1.2 reflects, the integrity of the Oceanic subgroup is well-established and a great amount is known about the phonology, grammar

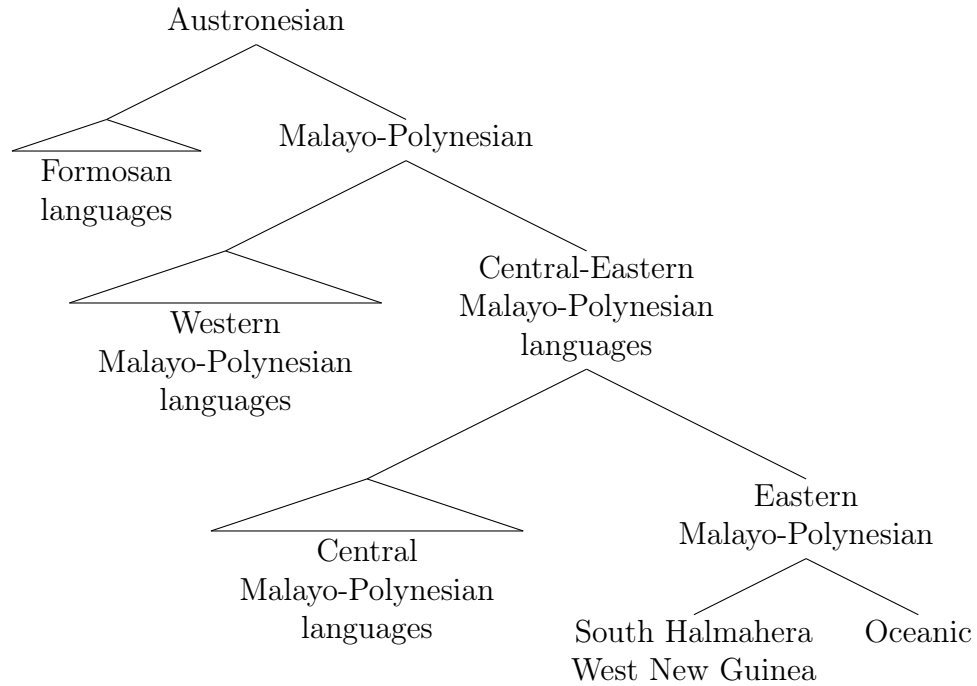


Figure 1.2: Higher-order groupings in the Austronesian language family

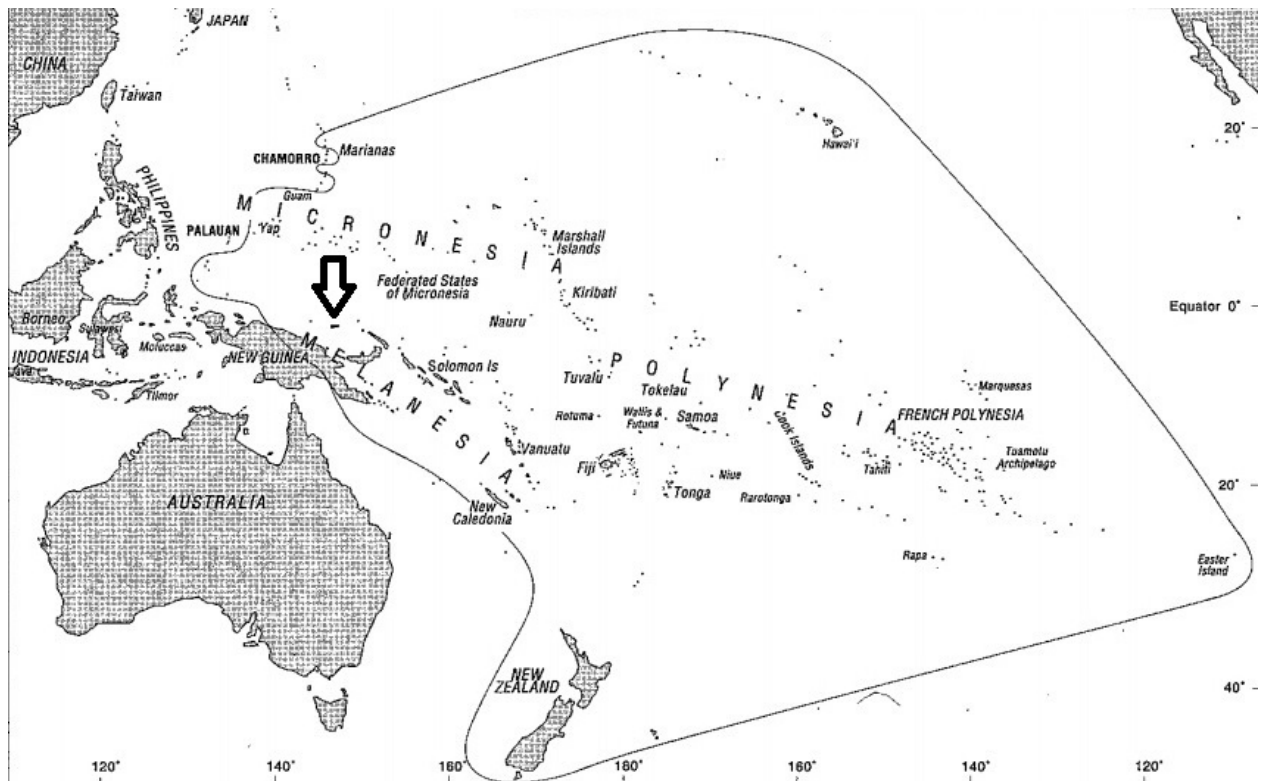


Figure 1.3: The geographical position of Admiralties languages within the Oceanic subgroup

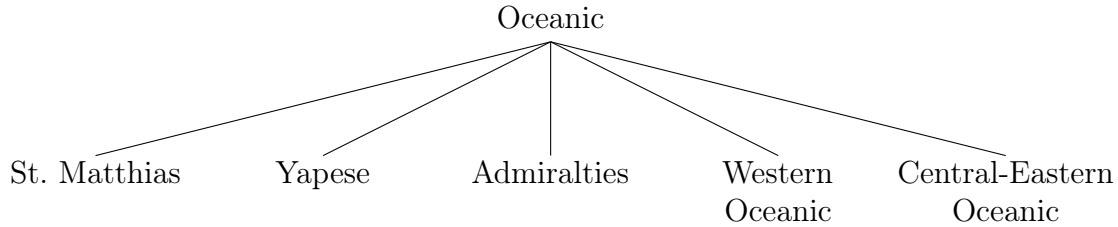


Figure 1.4: Probable first-order groupings in the Oceanic subgroup

and lexicon of proto-Oceanic (POc) (see, for example, the grammatical description in Chapter 4 of Lynch et al. (2002), and the lexicons in Ross et al. (1998, 2003, 2008)). Establishing subgroups within the Oceanic family has, in contrast, proven challenging. The tree in figure 1.4 (Lynch et al. 2002:95) reflects the current understanding of subgrouping within Oceanic. An alternative proposal, summarized in Blust (1998a), posits that the Oceanic family in fact has only two primary branches, of which the Admiralties subgroup is one. Under such an analysis, all non-Admiralties Oceanic languages form a single branch of Oceanic, which then splits further into the primary branches shown in figure 1.4. The uncertainty still surrounding the internal subgrouping of Oceanic, and in particular questions about the placement of the Admiralties branch, makes detailed descriptions of Admiralties languages particularly important.

Admiralties languages are spoken on the main island of Manus and its offshore islands (Lynch et al. 2002:94). This location is indicated with an arrow on the map in Figure 1.3. As evident from the map in Figure 1.1 there are approximately 30 languages within the Admiralties group. However, as Ross (2002e:123) notes, “the language situation [on Manus] is complex and remains poorly understood.” Figure 1.5, based on the subgrouping in (Lynch et al. 2002:878–9), is a tentative tree showing the branches within the Admiralties family, and the suggested position of Koro within this. According to this proposal, Koro is most closely related to Lele, Nali, and Titan, with which it forms a lower-level subgroup within the East Manus linkage. There is clearly much comparative work to be done on Admiralties languages, and hopefully the picture can be further refined with the publication of more descriptive work on these languages.

The Admiralties group is an innovation-defined subgroup of Oceanic; all of its members share certain phonological, morphological and lexical innovations which are assumed to have developed in proto-Admiralties (PAd). The major phonological changes were those listed in (1.3) (Ross 1988:330).

(1.3) Phonological changes in PAd:

- *R > *∅ / ___ high vowel
- *p > *f / word-medially
- word-final consonants deleted

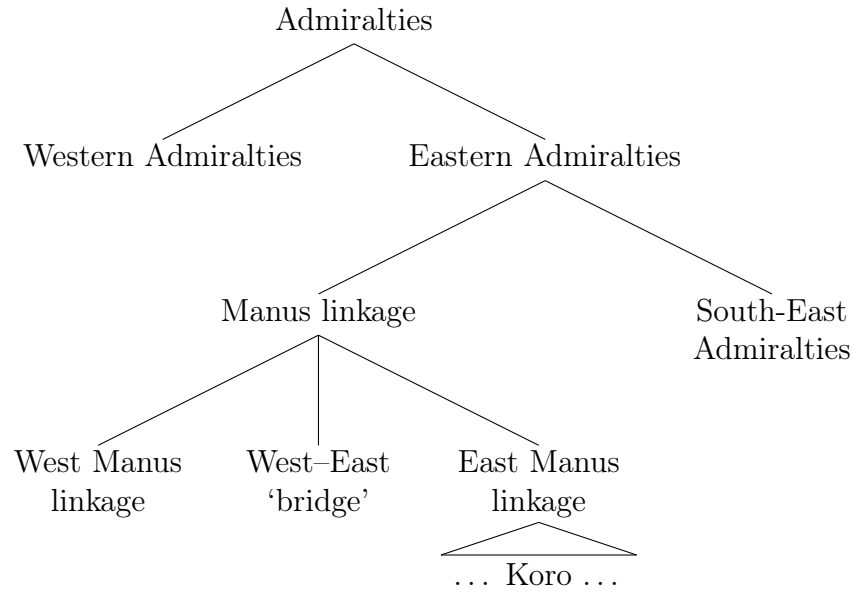


Figure 1.5: The position of Koro within the Admiralties subgroup

In addition, there were a number of morpho-syntactic innovations in PAd, which are listed in (1.4) (Ross 1988:331). (See §1.3.3 for a description of some of these characteristics in modern-day Koro.)

(1.4) Morpho-syntactic changes in PAd:

- innovation of suffixed numeral classifiers
- numeral ‘one’ used as common article
- non-singular possessive suffixes replaced with independent pronouns
- third person singular possessive suffix $*\tilde{n}a$ replaced by $*-na$
- first person plural inclusive pronoun $*kita$ replaced by $*ta$
- reduplication for continuative aspect lost, and often replaced by verb ‘stay’ as an auxiliary
- preposed common article na coalesced with common nouns, resulting in some phonological changes to initial consonants

One characteristic that makes the study of Admiralties languages particularly important is that, unlike most other Oceanic languages, they are not in contact with Papuan languages. In fact, they have probably not been in contact with Papuan languages since they branched off from POc. This means that they do not exhibit the kinds of contact phenomena typical of the Oceanic family, and they may be especially vital in understanding the structure of POc, as well as giving insight into the effects of language contact on other Oceanic languages.

1.3.2 Previous research

As noted above, despite comprising a primary Oceanic subgroup, and despite the fact that Oceanic languages as a group are fairly well-documented and studied, Admiralties languages are severely underdocumented. Some of the earliest work on languages and cultures of the Admiralty Islands includes a short word list and collection of texts from the Sivisa Titan language (Meier 1906, 1912), a detailed ethnography including some short lists of plant and animal terminology, and other terminology interspersed throughout (Nevermann 1934), a historical and ethnographic study (Bühler 1935), a study on the religious practices of the Manus people (Fortune 1935), and a comparative grammatical sketch with wordlists (Lanyon-Orgill and Sin 1942). Since this early work, the Admiralty Islands have received some further attention from anthropologists (e.g., Mead (1956, 1963), Schwartz (1963), and ongoing work by Otto (1992, 1994, 2011a,b)), and more recently several linguistic studies have been published: Hamel has produced an article describing serial verb constructions in Loniu (Hamel 1993), and a grammatical description of the same language, accompanied by a lexicon and texts (Hamel 1994); Kundrake and Kowak (1995) provide an extensive wordlist of Nyindrou (Lindrou), with accompanying notes by Martin (1995); Blust (1998b) has published a study of vowel nasality in Seimat; Ross (2002e) has compiled a very short grammatical sketch of Kele, based mainly on Smythe (1958a,b) (an unpublished manuscript grammar and a vocabulary of about 1500 Kele roots with morphological information), supplemented by data Ross collected from two Kele speakers; and Bown (2011) has put together a grammatical description of Sivisa Titan, on the basis of Meier's (1912) extensive collection of texts. In addition to these works focusing specifically on one or more Admiralties languages, other more general works on phonology and comparative linguistics have been published that include information about the phonology of Admiralties languages. For example, Ross (1988) and Blust (1998a) discuss phonological and morpho-syntactic evidence for subgrouping within Oceanic, including examination of the Admiralties branch, and Maddieson (1989) and Blust (2007) describe a typologically rare class of sounds in Admiralties languages (prenasalized bilabial trills).

As well as the aforementioned published works, the Summer Institute of Linguistics (SIL) has produced a number of studies of Admiralties languages. For example, short 'Organized Phonology Data' pamphlets exist for Bipi, Khehek, Kurti, Lele, Lindrou, Lou, Nali, Seimat, and Wuvulu-Aua, and numerous other short grammatical descriptions and lexicons of these languages have been developed by the SIL. Additionally, Smythe (1975) has some limited comparative wordlists of Admiralties languages.

Happily, there seems to have recently been renewed interest in Admiralties languages from the linguistic community: alongside the current work, doctoral dissertations describing the grammar of Paluai (Schokkin 2014b) and Lele (Böttger 2015) have recently been completed, and Schokkin has published two articles on the Paluai language, based on original research (Schokkin 2013, 2014a). The Koro language, which is the subject of the current dissertation, has until now been almost completely undocumented and undescribed, aside from scant wordlists included in some of the above references, and various papers by the present author (Cleary-Kemp 2013a,b, 2014a,b).

	Animate				Inanimate	
	1INCL	1EXCL	2	3	3DO	3OBL
SG		<i>jua</i>	<i>au</i>	<i>i</i>		
DU	<i>teru</i>	<i>youru</i>	<i>auru</i>	<i>uru</i>	∅	<i>i</i>
PL	<i>terun</i>	<i>yourun</i>	<i>aurum</i>	<i>rutun</i>		

Table 1.1: Koro independent personal pronouns

1.3.3 Typological characteristics

Here I briefly outline some of the main properties of the grammar of Koro. Overall, Koro is a fairly typical Oceanic language, exhibiting many of the characteristic morpho-syntactic patterns found in the Oceanic family. It is mostly isolating, with just a small number of bound inflectional and derivational morphemes. Despite the small number of inflectional affixes, the language can be identified as head-marking — where a relationship between a head and its dependent is morphologically indicated, the marking occurs on the head. The unmarked order of constituents in verbal clauses is SVO, and order in other constituents also tends to follow a head-initial pattern (noun–adjective, noun–relative clause, possessum–possessor, preposition–prepositional object). Default word order in verbal clauses is exemplified in (1.5), with pronominal subject *i*, verb *tihiri* ‘cut’, and direct object *mbrur tei* ‘one banana tree’.

- (1.5) *i* ∅ *tihir-i* *mbrur tei*
 3SG REAL cut-SPEC.OBJ banana one:TREE
 ‘She cut down one banana tree’ (v2012-08-02-CB-04_0126)

Argument alignment in Koro is nominative–accusative, but there is no case marking of core argument NPs except for a few personal pronouns.

Koro has two main pronominal argument paradigms: independent pronouns (Table 1.1) and subject pronouns (Table 1.2).⁴ Subject pronouns occur only as the subject of a clause, while independent pronouns occur in all other positions, including direct object, indirect object, prepositional object, and possessor. As in almost all Oceanic languages, there are no gender distinctions, but there is a distinction in first person between inclusive and exclusive. Additionally, there is a three way number distinction in all persons between singular, dual, and plural. In contrast, there is no marking of number on lexical noun phrases.

As shown in the table above, independent pronouns indexing inanimate referents do not make a number distinction. Third person inanimate direct objects cannot be indexed with an overt pronoun, but third person inanimate oblique objects are indexed with *i*.

⁴There is also a third pronominal form for some person–number combinations: *yaha* ‘first person plural exclusive’, *taha* ‘first person plural inclusive’, and *ra, raha* ‘third person plural’. These occur much less frequently than the other pronouns, and their use is not well understood. They appear to have exhaustive semantics.

	1INCL	1EXCL	2	3
SG		<i>you</i>	<i>au</i>	<i>i</i>
DU	<i>teru</i>	<i>youru</i>	<i>auru</i>	<i>wru</i>
PL	<i>to</i>	<i>yourun</i>	<i>o</i>	<i>u</i>

Table 1.2: Koro subject pronouns

Verbs in Koro do not agree with the subject or object of the clause. However, certain features of the subject are cross-referenced on preverbal aspect and reality status markers (when they occur), and transitive verbs can optionally take a suffix *-i* or *-(a)ni* to indicate the presence of a referential direct object, as in (1.5) above (this is a type of differential object marking strategy (Bossong 1985, Aissen 2003, de Swart 2007)). Agreement on preverbal reality status morphemes is illustrated in (1.6), where irrealis marker *k-* takes first person singular suffix *-u* in agreement with subject *you*.

- (1.6) *you pu k-u wan tih ni*
 1SG.SBJ PRXMV IRR-1SG eat one fish
 ‘I want to eat a fish’ (v2012-07-26-AH-01_0007)

Free preverbal morphemes can encode aspect, reality status, and negation, but there is no grammatical expression of tense. (See Chapter 2 for a detailed discussion of functional categories in Koro verbal clauses.) Non-verbal clauses do not require an overt copula; the subject and predicate are simply juxtaposed, as illustrated in (1.7). Here the second person singular subject *au* and the nominal predicate *pihin ndramat* ‘human woman’ occur contiguously, with no intervening copula.

- (1.7) *au pihin ndramat ne...?*
 2SG.SBJ woman human or
 ‘Are you a human woman, or...?’ (v2012-08-02-CB-04_0086)

None of the pre-verbal aspect, mood, or polarity markers can occur in non-verbal clauses.

Like many Oceanic languages, Koro expresses a morpho-syntactic distinction between alienable and inalienable possession (Lynch et al. 2002:40). The morphological class of inalienable noun roots is a closed class. It includes kinship terms, body-part terms, and terms for other part-whole relations, including spatial relational nouns. Inherent qualities, such as length, smell and appearance, are also expressed with inalienable nouns, and the nominalizers *-a*, *-(a)ra*, and *(i)ya* derive a directly possessed nominal stem from a verb root. All inalienable nouns are vowel-final, while alienable nouns may be either vowel- or consonant-final. The possessor in an inalienable construction immediately follows the possessum, without any intervening morpheme, whereas the possessor in an alienable construction requires possessive particle *ta* to precede it. This difference is illustrated by the pair in (1.8–1.9). In (1.8) the alienable noun *wum* ‘house’ is separated from its possessor by possessive particle *ta*, whereas

the inalienable noun *ngara nde* ‘anus’ in (1.9) is immediately followed by possessor *Rose*, with no intervening particle.

(1.8) *wum ta Rose*
 house POSS Rose
 ‘Rose’s house’ (Elicitation-2012-07-12-AD_BZ_0096)

(1.9) *ngara nde Rose*
 hole excrement Rose
 ‘Rose’s anus’ (v2012-07-21-CA_AD_BZ-06_0119)

Singular pronominal possessors behave slightly differently, but the distinction between alienable and inalienable possession is maintained: in the alienable construction they are encoded by a free possessive pronoun that directly follows the possessum, as in (1.10), while in the inalienable construction they are encoded with a suffix on the possessed noun, as in (1.11).

(1.10) *wum atam ta ndihe?*
 house 2SG.POSS LOC.COP where
 ‘Where is your house?’ (Elicitation-2011-03-22-AH_AV_0030)

(1.11) *chengi-m i pwosau*
 body-2SG.POSS REAL:3SG dry
 ‘Your body is dry’ (Elicitation-2011-03-15-AH_AV_0072)

Another salient feature of many Oceanic possessive systems is a morpho-syntactic distinction between different types of alienable possession, often involving a special construction for food and other consumables (Lynch et al. 2002:41). This is the case in Koro, which has a distinct set of possessive pronouns and a special possessive particle *ana* reserved for possessive relationships in which the item is intended for consumption. In addition to the morphological difference, there is a syntactic difference; possessors of consumables usually precede the possessum while other possessors follow it. These characteristics are illustrated in (1.12), where *anam* is used instead of *atam* (cf. (1.10) above), and (1.13), where *ana* occurs in place of *ta* (cf. (1.8) above).

(1.12) [*anam losou mwatalah*]
 2SG.POSS:FOOD bandicoot three
 ‘Your three bandicoots (for eating)’ (2011-04-08-AH_AV-01b_0145)

(1.13) *i ∅ suwah [ana uru epi]*
 3SG REAL fry.sago POSS:FOOD 3DU sago
 ‘She fried sago for them’ (2011-03-09-AH_AV-01_0122)

Noun phrases in Koro are not obligatorily marked for definiteness, but pronouns and demonstratives can optionally perform this function. With animate referents, any of the third person subject pronouns in Table 1.2 above can act as a determiner in the noun phrase, occurring immediately before the noun to indicate definiteness, as in (1.14).

- (1.14) [*u pihin kepi*] *u* \emptyset *la katen*
 3PL.DET woman only 3PL.SBJ REAL go:ANDAT garden
 ‘Only the women went to the garden’ (v2012-08-02-CB-04_0053)

These pronouns cannot cooccur with inanimate referents. This is evidenced by the ungrammaticality of (1.15a), where inanimate *pat* ‘stone’ is marked with plural determiner *u*. With inanimate referents, third person exhaustive pronoun *ra* can occur as a determiner instead, as in (1.15b). (This determiner can also occur with animate referents.)

- (1.15) a. **you* \emptyset *lisi* [*u pat cholan*]
 1SG.SBJ REAL see 3PL.DET stone plenty
 b. *you* \emptyset *lisi* [*ra pat cholan*]
 1SG.SBJ REAL see all stone plenty
 ‘I saw the many stones’ (Elicitation-2012-07-23-BZ_0012-13)

With both animate and inanimate referents, demonstrative enclitics *e* ‘proximal’ and *a* ‘distal’ can also occur to indicate definiteness. This is shown for animate *pihin atan* ‘his woman’ in (1.16) and for inanimate *cham atan* ‘its outrigger’ in (1.17).

- (1.16) *i* \emptyset *ndrim-ani* [*i pihin atan a*]
 3SG REAL spy-SPEC.OBJ 3SG.DET woman 3SG.POSS DIST
 ‘He spied on his woman’ (2011-03-08-AH_AV-01_0154)
 (1.17) *ta kepi* [*cham atan e*] *momwan*
 but outrigger 3SG.POSS PROX bad
 ‘But its outrigger was bad’ (2011-03-21-AH_AV-02_0020)

With animate referents the pronominal determiner and the demonstrative enclitic may occur independently of one another, or may cooccur in a noun phrase as in (1.16) above. This suggests that they have different indexical functions, but their exact behavior is yet to be determined. From the contexts in which they occur, it seems likely that the pronominal determiners mark definite (animate) referents, while the demonstrative enclitics mark topical or activated referents.

A feature of Koro noun phrases that is typical of Admiralties languages is the use of numeral classifiers (Ross 1988:331). In the modern language, there are seven extant sets of numeral classifiers which are used to count different types of referents. These are listed in Table 1.3.⁵ Some of the forms can be used referentially, without a cooccurring noun. For example, *timou* ‘one (person)’ is the most common way of referring to an individual person, and is also used as an indefinite pronoun ‘someone’. The ‘person’ numeral classifiers must be used when referring to human referents, whereas the other paradigms are optional, and the general numerals are often used instead. As is evident in the table, many of these paradigms could not be completed by speakers, and this, along with the optionality, suggest that the system of numeral classifiers is becoming obsolete.

⁵There is also a form *morundre* ‘two pieces’, which likely represents the remnants of an eighth numeral classifier paradigm with *-ndre*.

1.3. The Koro language and its speakers

	GENERAL	PEOPLE	TREES	HOUSES	BASKETS	BITS	CUPS
1	<i>ti-h</i>	<i>ti-mou</i>	<i>t-ei</i>	<i>t-em</i>	<i>ta-hat</i>	<i>ti-hir</i>	<i>ta-kah</i>
2	<i>mo-ru-wah</i>	<i>mo-ru-mou</i>	<i>mo-ru-wei</i>	<i>mo-ru-wem</i>	<i>mo-ru-hat</i>	<i>mo-ru-hir</i>	<i>mo-ru-kah</i>
3	<i>ma-tala-h</i>	<i>ma-tili-mou</i>	<i>ma-tilu-wei</i>	<i>ma-tilu-wem</i>	<i>ma-tulu-hat</i>	—	<i>ma-tulu-kah</i>
4	<i>ma-ha-hu</i>	<i>ma-ha-mou</i>	<i>ma-ha-yei</i>	<i>ma-ha-yem</i>	<i>ma-ha-hat</i>	—	<i>ma-ha-kah</i>
5	<i>ma-lima-h</i>	<i>ma-li-mou</i>	<i>ma-limi-yei</i>	<i>ma-limi-yem</i>	<i>ma-limi-hat</i>	—	<i>ma-limi-kah</i>
6	<i>ma-wono-h</i>	—	—	<i>ma-wono-wem</i>	<i>ma-wono-hat</i>	—	<i>ma-wono-ngah</i>
7	<i>ma-ndo-tala-h</i>	—	—	—	—	—	<i>ma-ndo-tulu-kah</i>
8	<i>ma-ndo-ru-wah</i>	<i>ma-ndo-ru-mou</i>	—	—	—	—	<i>ma-ndo-ru-kah</i>
9	<i>ma-ndo-ti-h</i>	—	—	—	—	—	<i>ma-ndo-ta-kah</i>
10	<i>ma-so-ngul</i>	—	—	—	—	—	—

Table 1.3: Koro numerals and numeral classifiers

	Bilabial	Alveolar	Post-alveolar	Palatal	Velar	Glottal
Stop	p	t ⁿ d		ɟ	k	
Labialized stop	p ^w					
Nasal	m	n			ŋ	
Labialized nasal	m ^w					
Fricative		s				h
Affricate			tʃ			
Glide	w			j		
Trill	^m B	r ⁿ r				
Lateral		l				

Table 1.4: Consonant phonemes in Koro

Another notable feature of the Koro numeral system, which it shares with all Eastern Admiralties languages, is that the forms for ‘seven’, ‘eight’, and ‘nine’ appear to be based on subtraction from ten (Ross 1988:342). These forms include a morpheme *-ndo* followed by *-tala* ‘three’, *-ru* ‘two’, and *-ti* ‘one’, respectively. The morpheme *-ndo* does not appear anywhere else in the language, but based on these examples it seems safe to surmise that at some point it denoted subtraction or a similar concept.

Finally, a few comments about the phonology and written representation of Koro are in order. The consonant and vowel inventories of Koro are presented in Tables 1.4 and 1.5, respectively. The phonology of Koro is fairly typical for a Melanesian language, in particular the contrast between plain voiceless stops and prenasalized voiced stops, which appears to be an areal feature (Lynch et al. 2002:34).⁶ An interesting phonetic feature of the Koro

⁶An alternative possible analysis of the prenasalized stops is that they are in fact a sequence of two phonemes — a nasal stop plus a voiceless stop — and that the voiceless stops are voiced after a nasal. A thorough phonological analysis of the language has yet to be undertaken, and I leave this possibility for

	Front	Back
High	i	u
Low-Mid	ɛ	ɔ
Low	a	

Table 1.5: Vowel phonemes in Koro

inventory, however, is that the prenasalized bilabial segment is a trill rather than a stop. Bilabial trills are typologically rare, found only in a few other Austronesian languages and a group of Grassfields languages of Cameroon (Maddieson 1989:91).

Syllable structure in Koro is CV word-internally and CV(C) word-finally. Most of the consonant phonemes can occur in both onset and coda position, with the exception of prenasalized voiced alveolar stop /ⁿd/, prenasalized voiced bilabial trill /^mB/, and voiced palatal stop /ɟ/, none of which can occur word-finally.⁷ The voiced palatal stop only occurs in a few words, and where it does occur it is often realized, especially by younger speakers, as a voiced post-alveolar affricate.

There are very few phonological processes that affect consonants in Koro. One notable process is word-final devoicing, which affects the alveolar trills. The plain alveolar trill has three allophones: word-initially and intervocalically it is realized as a trill [r] or tap [ɾ], depending on the speed and carefulness of speech, and word-finally it is realized as voiceless trill [r̥]. The prenasalized alveolar trill is likewise devoiced word-finally. Word-final devoicing does not apply to plain nasal stops or the lateral /l/. No other voiced phonemes can occur word-finally. Another phonological process that occurs word-finally is the neutralization of the labialization contrast in the bilabial stop series. That is, /p^w/ becomes [p] and /m^w/ becomes [m] word-finally. As far as vowels are concerned, there is a pervasive system of vowel harmony in the language. It is anticipatory, and involves both height and frontness features. In most cases, however, this morpho-phonological process is optional, and variants both with and without harmony are attested. For example, the noun /api/ ‘sago’ is pronounced variously as [api] or [ɛpi], even within the repertoire of a single speaker. Similarly, the proximative/desiderative particle /pa/ is often realized instead as [pi] or [pu], depending on the vowel of the following irrealis marker. This process occurs more commonly in younger speakers’ speech.

Throughout the dissertation, I use a working orthography, outlined in Table 1.6. This is loosely based on the orthographic conventions that speakers use when writing the language. When transcribing words in examples I stick to a roughly phonetic principle, transcribing

further research.

⁷It is an open question whether the glide phonemes occur word-finally, or whether the phonetic word-final glides are vocalic allophones. Most likely some are phonemic glides and others are vowels, but this issue requires further research. I tend to represent them as vowels orthographically.

Character	Phoneme
<a>	/a/
<ch>	/tʃ/
<e>	/ɛ/
<h>	/h/
<i>	/i/
<j>	/ʃ/
<k>	/k/
<l>	/l/
<m>	/m/
<mbr>	/ ^m B/
<mw>	/m ^w /
<n>	/n/
<nd>	/ ⁿ d/
<ndr>	/ ⁿ r/
<ng>	/ŋ/
<o>	/ɔ/
<p>	/p/
<pw>	/p ^w /
<r>	/r/
<s>	/s/
<t>	/t/
<u>	/u/
<w >	/w/
<y>	/j/

Table 1.6: Working orthography for Koro

each word approximately as it was pronounced in context. This means that the spelling of individual words will sometimes vary from example to example, although I endeavor to maintain consistency where possible.

1.4 Structure of the dissertation

The remainder of the dissertation is structured as follows. Chapter 2 examines in detail the functional categories (or functional projections) that occur in Koro verbal clauses. I show that there is no grammatical marking of tense in Koro, but that a complex system of reality status and aspect marking serves to temporally anchor utterances. I argue that, despite the lack of tense marking, Koro should still be understood to have a TP, and that reality status and perfect aspect morphemes have the status of T heads. The semantics of each functional

morpheme in Koro verbal clauses is examined in detail. I describe and analyze the aspectual morphemes within the neo-Reichenbachian framework of Klein (1994), which is a topological approach to characterizing the semantics of tense and aspect. I provide evidence that Koro has dedicated morphemes for proximative, prospective, and perfect aspect, realis and irrealis, and negative polarity. A typologically interesting feature of the Koro verbal clause is the system of reality status. I argue that, unlike canonical reality status paradigms, which mark a distinction between realized and unrealized events, reality status in Koro marks temporal definiteness. This function appears to be relatively common in Austronesian languages, and is also found in certain other language families. Negation in Koro interacts in interesting ways with aspect and reality status, exhibiting both constructional and paradigmatic asymmetry. The morphemes and structures discussed in this chapter will be relevant for the semantic and syntactic analysis of SVCs presented in Chapters 5 and 6.

Chapter 3 also provides extensive background information for the analysis of SVCs in Koro. All Koro SVCs are asymmetrical, meaning that one of the verb slots is restricted to a small subclass of verbs. All of the verbs that can occur in the restricted slot of a Koro SVC are path or locative–postural verbs. Understanding their behavior as main verbs is crucial to understanding how they contribute to the semantics and syntax of SVCs. This chapter therefore presents a detailed account of path and locative predicates. These verbs share two defining properties — they are unaccusative and, unlike all other verbs in the language, they cannot be nominalized. On this basis they form a coherent morpho-syntactic class, as well as a semantically-defined class. Path verbs in Koro divide into two subclasses — prepositional and non-prepositional. Prepositional path verbs can take a goal argument directly, although this argument behaves like an oblique rather than a direct object. Non-prepositional path verbs, on the other hand, cannot take a goal argument unless they enter into an allative SVC. A surprising quality of path verbs in Koro is that they are punctual. A number of tests show that path verbs do not have duration but are instead achievement verbs, encoding a punctual change of location. Locative predicates, in contrast, are stative, and have a default imperfective interpretation. The lexical aspect of these verbs is crucial to the semantic analysis of associated motion and imperfective SVCs presented later in Chapter 5. Locative predicates in Koro divide into three subclasses — locative/postural verbs, derived non-verbal locative predicates, and the locative copula *ta*. These constructions are typologically interesting due to the unique combination of spatial and temporal deixis they exhibit. It is notable that these deictic properties are fully maintained when they occur in SVCs.

After the previous two background chapters that describe aspects of Koro grammar in fine detail, in Chapter 4 the focus widens. This chapter examines the phenomenon of SVCs cross-linguistically, with an emphasis on how these constructions manifest in the Oceanic languages. The well-known typological criteria for SVCs are critically examined, and the principles underlying them are exposed. Although a wide variety of morpho-syntactic, semantic, and prosodic criteria are often presented for SVCs, I show that these can be condensed into four main criteria: main verbhood, monoclausality, single eventhood, and argument sharing. Each of these criteria is described and justified, and cross-linguistically applicable diagnostics are proposed. I argue that each criterion must be applied strictly if SVCs are

to be successfully distinguished from other, similar constructions. The chapter also surveys parameters of variation that are observed in SVCs, both within individual languages and cross-linguistically, including contiguity of verb roots, morphological marking of verbal categories, and restrictions on the number and ordering of verb roots.

In Chapter 5 we return to Koro. The first part of this chapter is a case study in applying the diagnostics developed in the previous chapter. I examine ten multi-verb constructions in Koro that superficially resemble SVCs; namely directional, allative, associated motion, change of state, imperfective, resultative, instrumental, comparative, durative, and sequencing. Applying the diagnostics to these constructions reveals that most of them are not in fact true SVCs. The resultative is a collection of lexicalized idioms, the instrumental and comparative are prepositions, and the durative and sequencing constructions are apposed clauses that can optionally fall under a single intonation contour. The constructions that do pass all the tests for SVC-hood are the associated motion, change of state, and imperfective, which I argue are all in fact instances of a single construction. Surprisingly, the directional and allative constructions, which appear very similar to prototypical SVCs in other languages, do not pass all the tests for SVC-hood. Specifically, they fail the tests for single eventhood, because TAM marking on V_1 does not take scope over both verbs. In the second half of the chapter I describe in more detail the semantic entailments and lexical aspect of the constructions that most closely resemble SVCs: directional, allative, associated motion, change of state, and imperfective. I describe restrictions on the verbs that can occur in the directional and allative constructions, and show that they can describe either real or fictive paths of motion. In addition, I give further evidence that they do not represent a single event, and I argue that this is due to defective TAM marking on V_2 . Finally, I examine the lexical aspectual properties of associated motion, change of state, and imperfective SVCs, and provide an analysis that allows the three constructions to be treated as variations on a single construction. My thesis is that V_1 and V_2 in these constructions form a complex predicate, the event structure of which is determined by the properties of V_1 . I show how the lexical aspect of each variant can be derived entirely from the characteristics of its V_1 .

Finally, in Chapter 6 I examine the syntax of the directional/allative and the associated motion/change of state/imperfective constructions. First I survey the analyses of SVC structure that have been provided in the formal literature. There have been three main proposals for the type of syntactic relation that obtains between the verbs in an SVC — complementation, adjunction, and coordination. I give evidence that the V_2 constituent in the directional/allative construction is adjoined to the first VP, while in the associated motion/change of state/imperfective construction the second verbal projection is the complement of V_1 . I also show how these syntactic structures correlate with some of the semantic differences between the constructions, and suggest that the single event requirement for SVCs entails that they must have a VP-shell structure.

Chapter 2

Functional categories in the Koro verbal clause

2.1 Introduction

This chapter describes the semantics of the major functional categories in the Koro verbal clause (reality status, aspect, and negation) and presents an analysis of their syntax. It is intended to provide a comprehensive background to the analysis of serial verb constructions undertaken in Chapters 5 and 6. The behavior of various functional morphemes provides diagnostics for identifying and classifying different types of multi-verb constructions in Koro and gives evidence for their syntactic structure. Understanding the morpho-syntax and semantics of mono-verbal clauses is therefore crucial to analyzing putative SVCs in the language.

Koro is a largely isolating language, with aspect, mood, and polarity categories instantiated as free morphemes that precede the verb root. The most noteworthy characteristic of the grammar of verbal clauses in Koro is that there is no marking of tense. Categories such as ‘past’, ‘present’, and ‘future’, which locate a proposition in time relative to the time of utterance, are not reflected directly in the grammar, and it is not clear that they even have any instantiation in the lexicon. I argue that even temporal adverbs in Koro do not take the utterance time as their relatum, and therefore do not express a tense-like relation. Koro also has some typologically interesting aspect and mood morphemes, including a proximal marker with desiderative connotations, a prospective aspect marker, and an irrealis that indicates temporal non-specificity. In addition to these, Koro has an imperfective aspect SVC, which I will discuss in Chapters 5 and 6. Although there is no grammatical tense in the language, for ease of reference I will refer to these aspect and reality status categories collectively with the familiar cover term ‘TAM’, for tense–aspect–mood.

The remainder of the chapter is structured as follows. In §2.2 I first describe the surface characteristics of Koro verbal clauses, and then present an analysis of their underlying structure. In §2.3 I briefly introduce the framework for analyzing tense and aspect that is proposed by Klein (1994), and then in §2.4 I describe the functions of some temporal adverbs in Koro, utilizing this framework. Both of these sections provide a background for the

analysis of aspectual categories that follows in §2.5. In that section I analyze the functions of proximative *pa*, prospective *(h)a*, and perfect *k-...-ni*. In §2.6 I then give a detailed description of the system of reality status marking in Koro, arguing that it is a coherent grammatical category marking temporal definiteness or specificity. Finally, in §2.7 I discuss in detail the behavior of negation in verbal clauses, demonstrating ways in which it exhibits both structural and paradigmatic asymmetry.

2.2 An overview of Koro verbal clause structure

Koro is an SVO language. On the surface, verbal clauses consist minimally of a subject noun phrase or pronoun and a verb (with its object if transitive). This is shown in (2.1–2.2), which illustrate an intransitive and a transitive clause, respectively.

(2.1) *i yau*
3SG leave
'He left' (2011-04-03-BC-01_0128)

(2.2) *au re-i jua*
2SG strike-SPEC.OBJ 1SG
'You hit me' (Elicitation-2011-03-11-AH_AV_0004)

Irrealis or perfect aspect marking, but not both, may occur between the subject and the verb, as in (2.3–2.4).

(2.3) *Max k-i re-i mweh*
Max IRR-3SG strike-SPEC.OBJ dog
'Max is going to hit the dog' (Elicitation-2011-03-08-AH_AV_0044)

(2.4) *i k-i-ni re-i nambrulu-n*
3SG PERF-3SG-PERF strike-SPEC.OBJ spouse-3SG.POSS
'He has beaten his wife' (Elicitation-2012-07-20-AD_BZ_0104)

Proximative marker *pa*, which has a desiderative implicature, may occur directly after the subject, and requires irrealis aspect to immediately follow it.¹ The obligatoriness of irrealis marking with *pa* is shown in (2.5), which is ungrammatical without irrealis *ku*.

(2.5) *you pa *(k-u) metir*
1SG.SBJ PRXMV IRR-1SG sleep
'I want to sleep' (Elicitation-2011-03-21-AH_AV_0089,91)

Prospective aspect *(h)a* occurs immediately before the subject, as in (2.6), and, like *pa*, requires cooccurrence of irrealis aspect between the subject and the verb.

¹The vowel in *pa* optionally undergoes vowel harmony in agreement with the vowel of the following irrealis morpheme. As a result, it is realized variously as /pi/, /pu/, or /pa/. The variants with vowel harmony are more common in younger people's speech, while older speakers tend to preserve the /a/ vowel.

	1 st person	2 nd person	3 rd person
SINGULAR	-u	∅-a ³	-i
NON-SINGULAR	-a		

Table 2.1: Subject agreement paradigm for irrealis and perfect markers

(2.6) *mwah ha you k-u me*
 next.day PROSP 1SG.SBJ IRR-1SG come
 ‘Tomorrow I’ll come’ (Elicitation-2012-06-29-AV_0105)

(*h*)*a* and *pa* cannot co-occur, as shown by the ungrammaticality of (2.7).

(2.7) **ha you pu k-u me*
 PROSP 1SG.SBJ PRXMV IRR-1SG come
 Intended: ‘I will (want to) come’ (Elicitation-2012-06-29-AV_0108)

Preverbal negator *ta*, which requires cooccurrence of clause-final negator *pwi*, also occurs between the subject and the verb, as in (2.8). It is in complementary distribution with all TAM morphemes. For example, as shown in (2.9), it cannot cooccur with perfect *kuni*.²

(2.8) *you ta tuwe-ni ni pwi*
 1SG.SBJ NEG cook-SPEC.OBJ fish NEG
 ‘I didn’t cook the fish ~ I’m not cooking the fish’
 (Elicitation-2012-07-14-AD_BZ_CA_0015)

(2.9) **you ta k-u-ni tuwe-ni ni pwi*
 1SG.SBJ NEG PERF-1SG-PERF cook-REF.OBJ fish NEG
 Intended: ‘I haven’t cooked the fish’ (Elicitation-2012-07-14-AD_BZ_CA_0021)

As can be seen in the above examples, irrealis and perfect morphemes agree with the subject in number, and person if singular. The agreement paradigm for these markers is given in Table 2.1.

The surface ordering of morphemes, and the cooccurrence restrictions between them, suggest that there are three positional slots for TAM morphemes before the verb. These are shown in Table 2.2. Slot 1 precedes the subject, and hosts prospective aspect (*h*)*a*. Slot

²The Lopohan dialect apparently allows irrealis *k-* and negative *ta* to cooccur. However, since I have not done any elicitation in this dialect, I cannot comment further on these facts.

³With 2nd person singular subjects, the initial *k-* of the irrealis and perfect morphemes is deleted, leaving just *a* for irrealis and *a-ni* for perfect.

TAM slot 1	Subject	TAM slot 2	TAM slot 3	Verb	Object
<i>(h)a</i> ‘prosp’		<i>pa</i> ‘prxmv’	<i>k-</i> ‘irr’ <i>k-. . . -ni</i> ‘perf’ <i>ta</i> ‘neg’		

Table 2.2: Surface positional slots in the Koro verbal clause

2, containing proximative *pa*, immediately follows the subject. And slot 3, which includes negator *ta*, irrealis *k-*, and perfect *k-. . . -ni*, occurs between slot 2 and the verb. This surface positional description does not give the full picture, however. As was shown above, items from slots 1 and 2 cannot cooccur, and if a morpheme from either slot 1 or 2 occurs, irrealis *k-* must obligatorily occur in slot 3. In addition, there are semantic entailments that suggest a more complex underlying structure. For example, as will be discussed further in §2.6 below, verbal clauses with no overt TAM marking are obligatorily interpreted as realis, which suggests the existence of a null realis morpheme. Another relevant fact is that, although the preverbal negator is superficially in complementary distribution with the irrealis marker, negative polarity clauses cannot have an irrealis (i.e. future) interpretation (see §2.7 for more detail about restrictions on negation). This suggests that negator *ta* requires cooccurrence of the null realis morpheme, yielding a realis (non-future) interpretation.⁴ Finally, none of these TAM or polarity markers can occur in non-verbal clauses, showing that they are dependent on the verb syntactically, if not morphologically.

In a Minimalist framework, the restriction of TAM morphemes to verbal clauses provides evidence that they are instantiations of functional heads in the extended projection of the lexical V head. To explain the distributional and semantic facts, I posit three functional heads in the verbal clause, which I label ‘Asp’ (aspect), ‘Pol’ (polarity), and ‘T’. The proposed structure of the Koro verbal clause is given in Figure 2.1.⁵

The Aspect head contains the prospective and proximative morphemes. Although these morphemes occupy different surface positions in the clause, two pieces of evidence point to their occupying the same underlying structural position. Firstly, as shown in (2.7) above, they are in complementary distribution, and cannot cooccur in a simple clause. Secondly, there is no subordinate construction that allows *pa* to occur, but not *(h)a*. If *pa* occupied a lower position in the clause than *(h)a*, we might expect to find constructions that target just the constituent that includes *pa*, to the exclusion of *(h)a*. This is the case, for example, for the Asp versus T heads. Certain SVCs allow any of the T heads to occur preceding the

⁴For parsimonious representation, however, I do not show the posited null realis head in negated clauses.

⁵In line with current theoretical assumptions, I also assume there is a CP layer above AspP. However, because C is not directly relevant to the discussion in this chapter, I do not represent it here.

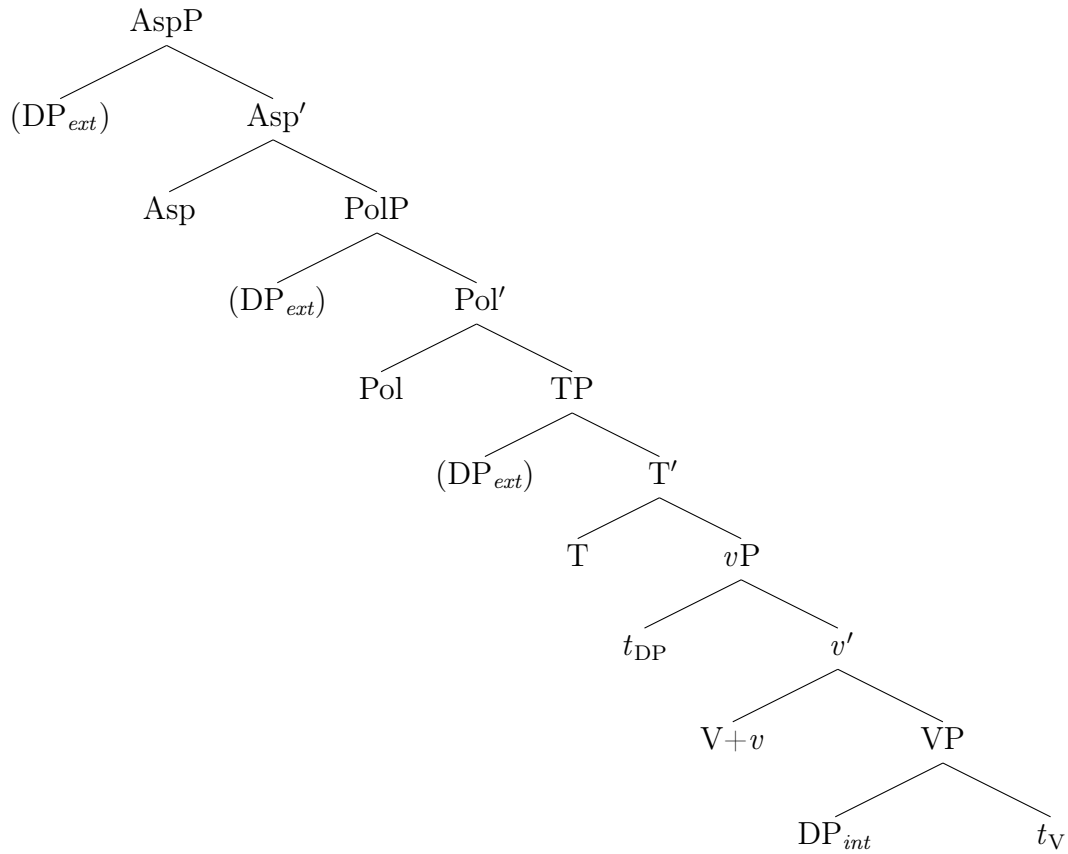


Figure 2.1: The structure of verbal clauses in Koro

second verb, but do not permit either *pa* or *(h)a*. This is illustrated with the directional SVCs in (2.10–2.11). In (2.10) V_1 *suwe* ‘paddle’ takes prospective aspect marker *ha* and irrealis *ku*, but V_2 *mul* ‘return’ only takes irrealis marking. Similarly, V_1 in (2.11) takes proximative *pi*, while V_2 does not.

(2.10) *ha* *you* *k-u* *suwe* *k-i* *mul* *le* *Ponam*
 PROSP 1SG.SBJ IRR-1SG paddle IRR-3SG return go.to Ponam
 ‘I’m going to paddle back to Ponam’ (Elicitation-2013-07-29-AD_CA_0123)

(2.11) *i* *pi* *k-i* *takeye-ni* *pat* *k-i* *yau*
 3SG PRXMV IRR-3SG throw-SPEC.OBJ stone IRR-3SG leave
 ‘He wants to throw the stone away’ (Elicitation-2012-08-06-AD_BZ_0261)

In contrast, all subordinate clause constructions that permit *pa* also permit *(h)a*. Other than surface order, therefore, there is no evidence that these two morphemes occupy different positions and are part of different-sized constituents. I account for the difference in surface position between the two mood heads by positing that in constructions with *pa*, but not those with *(h)a*, the subject moves to the left (into a higher position). In the Minimalist framework, this is achieved by placing an [EPP] feature on *pa*, which pulls the external argument into its specifier.

This analysis is strengthened by the fact that the surface position of *(h)a* with respect to the subject is somewhat variable. For example, in (2.12) *ha* occurs following the subject *Max*, instead of in its canonical pre-subject position.

(2.12) *Max ha* *k-i* *ngorow-ani* *mwalih ta* *rutun*
 Max PROSP IRR-3SG think-SPEC.OBJ story POSS 3PL
 ‘Max will (always) think about their story (what happened to them)’
 (Elicitation-2012-07-12-AD_BZ_0101)

It is not clear exactly what determines the position of *ha* relative to the subject, but it is likely that information structure plays a role. The important observation for the current purpose is that, although *ha* usually precedes the subject, it can also occur following the subject, in the same surface position as *pa*. This provides evidence that *pa* and *(h)a* occupy the same functional head, with *(h)a* having an optional [EPP] feature.

Below the AspP in this structure is a PolP. The Pol head is filled by *ta* when the clause is in negative polarity, but in positive polarity clauses there is no overt polarity head. There are two possible analyses of this fact: either there is no PolP layer in positive polarity clauses, or the Pol head is filled by a null positive polarity marker (Pos). For the purpose of analyzing SVCs, these two analyses give the same result, and there is little to distinguish between them. Here I assume the null Pos head analysis (although I do not include a null Pos morpheme in example sentences).

An alternative to the PolP proposed here is to assume that preverbal *ta* fills the same functional head position as reality status and perfect aspect morphemes (that is, T). This would explain the complementary distribution of these markers, as well as the fact that an irrealis meaning is not available in clauses marked with negative *ta*. However, directional and

allative SVCs provide evidence against this analysis. As will be discussed further in Chapter 6, the V_2 constituent in these SVCs takes concordant reality status or perfect marking, but does not take concordant negation. This is strong evidence that negative *ta* does not occupy the same position as realis, irrealis, and perfect morphemes, but instead occupies a higher functional head. In order to explain the complementary surface distribution of *ta* and the T heads *i*, *k-* and *k-...-ni*, I posit that when negative *ta* is present it selects a null realis T head. This explains not only the surface distribution of these morphemes, but also the obligatory realis (typically past tense) interpretation of negated clauses.

Since there is no grammatical tense in Koro, it may seem odd to include a T head in the clause. However, T (or some similar functional head such as Infl) is generally assumed to have a number of functions in the clause, other than simply hosting a morpheme that encodes tense.⁶ It is taken to license Nominative case, which in turn allows a referentially independent subject to occur, and it is therefore obligatory in an independent clause (Chomsky 1981). T is also understood to be the locus of temporal anchoring of the clause, and is associated with person agreement in finite clauses (Bianchi 2003, Ritter and Wiltschko 2009). All of these properties are exhibited by the reality status and perfect aspect morphemes in Koro. One of these morphemes is obligatory in every verbal main clause. When an overt morpheme does not occur the clause has obligatory realis interpretation, as in (2.1–2.2) above. Because there is no irrealis marking, the example in (2.2) cannot mean ‘You will hit me’, but instead has an obligatory realis interpretation ‘You hit me’. This indicates that there is a null realis morpheme present in such unmarked verbal clauses. Compare this with the behavior of non-verbal clauses, which do not allow any overt reality status or aspect marking. Such unmarked non-verbal clauses are flexible in their temporal interpretation. This is shown in the non-verbal clause in (2.13), which can either refer to a state of affairs in the past or in the present.

- (2.13) *hamu ~ range you dokta*
 before now 1SG.SBJ doctor
 ‘Before, I was a doctor ~ Now, I am a doctor’ (Elicitation-2012-08-07-AD_0110–11)

Similarly, the bracketed non-verbal clause in (2.14) has a future interpretation, despite the fact that it does not have irrealis marking. In contrast, irrealis marking is necessary to effect a future interpretation in verbal clauses.

- (2.14) *mwah pa me chap ndwal, [ndwal ta ndripo wum]*
 next.day PRXMV come carry canoe canoe LOC.COP back house
 ‘Tomorrow, if you want to come and get the canoe, it will be behind the house’
 (Elicitation-2012-08-07-AD_0119)

⁶The choice of label ‘T’ over ‘I’ or ‘Infl’ should not be taken here as a meaningful analytical choice. The range of functions delineated for T have also been attributed to I or Infl, and the Koro functional head that houses reality status and perfect aspect marking may in fact be better characterized as Infl, since this head does not actually encode literal tense. The label T is used primarily to make overt the analogy with finite tensed clauses in tensed languages. See Ritter and Wiltschko (2009) for a discussion of the types of functional categories that can realize an Infl head.

In summary, unmarked verbal clauses have a realis (usually past time) interpretation, whereas unmarked non-verbal clauses can have any temporal interpretation. This difference is best explained by positing a null realis morpheme that is in opposition with the irrealis marker in verbal clauses. The presence of a TAM morpheme — either overt irrealis or perfect, or null realis — is therefore obligatory in verbal clauses.

In addition to their obligatoriness in verbal clauses, reality status and perfect morphemes determine the temporal interpretation of the clause. They do not anchor the clause relative to the speech time, as a tense marker would, but instead they situate the temporal reference of the clause by other means (see §2.5.3 and §2.6 for more detail). Finally, as shown in Table 2.1 above, reality status and perfect morphemes exhibit morphological subject agreement. Within a Minimalist framework, this can be taken as evidence that they occupy the head position that controls agreement. In sum then, the properties of reality status and perfect morphemes in Koro correlate with a number of those that have been attributed to T — namely, they are obligatory, they temporally anchor the clause, and they control agreement — and it is therefore reasonable to analyze these morphemes as instances of T. I do not intend, however, to make a strong theoretical claim by classifying these morphemes as T heads — instead this analysis is simply intended to capture the fact that these morphemes are obligatory in independent clauses, and that they determine finiteness in the clause. As such, only one instance of reality status or perfect marking should be present in a monoclausal construction, a fact which will become important in the analysis of the structure of SVCs in Chapter 6.

Having outlined the basic structure of verbal clauses in Koro, I now turn to a more detailed analysis of each of the TAM heads. In order to facilitate this analysis, I first introduce the neo-Reichenbachian framework of Klein (1994) and describe the semantics of temporal adverbs in Koro.

2.3 A Neo-Reichenbachian approach to tense and aspect

Klein (1994), building on work by Reichenbach (1947), outlines a framework for describing and analyzing tense and aspectual distinctions cross-linguistically. The main analytical primitives in this approach are ‘lexical content’ (LC), ‘utterance time’ (TU), ‘topic time’ (TT) and ‘situation time’ (TSit). Using these concepts, it is possible to precisely formulate the difference in function between tense and aspect, and also to define the primary function of each major tense and aspectual category in the world’s languages. I will first define each of these terms, and then show how they are used to characterize different tenses and aspects.

The lexical content of an utterance is the situation described in the clause, divorced from its finite temporal information. For instance, the LC of the English clause *Sylvia was paddling the canoe* is {Sylvia paddle the canoe}. This is also the LC for the clauses *Sylvia will paddle the canoe*, *Sylvia has paddled the canoe*, *Sylvia paddles the canoe*, and so forth. In other words, the LC is atemporal. But it is “timeable” — that is, it can be linked to a temporal structure. This is done by means of tense and aspect marking. The temporal structure to which the LC is linked comprises the three primary elements TU, TT, and TSit.

TU (roughly Reichenbach’s S) is the moment of speaking.⁷ TT (roughly Reichenbach’s R) is the time about which a claim is being made. This can be overtly specified, as in *[At 6:40 in the morning, on August 24, 2003]_{TT}, Sylvia was paddling the canoe*, or it can be left to context. Occasionally, as in this example, TT is very precisely specified, but far more commonly the exact span of the TT is left open to be inferred from discourse context and world knowledge. TSit (roughly Reichenbach’s E) is the time for which the situation described by the LC holds. For instance, in the examples above, TSit is the temporal span during which it is the case that Sylvia is paddling the canoe. {Sylvia paddle the canoe} is a one-state LC, because there is just one lexically-specified situation. In contrast, the LC {Sylvia leave the house} is two-state, since it encodes a lexically-specified change of state: from Sylvia’s being inside the house to Sylvia’s being outside. In such complex LCs, the initial state is referred to as the ‘source state’ (SS) and the final state as the ‘target state’ (TS). The TS in the case of {Sylvia leave the house} is clearly {Sylvia not be inside the house}, but the SS, in contrast, is not simply {Sylvia be inside the house}, rather it involves Sylvia’s being active in bringing about the TS. In other words, it is only felicitous to say *Sylvia is leaving the house* if Sylvia is in the process of bringing about the state of being out of the house, not, for example, if she is simply sitting inside the house reading a book. Klein (1994:105) notes that, for purposes of aspect marking, languages tend to choose one of the two states to treat as TSit. In English it is SS. This is evident when we consider how two-state LCs behave in the progressive construction, whose function is to indicate that TT is fully included in TSit (see Table 2.3). The sentence in (2.15) is felicitously uttered only if Sylvia is currently in the house, and is active in achieving the state of not being in the house.

(2.15) *Sylvia is leaving the house*

In other words, this utterance has the temporal structure shown in (2.16) (where [] denotes the TT, — denotes the SS, and +++ denotes the TS).

(2.16) {—[—]_{TT}—}_{SS}++++++_{TS}

The proposition in (2.15) is not true if Sylvia is in the TS, having already left the house and being halfway down the street.⁸ Given that the construction in (2.15) locates TT within SS, and not within TS, this example shows that English treats the SS of two-state predicates as TSit. With respect to this parameter, Koro behaves the same as English.

Utilizing the concepts outlined above, it is possible to precisely formulate the functions of the major categories of tense and aspect in the world’s languages, in terms of how they situate the temporal elements with respect to each other. This is shown in Table 2.3. The major distinction in this typology is between aspect and tense. According to Klein, aspect

⁷In non-immediate communicative situations, such as letters, email, books, graffiti, voicemail messages, pre-recorded television or radio programs, etc., the TU is less fixed, and more open to interpretation. The calculation of TU can be complex, but it is not directly relevant for grammatical realizations of temporal categories in Koro, so I will not discuss it further here.

⁸Of course there is some leeway in the interpretation of this utterance, as with all natural language. If Sylvia has just stepped outside the house and is still on the front steps, perhaps the utterance in (2.15) will still be felicitous. But this flexibility does not detract from the overall point of the example.

Aspect: situates TT with respect to TSit		
PERFECTIVE	TT (partially) includes TSit	{——[—]} _{TSit}] _{TT} or [{——} _{TSit}] _{TT}
IMPERFECTIVE	TT is fully included in TSit	{——[—] _{TT} ——} _{TSit}
PERFECT	TT is after TSit	{——} _{TSit} [] _{TT}
PROSPECTIVE	TT is before TSit	[] _{TT} {——} _{TSit}

Tense: situates TT with respect to TU		
PAST	TT is before TU	[] _{TT} () _{TU}
PRESENT	TT includes TU	[() _{TU}] _{TT}
FUTURE	TT is after TU	() _{TU} [] _{TT}

Table 2.3: Characterization of the major categories of tense and aspect (after Klein 1994)

defines the temporal relation between the topic time and the situation time, whereas tense indicates the temporal relation between the topic time and the time of utterance. As noted above, Koro does not have any grammatical markers of tense. There is also no perfective construction in Koro; the temporal relations that are grammatically encoded in Koro are imperfective aspect, perfect aspect, and prospective aspect. As shown in the table, the function of imperfective aspect is to locate the topic time within the situation time. This means that, as exemplified in (2.15) above, the event is ongoing at the time being talked about. With dynamic verbs in English this is encoded with copula *be* plus a gerundive form of the verb in *-ing*. In Koro it is encoded with an SVC, which will be described in detail in Chapters 5 and 6. Perfect aspect indicates that the situation time precedes the topic time. In other words, at the time being talked about, the event is already over. In English, this is encoded with auxiliary *have* plus a participle form of the verb, as in *Sylvia has left*. In Koro the particle *k-...-ni* encodes perfect aspect (see §2.5.3 for examples). Finally, prospective aspect indicates that the situation time is after the topic time. In other words, at the time under discussion, the state of affairs has not yet begun.⁹ In English this is encoded with *going to*, or more colloquially *gonna*, plus a bare form of the verb. In Koro there are two separate markers that indicate a prospective relation between TT and TSit: *(h)a* and *pa*. The different uses and semantic overtones of these two morphemes are discussed in §2.5.1–2.5.2.

⁹Like all future-oriented tenses and aspects, prospective has a strong modal character, and may well be

Prior to Klein (1994), definitions of tense and aspect had tended to be more impressionistic, and therefore sometimes analytically inadequate. For instance, Comrie (1976:3) defines ‘aspects’ as “different ways of viewing the internal temporal constituency of a situation,” but later adds that “the perfect is rather different [...] since it tells us nothing about the situation in itself, but rather relates some state to a preceding situation” (p.52). He defines perfect aspect as referring to “a past situation which has present relevance” (p.12). This definition captures an important intuition about uses of the perfect cross-linguistically, but it fails to provide diagnostics for identifying a perfect construction in a given language. In contrast, Klein’s framework allows one to devise tests that categorically differentiate between the major categories ‘tense’ and ‘aspect’, and between different types of tense and aspect. The distinction between tense and aspect under Klein’s approach is simple: tense locates TT in relation to TU, while aspect relates TT to TSit. For instance, as noted above, an imperfective aspect, such as the English progressive, locates TT *within* TSit. The utterance, *When I walked into the room, John was reading a book* indicates that the TSit of {John read a book} extends either side of the TT (which is here overtly specified with the adverbial clause *when I walked into the room*). In contrast, the use of past tense in this utterance indicates only that the TT precedes the TU, and says nothing directly about the TSit. This is demonstrated by the fact that it is perfectly felicitous to say *When I walked into the room, John was reading a book, and he is still reading it now*. If past tense situated TSit prior to TU, then it should not be possible to use past tense when the TSit is still ongoing, as in this example.

Koro is a language in which none of the temporally deictic morphemes situates TT in relation to TU. In other words, as noted above, Koro is a tenseless language. In place of tense, temporal anchoring of the clause is achieved through aspect, which relates TT to TSit, and reality status, which in Koro serves to mark a clause as temporally definite or indefinite, a concept which will be explored in §2.6 below. After describing the functions of temporal adverbs in Koro, I will discuss each TAM head in turn. I defer discussion of imperfective aspect to Chapters 5 and 6, where I provide evidence that it is a type of SVC.

2.4 Temporal adverbs

In this section I will discuss what Klein (1994:149) calls ‘positional’ temporal adverbs, which help to locate the lexical content of a clause in time (similar to English *yesterday* and *tomorrow*, for example). I give evidence that Koro positional adverbs, unlike those in English and numerous other languages, are essentially ‘aspectual’ rather than ‘tensed’ in that they index a relation between the topic time and the situation time.

As discussed in Klein (1994), the function of a positional temporal adverb is to locate a time span (the theme) with respect to another time span (the relatum). Temporal adverbs in Koro behave differently than do English temporal adverbs such as *yesterday* and *tomorrow* in terms of what serves as relatum. For instance, English *tomorrow* roughly indexes the day

better analyzed as a modal. For the purposive of this discussion, however, Klein’s aspectual characterization is sufficient.

after TU.¹⁰ In other words, the relatum of English *tomorrow* is TU. Koro *mwah* can also index the day after TU:

- (2.17) *se a k-i me mwah?*
 who PROSP IRR-3SG come next.day
 ‘Who is coming tomorrow?’ (Elicitation-2012-07-22-AD_BZ_CA_0090)

But the relatum of *mwah* is not TU; rather this adverb indexes the day after the current TT of the discourse. This can be shown in reported speech. Reported speech usually requires all deictic elements to be shifted from the perspective of the original speaker, location, and TU to the perspective of the reporting speaker, and the location and TU of their report (e.g., *I* becomes *he*, *she*, or *you*; *tomorrow* becomes *the next day*, etc.).¹¹ In Koro, indirect speech requires shift of personal pronouns and spatially deictic elements, but not shift of temporal adverbs. This is illustrated in (2.18), which contains reported speech with the adverb *mwah*.

- (2.18) *Rex i popahar jua tehene i k-i me mwah, tapwa*
 Rex REAL:3SG inform 1SG thus 3SG IRR-3SG come next.day but
i ta me pwi
 3SG NEG come NEG
 ‘Rex told me he would come the next day, but he didn’t come’
 (Elicitation-2012-07-20-AD_BZ_0026)

That this adverb indicates the day after TT (the moment of Rex’s original utterance), and not the day after TU, is evidenced by the fact that *mwah* here refers to a time before TU. The final clause *tapwa i ta me pwi* ‘but he didn’t come’ is therefore entirely felicitous. If *mwah* indexed the day after TU, it would not be felicitous to negate the event (his coming), since it would not be expected to have occurred yet. This shows that the relatum of *mwah* in this utterance is TT and not TU.

We can say, therefore, that English adverbs such as *yesterday* and *tomorrow* in their canonical use indicate a time with respect to TU, while Koro adverbs such as *munuwe* and *mwah* indicate a time with respect to TT. But the question remains, what is the time they indicate? In other words, what do they take as their theme? The two obvious possibilities are TT and TSit. In English simple clauses temporal adverbs typically determine the time of TT. Take, for example, the utterance in (2.19) (its temporal structure is shown immediately below it).

- (2.19) *Yesterday, he had (already) left*
 {he leave}_{TSit} [yesterday]_{TT} ()_{TU}

¹⁰More precisely, it indexes an unspecified time span during the day after the day including TU (Klein 1994:153).

¹¹This is the case with canonical reported speech constructions, but there can be some flexibility or inconsistency in the degree of deictic shift in such constructions. For example, Aikhenvald (2008) discusses what she calls ‘semi-direct’ speech constructions in Manambu, which exhibit incomplete person shift. Other deictic categories may also have similar flexibility — (Munro et al. 2012) describe direct speech constructions in Matses in which evidential categories are partially shifted. However, there is no evidence that these reported speech constructions in Koro have incomplete deictic shift, and there is no alternative construction that involves different, shifted temporal adverbs.

This is a past perfect construction. The past tense indicates that TT precedes TU, and the perfect aspect indicates that TT is after (or in the post-time of) TSit. That the adverb *yesterday* locates TT, not TSit, is clear because the utterance means that yesterday is in the post-time of TSit. In short, *yesterday* is *after* the leaving event, which could have happened at any point in time prior to that. If *yesterday* instead indexed TSit, it would entail that the leaving event itself happened yesterday, and we should not be able to defease this, for example by specifying *In fact, he left several weeks ago*. But this is perfectly felicitous:

(2.20) *Yesterday, he had (already) left. In fact, he left several weeks ago.*

The fact that this follow-up is felicitous shows that *yesterday* here indeed indexes TT and not TSit. In other contexts, however, English adverbs may instead index TSit. For example, in the utterance in (2.21), the adverbial *that morning* indexes the time of his leaving; that is, it references the time of TSit.

(2.21) I went to look for him in the afternoon, but he had left that morning
 {he leave=morning}_{TSit} [afternoon]_{TT} ()_{TU}

In this case, it would be infelicitous to follow the utterance with *In fact, he left several weeks ago*. This is because whereas the utterance in (2.20) specifies the TT (*yesterday*), but is agnostic about the exact time of TSit, the utterance in (2.21) specifies the TSit. Klein (1994:161) refers to these two functions of indexing TT and TSit as FIN-specification and INF-specification respectively, because TT correlates with the finite portion of an utterance, whereas TSit corresponds to the nonfinite portion. We can summarize by saying that English deictic temporal adverbs such as *yesterday* always take TU as their relatum, but may function as FIN-specifiers or INF-specifiers, depending on context.

In Koro, as shown in (2.18) above, positional temporal adverbs take the current TT as their relatum. Like in English, they can function as INF-specifiers, indexing the time of TSit. Evidence for this comes from the interpretation of perfect constructions. Consider the following example:

(2.22) *punge* *i* *k-i-ni* *tuwe-ni* *karahat*
 previous.night 3SG PERF-3SG-PERF boil-SPEC.OBJ crab
 ‘Last night she (has) boiled the crab’ (Elicitation-2012-08-10-BZ_0181)

This utterance is in perfect aspect, indicating that TT is in the post-time of TSit, as in (2.23).

(2.23) {she boil crab}_{TSit} []_{TT}

If *punge* ‘the previous night’ set a new TT, this utterance should be interpreted to mean that on the previous night, the subject had already cooked the crab; that is, this should be felicitous to describe a situation in which the cooking event (TSit) occurred at some point prior to the previous night, as shown in (2.24).

(2.24) {she boil crab}_{TSit} [punge]_{TT}

But this is not the interpretation. This utterance instead describes a scenario in which the cooking event occurred *on* the previous night, as in (2.25). *punge* must therefore index not the TT, but the TSit of the utterance.

(2.25) {she boil crab=*punge*}_{TSit} []_{TT}

There is another possible interpretation of this data. One could assume that what I have described here as a perfect construction in Koro is in fact not a perfect at all, but just a simple past tense or perfective aspect.¹² If this were the case, the morpheme would indicate that TSit was included within TT, and we could then say that *punge* indexes the TT. However, when we consider other types of adverbials that set TT, we see that the analysis of *k...-ni* as a past perfective does not hold up. For instance, an adverbial clause such as *taim Sylvia me ndemene Steven* ‘when Sylvia came to ask after Steven’ in (2.26) sets the TT of the utterance, and in such a case, the TT is indeed understood as being in the post-time of TSit when the perfect construction is used. This utterance cannot be used for a situation in which Steven left when Sylvia arrived — that is, it is not felicitous with a perfective interpretation, where TT and TSit overlap.

(2.26) *taim Sylvia* Ø *me ndemene Steven, Steven i k-i-nda*
 time Sylvia REAL come ask Steven Steven 3SG PERF-3SG-go:PERF

- a. ‘When Sylvia came to ask after Steven, Steven had (already) left’
 {Steven leave}_{TSit} [Sylvia come]_{TT}
- b. *‘When Sylvia came to ask after Steven, Steven left’
 *[Sylvia come {Steven leave }_{TSit}]_{TT}

(Elicitation-2012-08-10-BZ)

This is strong evidence that *k...-ni* is in fact a bona fide perfect aspect marker and therefore that *punge* in (2.22) must refer to TSit and not TT.

In summary, simple temporal adverbs in Koro such as *munuwe* ‘previous day’, *punge* ‘previous night’, and *mwah* ‘next day’ differ from their English counterparts in that they take the current TT of the discourse as their relatum, rather than the TU (although in practice these often coincide). Both English and Koro temporal adverbs can take the TSit as their theme (in which case they function as INF-specifiers), and English temporal adverbs can also take TT as the theme (having a FIN-specifier function). It is not clear based on currently available data whether Koro adverbs can also function as FIN-specifiers, or whether they are limited to INF-specification. Since making reference to TU is a property of tense constructions, we could say that English temporal adverbs, which reference TU, are ‘tensed’, whereas their Koro counterparts, which do not reference TU, are ‘tenseless’. This apparent tenselessness is a characteristic that permeates Koro grammar.

¹²This is plausible because the grammaticalization of perfects into past perfectives is well-attested cross-linguistically (see, e.g., Heine and Kuteva 2002:231-2).

2.5 Aspect markers

This section describes the use of the proximative, prospective, and perfect aspect markers. The discussion focuses on their semantics, characterizing the function of each aspect morpheme in Kleinian terms. I argue that these morphemes encode aspects rather than moods or tenses, although the proximative and prospective both have modal overtones. For a discussion of default aspectual interpretation of clauses unmarked for aspect, see §3.4 of Chapter 3.

2.5.1 Proximative aspect

The morpheme *pa*, which likely developed from verb *pwa* ‘say’, is a marker of desiderative mood and so-called ‘proximative’ aspect.¹³ It occurs immediately after the subject and requires irrealis *k-* to cooccur. As suggested by the obligatory irrealis marking, the construction with *pa* does not entail the occurrence of the LC, and it is perfectly felicitous even if the TSit did not or is not expected to eventuate. For example, in (2.27–2.28) it is explicitly indicated that the event did not occur, and in (2.29) the event is anticipated not to occur. (As noted above, *pa* optionally undergoes vowel harmony, assimilating to the vowel of the following irrealis marker.)

- (2.27) *munuwe you pu k-u wan wewei, tapwa kepi Max*
 prev.day 1SG.SBJ PRXMV IRR-1SG eat mango, but Max
k-i-ni yen-i ∅
 PERF-3SG-PERF eat-SPEC.OBJ 3INAN.OBJ
 ‘Yesterday I wanted to eat mango, but Max had already eaten it’
 (Elicitation-2011-03-21-AH_AV_0029)

- (2.28) *e pi k-i la lisi, pwi, ta tu pwi*
 CONJ PRXMV IRR-3SG go.to:ANDAT see NEG NEG stay NEG
 ‘And when she wanted to go and see it, no, it wasn’t there’
 (2011-03-09-AH_AV-01_0071)

- (2.29) *you pu k-u le Moresby, tapwa kepi pondrokohol atua*
 1SG.SBJ PRXMV IRR-1SG go.to Moresby but money 1SG.POSS
ta wenei pwi
 NEG enough NEG
 ‘I would like to visit Moresby, but I don’t have enough money’
 (Elicitation-2011-03-22-AH_AV_0105)

When it occurs with animate subjects, *pa* has an implicature of desire or volition, and is often translated with ‘want’.¹⁴ This is illustrated in (2.30–2.31), both of which can have either a desiderative reading or a purely imminent reading.

¹³Lexical verb *pwa* functions as a desiderative in other Admiralties languages, such as Sivisa Titan (Bower 2011:14) and Paluai (Schokkin 2014b:243). I assume this represents a prior stage of grammaticalization.

¹⁴This is similar to the function of Tok Pisin *laik* ‘want’ (< English *like*), which combines desiderative and proximative functions (Romaine 1999).

(2.30) *you pa k-u metir*
 1SG.SBJ PRXMV IRR-1SG sleep
 ‘I want to sleep~I’m going to sleep’ (Elicitation-2011-03-21-AH_AV_0089)

(2.31) *i pi k-i ndan*
 3SG PRXMV IRR-3SG dance
 ‘He wants to dance~He is about to dance’ (Elicitation-2011-03-09-AH_AV_0050)

The desiderative implicature can be defeated, however, as shown in (2.32). Here the speaker explicitly indicates that they do not want to do the intended action, and so a desiderative reading is infelicitous.

(2.32) *you mbrwere-∅ meseng-a ndrelike, tapwa nano pwa*
 1SG.SBJ not.want-1SG.POSS make-NMLZR oil but mother say
you k-u mesenge mwa pu k-u mesenge
 1SG.SBJ IRR-1SG make COORD PRXMV IRR-1SG make
 ‘I hate making oil, but mother said I should make it, so I’m going to make it’
 (Elicitation-2012-08-08-BZ)

In addition, *pa* can occur with a non-agentive subject, which makes a strictly desiderative reading impossible. This can be due to the non-human or inanimate nature of the subject, as in (2.33), or due to the non-volitional nature of the predicate, as in (2.34).

(2.33) *ndwal pi k-i pit le mahun*
 canoe PRXMV IRR-3SG float go.to far
 ‘The canoe is trying to float away’ (Elicitation-2012-08-08-BZ)

(2.34) *pi k-i mat mwa i pwa i le uru*
 PRXMV IRR-3SG die COORD 3SG say 3SG go.to 3DU
mengembru-n a
 grandchild-3SG:POSS DIST
 ‘She was going to die soon and she said to her two grandchildren...’
 (2011-03-31-AH_AV-01_0028)

It is clear from its use with non-volitional predicates and subjects that *pa* is not a ‘desiderative’ or ‘volitional’ modal. Instead, it seems to have a primarily aspectual function, indicating that the eventuality in the LC is imminent. This is illustrated further in (2.35) and (2.36).

(2.35) *pu k-u re-i au*
 PRXMV IRR-1SG strike-SPEC.OBJ 2SG
 ‘I’m about to hit you’ (Elicitation-2012-08-10-BZ)

(2.36) *kila, you pu k-u tile a le pihin timou*
 ok 1SG.SBJ PRXMV IRR-1SG tell DIST go.to woman one:PERSON
 ‘Ok, I’m going to tell a story about a woman (right now)’
 (2011-04-07-AH_AV-01_0004)

Heine (2002:90) classifies this type of aspect as a ‘proximative’ aspect, whose function is “to define a temporal phase immediately preceding the initial boundary of the situation described by the main verb.” In Klein’s terminology, we could say that this aspect situates TT just before the left boundary of TSit. It is a more specific flavor of prospective aspect that narrows down the temporal location of TT from all of the pretime to just the chunk of pretime immediately prior to TSit. Since the temporal structure is not broken into measurable chunks, however, the notion of proximity or immediacy is analytically unappealing in characterizing a grammatical morpheme. One would at the least want to be able to answer the question of how close to the left boundary of TSit the TT must be in order for this aspect to be used felicitously. In Koro, it may be a matter of seconds, as in (2.35) above, or a day, as in (2.37), and probably much longer.

(2.37) *pu k-u au mwah*
 PRXMV IRR-1SG leave next.day
 ‘I want to leave tomorrow’ (Elicitation-2012-08-08-BZ_0054)

It is clear, therefore, that adequately characterizing the meaning of this morpheme requires some additional theoretical apparatus. As noted in §2.3, LCs that have both a source state (SS) and a target state (TS) are referred to as ‘2-state’ LCs, while those that have just a simple LC are ‘1-state’ LCs. For example, the LC {Sylvia walk to the village} entails two separate states of affairs: the first in which Sylvia is not in the village, but is making her way towards the village (SS), and a second in which Sylvia has reached the village (TS). All telic LCs are two state. On the other hand, a simple activity or temporary state LC, such as {Sylvia walk}, includes only one state of affairs — the one in which Sylvia is walking. There is no entailment that she will reach any particular goal, and hence this is a one-state LC. For both these types of predicates, however, there is what Klein (1994:81) calls a TT-contrast. This means that there is understood to be a potential TT — TT’ — at which the LC does not hold. That is, for the first example, there is a TT’ at which Sylvia is neither in the village (TS), nor in the process of getting to the village (SS), and likewise for the second example, there is a TT’ at which Sylvia is not walking. The existence of this TT’ indicates that both 1-state and 2-state LCs entail an additional state that is not part of the TSit. If we represent this \neg TSit with ‘0’, then a one-state LC such as {Sylvia walk} can be represented as in (2.38).

(2.38) 00000000- \neg TSit {————}TSit 00000000- \neg TSit

Klein refers to the \neg TSit period preceding the TSit as its ‘pretime’, and the one following as ‘posttime’.

What we have in the case of a 1- or 2-state LC, therefore, is a period of pretime followed by the TSit. What’s missing in this representation, however, is a notion of a transition period between pretime and TSit. If we take the LC {Sylvia walk}, for example, the pretime is the whole period preceding TSit, during which Sylvia is not walking. But this time is not completely homogeneous. There is a point within the pretime at which the world begins to change from one in which Sylvia is not walking to one in which she is walking. I will refer to this period of time as the ‘transition’ and represent it with - - - . Given this additional

temporal structure, we can define *pa* as a morpheme that situates TT within the transition, which is the period immediately adjacent to the left boundary of TSit. This is shown in (2.39).

(2.39) MEANING OF *p-*
 00000 - - - [- - -]_{TT} - - - _{-TSit} {—————}_{TSit} 00000000_{-TSit}

In the case of an LC with a volitional subject, the transition begins with the subject's desire, or at least intent, to realize TSit. This is why *pa* typically has a desiderative or volitional reading with agentive subjects — it picks out the transition period, which is characterized by the subject's intention in the case of volitional predicates. This would explain the cross-linguistically common grammaticalization pathway from desiderative or volitional construction to proximative aspect construction (Heine (2002); see also Heine and Kuteva (2002:311-3)). In the case of non-agentive subjects, on the other hand, the transition begins not with their own desire or intention, but rather with some change in the world that makes TSit a likely eventuality. The utterance in (2.33) above, for example, is a warning to someone that their canoe looks as if it is about to start floating away. It has not yet started to float away, but something has happened in the world that means it is in the transition period from not floating away to floating away (for instance the waves have picked up, or the anchor has come loose). Similarly, in (2.34) above, the woman is not understood to want to die, rather she has become so old and weak that she is in the transition phase from not-dying to dying.

In summary, with a non-agentive subject *pa* cannot be said to have desiderative or volitional semantics, and yet with agentive subjects it communicates a strong desiderative implicature. A coherent semantics for *pa* across both volitional and non-volitional predicates emerges when we recognize that its primary function is aspectual. *pa* situates TT within the transition from pretime to TSit, and a desiderative reading comes about because with agentive subjects the transition is characterized by their intent — and usually desire — to bring about TSit.

2.5.2 Prospective aspect

Prospective aspect marker *(h)a* cannot cooccur with proximative *pa*. They are both future-oriented morphemes, but whereas *pa* is often used to refer to situations that were expected or desired in the past, *(h)a* is almost exclusively used to refer to anticipated future events. In naturally-occurring texts, it is only found in direct speech, in clauses with future temporal reference. However, I will argue here that its semantics are in fact those of a prospective aspect rather than a future tense. A likely historical source for this morpheme is Proto-Oceanic sequential marker **ka*, which has grammaticalized into a future marker in a number of languages (Frank Lichtenberk, p.c.).

As with *pa*, *(h)a* triggers occurrence of irrealis *k-*. This is shown in (2.40), which is ungrammatical without irrealis *ku*.

- (2.40) *mwah ha you *(k-u) le taun*
 next.day PROSP 1SG.SBJ IRR-1SG go.to town
 ‘Tomorrow I’ll go to town’ (Elicitation-2011-03-31-AH_AV_0109-0110)

As illustrated in (2.41–2.42), (*h*)*a* can cooccur with future-oriented temporal adverbs *mwah* ‘next day’ and *muring* ‘afterwards’.

- (2.41) *mwah ha you k-u senisim au*
 next.day PROSP 1SG.SBJ IRR-1SG change 2SG
 ‘Tomorrow, I will change you’ (2011-03-07-AH_AV-03_0056)

- (2.42) *muring, ha i k-i me lapan timou*
 behind PROSP 3SG IRR-3SG come chief one:PERSON
 ‘Later he would become a chief’ (Elicitation-2013-07-30-AD_CA_0024)

Most contexts in which this morpheme occurs, including (2.40–2.41) above, are ambiguous between a future tense and a prospective aspect reading. Examining the structure of these two temporal relations shows why this is so. The temporal structures of a future tense and a prospective aspect are diagrammed in (2.43a) and (2.44a) respectively. In an unmarked discourse context, where the relationship with the remaining temporal unit (TSit in the case of tense and TU in the case of aspect) is not overtly indicated, TT is by default understood to include that element. In other words, a future tense unmarked for aspect will be understood as perfective, as in (2.43b), and a prospective aspect will be understood as present tense, as in (2.44b).

(2.43) FUTURE TENSE

- a. ()_{TU} []_{TT}
 b. ()_{TU} [{ }_{TSit}]_{TT}

(2.44) PROSPECTIVE ASPECT

- a. []_{TT} { }_{TSit}
 b. [()_{TU}]_{TT} { }_{TSit}

The result, as can be seen by comparing (2.43b) and (2.44b), is that in the unmarked uses of future tense and prospective aspect, the relationship of TSit to TU is the same. Both indicate that TSit is after TU. In such contexts then, it is unclear whether (*h*)*a* marks future tense, with a default perfective interpretation, or prospective aspect, with a default present time reading. The necessary context to distinguish these two possibilities is one in which TT is explicitly located before TU, as in (2.45a–c), all of which are different possible interpretations of a past prospective construction (roughly equivalent to *was going to...* in English).

- (2.45) a. []_{TT} { }_{TSit} ()_{TU}

- b. []_{TT} { ()_{TU} }_{TSit}
 c. []_{TT} ()_{TU} { }_{TSit}

(2.42) above provides such a context. Although nothing in the clause explicitly rules out an interpretation where TT coincides with TSit (i.e., a present tense interpretation), in elicitation the context was explicitly set up so that TT preceded TSit (i.e. a past time interpretation). The utterance was deemed acceptable in that context, indicating that *(h)a* is not a future tense marker. In addition, the reported speech construction in (2.46) supports an analysis where *(h)a* encodes prospective aspect, and not future tense. Here TT is the time of the original speech, which is prior to TU, and this utterance has the temporal structure of (2.45a).

- (2.46) *Rex i popohar jua munuwe ha i k-i me, tapwa*
 Rex REAL:3SG inform 1SG prev.day PROSP 3SG IRR-3SG come but
i ta me pwi
 3SG NEG come NEG
 ‘Rex told me yesterday he would come, but he didn’t come’
 (Elicitation-2012-07-12-AD_BZ_0132)

The last clause in this sentence, *tapwa i ta me pwi* ‘but he didn’t come’, shows that the expected time of TSit was prior to TU, and TSit can therefore be felicitously negated from the perspective of TU. The grammaticality of *(h)a* in this sentence shows that it cannot be a simple future tense marker, as the meaning of this sentence is incompatible with the temporal structures in (2.43).

An additional piece of evidence that suggests this morpheme is not a marker of future tense is that it cannot cooccur with the perfect aspect marker. Since tense and aspect modify different temporal elements of an utterance (as shown in Table 2.3 above), it should be possible for a tense and an aspect marker to cooccur in a single clause. This is possible, for example, in English, where the future perfect clause *When you come, I will have scraped the coconut* is perfectly grammatical. In contrast, *(h)a* and perfect *k...-ni* cannot cooccur in Koro, as illustrated in (2.47). This sentence is grammatical without *(h)a*, but ungrammatical with it.

- (2.47) *mwah kara a me, (*ha) you k-u-ni nam*
 next.day DIST 2SG:IRR come PROSP 1SG.SBJ PERF-1SG-PERF scrape
niu
 coconut
 ‘Tomorrow when you come I will already have scraped the coconut’
 (Elicitation-2013-07-18-AD_0010–11)

Combined with the arguments above, the impossibility of *(h)a* cooccurring with *k...-ni* provides strong evidence that it is an aspect marker and not a tense marker.

The use of *(h)a* is optional, meaning that the semantics of prospective aspect is still available even when *(h)a* is not present. This suggests that when it does occur, the construction has some additional semantic or pragmatic force, other than simply encoding prospective

	1 ST PERSON	2 ND PERSON	3 RD PERSON
SG	<i>kuni</i>	<i>ani</i>	<i>kini</i>
NON-SG	<i>kani</i>		

Table 2.4: Inflected forms of the perfect

aspect. This is not surprising, given that future-oriented morphemes tend to have modal overtones in addition to their purely temporal semantics. The precise modal force of this morpheme is not well understood, but there is some evidence that it implies greater certainty that the event of the LC will occur. For example, as shown in (2.48), *(h)a* cannot be used when the speaker is expressing explicit uncertainty about the proposition. Here the speaker uses *kapwa* ‘maybe’ and *you tana pwi* ‘I don’t know’ to indicate uncertainty.¹⁵ The utterance is grammatical without *(h)a*, but ungrammatical with it.

- (2.48) *kapwa* (**ha*) *u* *k-a* *me* *mwah*, *you* *tana-∅*
 maybe PROSP 3PL IRR-NON.SG come next.day 1SG.SBJ know-1SG.POSS
pwi
 NEG
 ‘Maybe they will come tomorrow, I don’t know’
 (Elicitation-2013-07-30-AD_CA_0029-30)

It is clear therefore that the use of *(h)a* is influenced by the certainty of the proposition, but the exact modal semantics of this morpheme remain to be fully explored.

2.5.3 Perfect aspect

Perfect aspect in Koro is encoded by morpheme *k-...-ni*, which inflects to agree with the subject of the clause (the inflected forms are listed in Table 2.4). This morpheme is almost certainly diachronically related to irrealis *k-*. They not only take the same agreement suffixes, they also exhibit the same suppletive allomorphy in the second person singular, dropping the initial /k/. In addition, the related languages Sivisa Titan (Bower 2011), Lele (Böttger 2015), and Loni (Hamel 1994) show the same syncretism between irrealis and perfect forms. The perfect therefore looks to be comprised of irrealis *k-* plus a morpheme *-ni*. However, because there is no independent morpheme *ni* in Koro (other than the noun meaning ‘fish’), and because the semantic connection between irrealis and perfect aspect is not readily apparent, I do not treat these forms as related in the synchronic TAM paradigm. Their relationship probably has considerable time depth, given how widespread it is in Eastern Admiralties languages.

¹⁵The root *tana-* ‘know’ is one of a small class of predicative elements that behave morphologically like inalienable nouns, taking a possessive suffix to agree with the subject of the clause. The other such roots are *mucho-* ‘be full’ and *mbrwere-* ‘not want’.

As described in §2.4 above, the morpheme *k-...-ni* is a canonical perfect aspect marker. It indicates that TSit precedes TT, which is the function of perfect aspect according to Klein (see Table 2.3 above). For example, in (2.49), use of the perfect indicates that the eating event (TSit) preceded the topic time, which is identified as the time when only the shells remained.

- (2.49) *pwepwe-n kepi i ru, chengi-n mbrulei*
 shell-3SG.POSS only REAL:3SG stay:SG flesh-3SG.POSS rat
k-i-ni yeni
 PERF-3SG-PERF bite
 ‘Only the empty (clam)shells remained; as for the meat, the rat had already eaten it’
 (2011-03-15-AH_AV-01_0094)

Similarly, in (2.50) the time when the addressee brought the speaker home is interpreted as before the topic time (which in this example is the same as the time of utterance).

- (2.50) *a-ni me tawi jua me kor*
 2SG:PERF-PERF come take 1SG come place
 ‘You have already brought me to my place’ (2011-03-15-AH_AV-01_0224)

Use of *k-...-ni* is obligatory in a context where the topic time is after the situation time. Without perfect marking, such a reading is not available, and the clause is interpreted as perfective, as in (2.51). Compare this with the perfect-marked clause in (2.52), which entails that the going to town event had already occurred at the time when the speaker came to look for the addressee.

- (2.51) *munuwe you ∅ me kah au mwa au ∅ le taun*
 prev.day 1SG:SBJ REAL come find 2SG COORD 2SG REAL go.to town
 ‘Yesterday I came to find you and (then) you went to town’
 (Elicitation-2012-08-08-BZ_0005)

- (2.52) *munuwe you ∅ me kah au mwa a=nda*
 prev.day 1SG:SBJ REAL come find 2SG:PERF COORD 2SG:PERF-go:PERF
taun
 town
 ‘Yesterday I came to find you but you had already gone to town’
 (Elicitation-2012-08-08-BZ_0004)

There is no tense restriction on use of this morpheme. The perfect can occur in contexts where TT is before TU (past perfect) or includes TU (present perfect). These are illustrated in (2.53) and (2.54), respectively. In neither of these examples is the relation between TT and TU explicitly encoded, but the context was set up in the elicitation as past tense in (2.53) and present in (2.54).

- (2.53) *you* \emptyset *me* *wum* *atam,* *o* *k-a-ni* *yeniyan*
 1SG:SBJ REAL come house 2SG:POSS 2PL:SBJ PERF-NON.SG-PERF eat
 ‘When I came to your house you had already eaten’
 (Elicitation-2011-03-31-AH_AV_0043)

- (2.54) *ra* *pihin* *piri* *kor,* *topus* *ta* *kor,* *topus*
 3PL.DET woman OF/FOR village SOME LOC.COP village SOME
k-a-nda *sawal*
 PERF-NON.SG-go:PERF side
 ‘As for the village women, some are in the village, some have gone to the other side’
 (Elicitation-2012-07-16-BZ_0289)

k-...-ni can also occur in contexts where TT is after TU (future perfect). This was illustrated in (2.47) above, and is further exemplified in (2.55), where TT is explicitly set by temporal adverb *mwah*.

- (2.55) *mwah,* *kara* *a* *me,* *you* *k-u-ni* *nam* *niu*
 next.day DIST 2SG:IRR come 1SG.SBJ PERF-1SG-PERF scrape coconut
 ‘Tomorrow when you come I will have already scraped the coconut’
 (Elicitation-2013-07-18-AD_0010)

Interestingly, this is the only context of future temporal reference where irrealis does not occur. This gives even more weight to the hypothesis that *k-...-ni* and *k-* are diachronically related, since they do not cooccur, even when the semantics appear to require it.

When perfect is used with verbs of motion that take a goal object, there is an implicature that the subject is still at the goal location; that is, there is an implicature that TT is within the target state (TS) of the LC. This is illustrated in (2.56a), which, like its English translation, is most naturally interpreted to have the temporal structure in (2.56b), where the subject is still in town.¹⁶

- (2.56) a. *nano* *k-i-nda* *kor* *manda*
 mother PERF-3SG-go:PERF village main
 ‘Mother has gone to town’ (Elicitation-2012-08-08_BZ)
- b. {——}SS++[++]TT++TS

The implicature can be defeated, however, showing that the perfect construction is agnostic as to whether TT is within TS, or after it. This is demonstrated in (2.57), which specifies that the subject is no longer in town.

¹⁶Note that the path verbs *le* and *la* both have the suppletive form *nda* when they occur in perfect aspect — see §3.2 in the following chapter for details.

	1 ST PERSON	2 ND PERSON	3 RD PERSON
SG	<i>ku</i>	<i>a</i>	<i>ki</i>
NON-SG	<i>ka</i>		

Table 2.5: Inflected forms of the irrealis

- (2.57) a. *nano k-i-nda kor manda mwa i k-i-ni*
 mother PERF-3SG=go:PERF village main COORD 3SG PERF-3SG-PERF
mul
 return
 ‘Mother has gone to town and she has returned’ (Elicitation-2012-08-08_BZ)
- b. {——}ss+++++ts []tt

This is the typical function of perfect aspect (as opposed, for example, to resultative aspect, which entails that TT is within TS), and is further evidence that *k...-ni* is a canonical perfect aspect marker.

2.6 Reality status

In this section I describe in detail the semantics and functional distribution of the Koro reality status markers: realis \emptyset and *i*, and irrealis *k-*. In contrast to the aspectual categories described in the preceding sections, reality status is not amenable to an analysis within the Kleinian framework. Instead I argue that these morphemes are markers of temporal definiteness, as has been proposed for similar systems in other languages, such as Mohawk Baker and Travis (1997).

There are three reality status morphemes in Koro: irrealis *k-*, which inflects in agreement with the subject of the clause, realis \emptyset , and an overt allomorph of the null realis morpheme *i*, which occurs in certain contexts with third person singular subjects. The inflected forms of the irrealis morpheme are listed in Table 2.5. The following examples illustrate these three morphemes. In (2.58) irrealis *k-* occurs immediately before the verb in both clauses, and it indicates that the events denoted by the verbs have not occurred yet, but are expected to occur in the future. In contrast, in (2.59) there is no overt TAM marking before the verb, and this is obligatorily interpreted as realis — the event described by the verb is understood to have already occurred. Finally, in (2.60), *i* occurs between the subject and the verb, and again the interpretation of the clause is obligatorily realis.

- (2.58) *u k-a le lomwi, \emptyset k-i rek*
 3PL.SBJ IRR-NON.SG go.to plant 3INAN.OBJ IRR-3SG grow
 ‘When they plant it, it will grow’ (2011-03-31-AH_AV-01_0198)

(2.59) *uru* \emptyset *le lomwi* \emptyset
 3DU REAL go.to plant 3INAN.OBJ
 ‘They planted it’ (2011-03-31-AH_AV-01_0039)

(2.60) *Amerika i me muring*
 America REAL:3SG come behind
 ‘America (the American army and navy) came later’ (2012-07-09-BD-01_0035)

These examples demonstrate once again that lack of irrealis marking has an obligatory realis interpretation. As discussed in §2.2 above, this obligatory realis entailment in unmarked clauses is the motivation for positing a null realis morpheme, which imparts this meaning when no overt TAM marking is present.

The distribution of the overt realis morpheme in (2.60) is not well understood. It only occurs with third person singular subjects. With non-singular and non-third person subjects, it does not occur. For example, in (2.61), which has a third person dual subject, there is no overt realis marker.

(2.61) *mwa uru* \emptyset *me*
 COORD 3DU REAL come
 ‘And those two came’ (2011-03-22-AH_AV-02_0055)

In addition, it is only required with certain predicates. The verbs that require overt marking of realis in this context are all intransitive, but it is not clear that they otherwise form a coherent class. For example, although many such verbs are unaccusative, including *me* in (2.60) above, certain unergative verbs also require *i*, as shown in (2.62), where unergative verb *kal* ‘swim’ obligatorily takes the overt realis allomorph. This clause is ungrammatical without *i*.

(2.62) *Rex *(i) kal*
 Rex REAL:3SG swim
 ‘Rex swam’ (Elicitation-2013-07-23-AD_0129–30)

Oddly, the requirement for *i* to occur disappears when any constituent follows the verb, even if it is not an argument. For example, as shown in (2.63), the verb *me* ‘come’ requires *i* to precede it in realis with a third person singular subject.

(2.63) *Rex *(i) me*
 Rex REAL:3SG come
 ‘Rex came’ (Elicitation-2013-07-23-AD_0117–18)

If it is followed by a goal argument, as *kor* ‘village’ in (2.64), this requirement is removed.

(2.64) *Rex* \emptyset *me kor mwa i mul liye*
 Rex REAL come village COORD 3SG return also
 ‘Rex came to the village and he went back again’ (Elicitation-2013-07-23-AD_0116)

Surprisingly, placing adverb *munuwe* ‘day before’ immediately after the verb has the same effect, making *i* optional. This is shown in (2.65). Here *me* lacks a goal argument, but it nonetheless does not require *i* to occur.

- (2.65) *Rex* \emptyset *me* *munuwe*
 Rex REAL come prev.day
 ‘Rex came yesterday’ (Elicitation-2013-07-23-AD_0114)

At present I do not have a principled explanation for the distribution of realis *i*. What is important to note is that *i* only occurs in realis with third person singular subjects, and that one of the sub-classes of verbs that requires it is the non-prepositional path verbs that occur in directional SVCs. These facts will be pertinent to the syntactic analysis of directional constructions in Chapter 6.

In the remainder of this section I discuss in detail the semantics of the Koro reality status system. I show that the irrealis morpheme *k-* is used in most contexts where irrealis would canonically occur, but can also be used in unexpected contexts, such as past habitual. I argue that this is because the Koro irrealis does not mark an event as unrealized *per se*, but instead marks it as temporally non-specific. This type of TAM system has been described for other languages, suggesting that there may be two distinct types of reality status systems across the world’s languages — one which makes a realized–unrealized distinction, and another that makes a temporally specific–nonspecific distinction.

2.6.1 Background: analyses of reality status

Traditional characterizations of reality status articulate a category that distinguishes between ‘realized’ or ‘actual’ and ‘unrealized’ or ‘non-actual’ situations (e.g., Mithun 1999:173). This approach emphasizes the truth-conditional semantics of propositions. Within such a framework, realis contexts include non-future tense, positive polarity, and indicative mood, while irrealis contexts include future tense and prospective aspect, conditionals (including counterfactuals), negative polarity, and jussive modalities. However, it has also been noted that in many languages other contexts can trigger the same marking found in irrealis contexts. For example, subjunctive in the Romance languages, which is used in many of the irrealis contexts outlined above, is also found in utterances where the proposition is not strongly asserted, either because it is in doubt, or because it is presupposed (Palmer 2001:11). Such systems suggest that ‘non-assertion’ is the core meaning of irrealis. This is related to the idea of ‘uncertainty’ — the less certain a speaker is about their assertion, the more likely irrealis is to occur (e.g., Timberlake 2007:328). As such, the contexts for occurrence of the irrealis include presupposition, doubt, and unrealized or hypothetical contexts such as future and counterfactual. This characterization of reality status focuses on the communicative function of irrealis. On the other hand, a number of languages use irrealis in what seems superficially to be a clearly realis context — past habitual. For example, the Papuan language Bargam uses irrealis marking in combination with past imperfective to mark backgrounded habitual events (Hepner 2006:134), and Givón (2001:359) notes that in many Austronesian languages the primary tense–aspect–mood distinction is between realis and irrealis, the latter category

Semantics	Unrealized marking predicted	Non-assertion marking predicted	Temporally non-specific marking predicted
Jussive	Yes	Yes	Yes
Conditional	Yes	Yes	Yes
Negation	Yes	No	No
Future, prospective	Yes	No	Yes
Presupposition	No	Yes	No
Uncertainty	No	Yes	No
Interrogative	No	Yes	No
Past habitual	No	No	Yes

Table 2.6: Comparison of contexts in which irrealis marking is expected in different types of systems

being used in habituais, among other contexts. This type of system has led to an alternative characterization of irrealis, namely that it encodes temporal non-specificity. This type of approach treats irrealis as analogous to ‘non-specific’ in the nominal domain, in that realis asserts or presupposes the existence of an event E, whereas irrealis does not. Past habitual is non-specific in this sense because it quantifies over multiple past events, none of which is referred to directly. Expected contexts for irrealis marking under this approach include future tense and prospective aspect, conditionals (including counterfactuals), and past habituais.

Table 2.6 summarizes the contexts in which irrealis marking is expected, given each of these respective characterizations of its semantics. Contexts above the line are those in which the three types of semantic characterizations make the same predictions, while those below the line have different predictions for each definition of irrealis. It is clear from this table that contexts of negation, presupposition, uncertainty, and past habitual are key environments in which to test the function of irrealis in a given language. In the following sections I will demonstrate that irrealis marking in Koro occurs in just those environments predicted by the ‘temporal non-specificity’ characterization.

Given the cross-linguistic variation touched upon in the above discussion, a number of scholars have questioned the validity and usefulness of identifying an ‘irrealis’ category cross-linguistically. Bybee (1998), for example, argues that irrealis is not a universal gram-type (where gram-types are “crosslinguistically common focal points for grammatical expression” in a given conceptual domain (p.262)). She observes that we know of no language in which a single grammatical category expresses a distinction between real and unreal states of affairs, and she contrasts this with categories such as perfective and imperfective aspect, which are grammatically encoded in language after language, and for which a stable core meaning can be posited cross-linguistically. However, Michael (2014) has recently presented compelling

evidence that Nanti, an Arawak language of Peru, does in fact have a binary inflectional category that distinguishes real from unreal states of affairs. Moreover, he shows that reality status is a stable grammatical category within the Kampan branch of Arawak, to which Nanti belongs. Given this counter-example, and the relative newness of scholarship on reality status, we might expect that other such neat reality status systems will be discovered as the concept is explored in more and more languages.

Bybee claims that languages fall into one of two categories in their treatment of the irrealis domain. The first type of language has a number of different morphemes, each of which covers only part of the conceptual domain of ‘irrealis’. For example, Lake Miwok has separate morphemes for future, negation, purposive, and counterfactual, alongside a single morpheme that covers desire, intention and sometimes future and imperative (Callaghan 1998). Bybee claims that in such languages there is no grammaticalized irrealis category; instead, there is a range of different morphemes with more specific meanings, such as ‘desiderative’ or ‘optative’. This is a fair analysis of languages such as Lake Miwok, and I do not wish to propose that every language has a grammatically instantiated irrealis category. However, the existence of such languages does not disprove the cross-linguistic validity of ‘irrealis’ as a category. Many languages divide up other accepted gram-types into more fine-grained distinctions. For example, the category of ‘past tense’ in languages like Matsigenka (Fleck 2007) and Luganda (Comrie 1985:93) is divided into finer semantic distinctions, such as recent, remote and distant, but this does not detract from the fact that ‘past tense’ forms a coherent semantic domain for grammatical expression cross-linguistically. The difference between past tense and irrealis in this respect is that past tense is grammaticalized much more frequently in the world’s languages than is irrealis. The claim here though is that this is a quantitative, rather than a qualitative, difference, and that the relative infrequency of its realization as a grammatical category is not strong evidence against the validity of irrealis as a cross-linguistic category.

In the second type of language that Bybee describes, a highly generalized morpheme occurs in most, but not all, of the contexts covered by the notion of ‘irrealis’. Moreover, this generalized morpheme cooccurs with another, more specific, morpheme in each of its different uses. An example of this type of language is Caddo, in which the so-called ‘irrealis’ personal prefixes, when occurring alone, mark a polar interrogative (Chafe 1995). In all other uses they pair with another morpheme that specifies the type of irrealis meaning, such as negation, prohibition, obligation, conditional, simulative, infrequency, and surprise. Bybee analyzes so-called ‘irrealis’ morphemes in such languages as instead being a set of polysemous morphemes that each gets its specific meaning from the construction in which it occurs. This analysis likens the irrealis morpheme in such languages to morphemes like *have* in English. Aside from its lexical meaning of possession, *have* can denote obligation (*I have to go to France*) or perfect aspect (*I have gone to France*). These two uses of *have* do not reflect a core shared semantics, and in addition there are phonological and selectional differences between the two (for example, *have* selects an infinitival complement in one case and a past participle in the other). As such, it is clear that these two constructions involve separate morphemes that happen to have grammaticalized from the same lexical source. Bybee argues that this is likewise the case for irrealis morphemes in languages of the Caddo

type. I will argue, however, that Koro is an example of a language where this analysis does not fit. In contrast, the irrealis morpheme in Koro is indeed a single morpheme, and I will give evidence that it has a consistent, if abstract, core semantics across its uses.

In the following sections I outline the range of functions that irrealis-marked clauses fulfill in Koro discourse. These divide into contexts in which irrealis *k-* can or must be the only instantiation of irrealis in the construction, and those in which *k-* obligatorily combines with another, more specific, irrealis morpheme. I discuss each of these contexts in turn. Past habitual is discussed separately. Finally, I present a number of contexts that are marked as irrealis in other languages, but are marked as realis in Koro.

2.6.2 Irrealis contexts that do not require an additional morpheme

Future tense, prospective aspect, jussive (or speaker-oriented) modalities, other deontic modalities, purposive adjuncts, and desiderative complements require irrealis *k-* to occur in Koro. All of these meanings are frequently realized without the addition of a more specific morpheme, and jussive modalities and desiderative complements do not allow any additional irrealis morpheme to occur. As such, the meaning of an irrealis clause is often only discernible in context. All translations in the following examples are those given by native speakers in the context of the ongoing discourse. Elicited examples are typically speakers' translations into Koro of sentences I presented in English.

The utterances in (2.66–2.67) have future temporal reference. The clause in (2.66) is marked only by irrealis *ku*, whereas that in (2.67) is marked additionally by *ha*.

(2.66) *mwah you k-u me namw niu*
 next.day 1SG.SBJ IRR-1SG come scrape coconut
 ‘Tomorrow I’ll come and scrape coconut’ (Elicitation-2013-07-18-AD_0003)

(2.67) *mwah, ha you k-u senisim au*
 next.day PROSP 1SG.SBJ IRR-1SG change 2SG
 ‘Tomorrow, I will change you’ (2011-03-07-AH_AV-03_0056)

As well as occurring with predicates that refer to future events (where TT is after TU), irrealis also occurs in prospective aspect. As described in §2.5.2 above, in prospective aspect the situation time is projected to be after the topic time. The utterance in (2.68), for example, is from a first person narrative in which the speaker is recounting events that actually occurred in the past. She uses irrealis *ka* to indicate the subjects' intention at the time to go and look for betelnut.

(2.68) *yourun k-a la kah pamei*
 1PL.EXCL IRR-NON.SG go.to:ANDAT find betelnut
 ‘We were going to go and look for betelnut’ (v2012-08-02-CB-01_0042)

Another context in which irrealis *k-* is obligatory is with jussive modalities, including imperative (2.69), hortative (2.70), and optative (2.71). The optative clause in (2.71) *ki ru* (literally ‘let it stay’) is used here as a polite imperative ‘leave it!’

- (2.69) *a re-i mweh!*
 2SG:IRR strike-SPEC:OBJ dog
 ‘Hit the dog!’ (Elicitation-2011-03-09-AH_AV_0024)
- (2.70) *to k-a la so ni!*
 1PL.INCL.SBJ IRR-NON.SG go.to:ANDAT spear fish
 ‘Let’s go and spear fish!’ (2011-03-08-AH_AV-01_0107)
- (2.71) *ndwal a k-i mekek; k-i ru!*
 canoe DIST IRR-3SG flimsy IRR-3SG stay:IRR/SG
 ‘The canoe will be too flimsy. Leave it (literally: let it stay)!’
 (2011-03-21-AH_AV-02_0038)

All of the jussive modalities are expressed by the irrealis, with no additional specifying morpheme.

Deontic modalities of weak and strong necessity also require irrealis *k-*, with or without another specifying morpheme. For example, in (2.72), deontic ‘should’ is encoded solely by irrealis marking, while in (2.73) irrealis marking combines with distal demonstrative *kara* to encode a similar meaning.

- (2.72) *i ∅ pwa-i le he kei: kei le ndramat piri*
 3SG REAL say-SPEC.OBJ go.to DAT tree tree go.to man OF/FOR
pwan rang i k-i ru; kei ta chinal k-i mul
 ground day 3SG IRR-3SG stay:IRR/SG tree POSS devil IRR-3SG return
le pilingan
 go.to sky
 ‘He said to the tree, if it was a man from the earth, it should stay in the day, if it was a devil’s tree it should go back to the sky’ (2011-03-07-AH_AV-03_0106–09)
- (2.73) *kara a chim rais le taun le chah mbrune-n ndohin*
 DIST 2SG:IRR buy rice go.to town because price-3SG.POSS small
 ‘You should buy rice in town because it’s cheaper’
 (Elicitation-2011-03-22-AH_AV_0094)

Strong necessity can also be encoded by either irrealis alone, as in (2.74), or by irrealis in combination with control verb *mas* ‘must’, as in (2.75).

- (2.74) *aruwar to k-a inei mangas cholan*
 now 1PL.INCL.SBJ IRR-NON.SG make work plenty
 ‘Now we must do a lot of work’ (Elicitation-2012-07-12-AD_BZ_0160)
- (2.75) *you ∅ mas you k-u la kah yenyian*
 1SG.SBJ REAL must 1SG.SBJ IRR-1SG go.to:ANDAT find food
 ‘I must go and find some food’ (2011-03-22-AH_AV-03_0015)

Purposive and desiderative complements also require irrealis marking. Purposive adjuncts either take irrealis marking by itself, as in (2.76), or they are introduced by preposition *piri* ‘for, of’, as in (2.77). There is no clear semantic distinction between purposives with and without *piri*. (Note that the events marked as irrealis in (2.77) have actually occurred at the time of utterance, and are therefore ‘realized’ events in the strictest understanding of the term.)

- (2.76) *you k-u ruwi au a la le-ti a*
 1SG.SBJ IRR-1SG put 2SG 2SG:IRR go.to:ANDAT PROX-stay 2SG:IRR
senisim au mwa...
 change 2SG COORD
 ‘I will take you so you can go and change yourself, and...’
 (2011-03-07-AH_AV-03_0060)

- (2.77) *au ∅ senisim au piri a me mwa a piri*
 2SG REAL change 2SG OF/FOR 2SG:IRR come COORD 2SG:IRR get.person
jua
 1SG
 ‘You changed yourself so that you could come and marry me’
 (2011-03-08-AH_AV-01_0182)

Complements of desiderative verbs such as *lengi*, *laikim* ‘want, like’, and *mbrwere-* ‘not want, dislike’ are marked as irrealis, as in (2.78–2.79). Such complements are optionally introduced by preposition *lengeri* ‘like’.

- (2.78) *i ∅ laikim lengeri ni mwatih k-i ru polo ndwal*
 3SG REAL want like fish every IRR-3SG stay:IRR/SG top canoe
 ‘He wanted all the fish to stay in the canoe’
 (2011-03-08-AH_AV-01_0116)
- (2.79) *you ∅ mbrwere-∅ ni k-i lus*
 1SG.SBJ REAL not.want-1SG:POSS fish IRR-3SG lost
 ‘I don’t want the fish to disappear’
 (2011-03-08-AH_AV-01_0112)

In the above examples the desired (or undesired) event is after the topic time, and therefore this usage falls within an analysis of irrealis as a marker of prospective aspect. When the desiderative complement does not have future temporal reference it surfaces instead as a nominalized VP. This is shown in (2.80–2.81), where the nominal complements instantiate ongoing or iterated activities with past or present temporal reference.

- (2.80) *you ∅ lengi meseng-a ndap*
 1SG.SBJ REAL like make-NMLZR:TR basket
 ‘I like making baskets’
 (Elicitation-2012-07-11-AD_BZ_0085)
- (2.81) *i ta mbrwere-n kan-iya epi*
 3SG LOC.COP not.want-3SG:POSS eat-NMLZR:TR sago
 ‘He never wants to eat sago’
 (Elicitation-2013-07-31-AD_CA_0103)

Certain verbs, however, cannot be nominalized. These include all path and locative verbs (refer to §3.2.2 in the following chapter for more detail). When such a verb occurs in the complement to a verb of desire, it is marked as irrealis, whether it has future temporal reference or not. This is illustrated in (2.82), where the activity of going to town is understood to have occurred, and continue to occur, every day. Since path verb *le* ‘go to’ cannot be nominalized, it instead occurs in an irrealis-marked clausal complement.

- (2.82) *you* \emptyset *lengi* *you* *k-u* *le* *taun* *le* *rang* *mamonein*
 1SG.SBJ REAL like 1SG.SBJ IRR-1SG go.to town go.to day every
 ‘I like to go to town every day’ (Elicitation-2012-07-11-AD_BZ-0096)

This shows that the function of irrealis in desiderative complements cannot be reduced to prospective aspect, since not all occurrences fit the criteria for prospective aspect.

Conditionals, including hypothetical and counterfactual constructions, are another context in which irrealis marking is obligatory. In Koro, the protasis of a conditional is typically introduced with *tehene* ‘thus’ or *lengeri* ‘like’, although there is occasionally no overt marking of the protasis (see (2.84) below). In a hypothetical conditional, only the apodosis must be marked for irrealis. This is demonstrated in (2.83), where the protasis *lengeri i kini koh niu* ‘if she has gathered coconuts’ is marked for perfect aspect, and the apodosis *ha i ki ru mesenge ndrelike* ‘she will be making oil’ is marked as irrealis.

- (2.83) *lengeri i* *k-i-ni* *koh* *niu,* *ha* *i* *k-i*
 like 3SG PERF-3SG-PERF gather coconut PROSP 3SG IRR-3SG
ru *mesenge ndrelike*
 stay:IRR/SG make oil
 ‘If she has gathered coconuts, she will be making oil’
 (Elicitation-2012-08-08-BZ_0048)

In hypothetical conditionals such as this, the speaker is not committed to the truth of the proposition in the protasis, but nor are they committed to its falsehood. Counterfactuals, on the other hand, entail that the proposition in the protasis is false. As such, both the protasis and the apodosis of a counterfactual conditional are marked for irrealis. For instance, the utterance in (2.84) entails that the subject is not here now, and the protasis *i ki ru rangeh* ‘if she were here now’ is marked as irrealis. The apodosis is not irrealis-marked in this example because it has a non-verbal predicate *tehene ke jua* ‘like me’, which cannot host any aspect or mood marking.

- (2.84) *i* *k-i* *ru* *rangeh* *e* *i* *tehene* *ke* *jua* *kepi* *e*
 3SG IRR-3SG stay:IRR/SG now COORD 3SG thus DAT 1SG only PROX
 ‘If she were still here she would be just like me’ (2011-04-23-AA-02_0180–81)

In contrast, the utterance in (2.85) has a non-verbal protasis and a verbal apodosis, and here the apodosis takes irrealis marking.

- (2.85) *munuwe tehene lengin, you k-u ru kor*
 prev.day thus rain 1SG.SBJ IRR-1SG stay:IRR/SG place
 ‘If it had rained yesterday, I would have stayed home’
 (Elicitation-2011-03-31-AH_AV_0002)

In summary, the apodosis of a hypothetical conditional is marked as irrealis, while the protasis, which the speaker neither asserts to be true nor false, is not. In contrast, the apodosis and protasis of a counterfactual, both of which the speaker asserts to be false, are marked as irrealis.

2.6.3 Irrealis contexts that require an additional morpheme

I now move on to discuss the contexts in which irrealis *k-* obligatorily combines with another, more specific, morpheme. These contexts are proximative aspect, prohibitives, and precautionary adjuncts.

As discussed in §2.5.1 above, both proximative *pa* and irrealis *k-* are required to express proximative aspect. As shown in (2.86), proximative cannot occur without irrealis marking.

- (2.86) *you pu *(k-u) metir*
 1SG.SBJ PRXMV IRR-1SG sleep
 ‘I want to sleep’ (Elicitation-2011-03-21-AH_AV_0089–91)

Like the proximative, prohibitive *mbrwa* also obligatorily occurs with irrealis. It is a modality indicating prohibition or admonition, as in (2.87) or negative optative, as in (2.88).

- (2.87) *mbrwa a la hou!*
 PROHIB 2SG:IRR go.to:ANDAT bush
 ‘Don’t go to the bush!’ (Elicitation-2011-03-21-AH_AV_0088)

- (2.88) *mbrwa awei mandan k-i me!*
 PROHIB wave big IRR-3SG come
 ‘Let a big wave not come!’ (Elicitation-2011-03-21-AH_AV_0087)

Finally, precautionary adjuncts, expressing a semantics of ‘in case’ or ‘lest’, are also obligatorily marked as irrealis. The precautionary semantics is encoded by the complementizer *mala (pwi)*.¹⁷ The proposition expressed in the *mala pwi* clause can be either a desired or an undesired event, as illustrated in (2.89–2.90) respectively.

- (2.89) *you le-tu sirah ∅ mala pwi to k-a*
 1SG.SBJ PROX-stay carry 3INAN.OBJ in.case 1PL.INCL.SBJ IRR-NON.SG
kah karahat
 find mud.crab
 ‘I’m bringing it (a bag) in case we find any mud crabs’
 (Elicitation-2012-07-23-BZ_0078)

¹⁷The negative particle *pwi* appears to be optional in this construction, and its inclusion or omission does not seem to affect the semantics of the construction.

- (2.90) *you* \emptyset *chongani* *life jacket* *mala pwi* *ndwal* *k-i* *lol*
 1SG.SBJ REAL wear life.jacket in.case canoe IRR-3SG sink
 ‘I put on the life-jacket in case the canoe sinks’ (Elicitation-2012-07-23-BZ_0079)

The *mala pwi* clause can also express an aversive meaning, ‘lest’. In (2.91), for example, the proposition *u ka rei au* is an undesired event that the event of the main clause is intended to avert.

- (2.91) *you* *k-u* *lop* *mala* *u* *k-a* *re-i* *au*
 1SG.SBJ IRR-1SG hide in.case 3PL.SBJ IRR-NON.SG strike-SPEC.OBJ 2SG
 ‘I’ll hide, lest they beat you’ (Elicitation-2012-07-23-BZ_0079)

As can be seen from the above examples, the *mala pwi* clause in all these uses takes irrealis marking.

2.6.4 Past habitual

For the most part, the contexts for irrealis marking described above are fairly unsurprising, and do not provide strong evidence against an interpretation of Koro irrealis as encoding ‘unrealized’ events. I discuss past habitual separately here, because, given the ‘unrealized’ characterization of irrealis, it is an unexpected context in which to find irrealis marking. Past habitual events are, after all, a prototypical instance of ‘realized’ events. They are asserted to have actually occurred a number of times in the past, and it is therefore surprising that they should trigger irrealis marking. Nonetheless, as noted above, irrealis marking of past habituals is reported for a number of languages, and past habitual is a predicted context for irrealis marking when irrealis is understood as a category encoding temporal non-specificity. In Koro, past habitual events are optionally marked as irrealis.

The typical way of expressing past habitual events is in a realis serial verb construction, with one of the verbs *ru* or *ri* ‘stay, be located’. This is illustrated in (2.92), which is not marked for irrealis, but expresses a past habitual meaning. (See §5.3.2.3 for more detail on the imperfective construction.)

- (2.92) *hamu,* *tino* *i* *ri* *tuwe* *karahat*
 before mother:1SG.POSS REAL:3SG stay:SG cook mud.crab
 ‘Before, my mother used to cook mud crab.’ (Elicitation-2012-08-06-AD_BZ_0086)

In narratives habitual aspect is often not indicated by the imperfective aspect construction shown above, but is instead indicated by irrealis *k-*, as in (2.93a).

- (2.93) a. *ol taim* *i* *k-i* *la* *k-i* *ri* *pondrawat* *he* *rutun*
 all.the.time 3SG IRR-3SG go IRR-3SG stay:IRR/SG play DAT 3PL
le *pohaleng.*
 go.to beach
 ‘All the time he would go and he would play with them on the beach.’

- b. *i la k-i la mwa tehene...*
 3SG go IRR-3SG go COORD thus
 ‘It went on and on and...’ (2011-04-23-AA-02_0216-17)

The habitual semantics of this construction is indicated by use of the adverbial *ol taim* ‘all the time’, and by the following clause *i la ki la* ‘it went on and on’. A variant of this clause almost always follows a habitual description, and can be repeated iconically to indicate duration.

Another example of a habitual construction is in (2.94). Here the speaker is telling a story based on a series of pictures provided to her.¹⁸ She is describing the typical daily activities of the subjects in the pictures. After setting up this background, she then relates a particular climactic event. In relating this individual event, she switches from irrealis marking to unmarked realis.

- (2.94) a. *u ndramat e u k-a le ti jin*
 3PL.DET man PROX 3PL.SBJ IRR-NON.SG go.to stay drink
ndran,
 fresh.water
 ‘These men would go out drinking’
- b. *hengorou piri kah-iya pihin a ti-rah.*
 thought OF/FOR find-NMLZR:TR woman DIST stay-DIST
 ‘and they would think about looking for women.’
- c. *i k-i mul le kor i k-i le tah*
 3SG IRR-3SG return go.to village 3SG IRR-3SG go.to strike
nambrulu-n.
 spouse-3SG.POSS
 ‘He would return to the village and he would go and hit his wife.’
- d. *i la i la i la piri tih a, i ∅ re-i*
 3SG go 3SG go 3SG go 3SG go time one DIST 3SG REAL strike-SPEC.OBJ
nambrulu-n...
 spouse-3SG.POSS
 ‘This went on and on until one time when he hit his wife...’ (2011-04-07-AH_AV-03_0391-94)

As is clear from these examples, irrealis marking is a common device used to relate events in habitual aspect. Its use in this context does not fit with a characterization of irrealis as marking ‘unrealized’ events. In §2.6.6 I will discuss further how habitual and related uses can be explained by invoking a ‘temporally non-specific’ semantics for irrealis aspect.

¹⁸The pictures were part of San Roque et al’s (2012) narrative problem solving task.

2.6.5 Contexts that do not trigger irrealis marking

In this section I describe a number of contexts that are treated as irrealis in other languages, but do not trigger irrealis marking in Koro. These contexts include negative polarity, uncertainty, frustrative, and interrogative mood.

Events under the scope of negation are by definition unrealized, and would therefore be expected to trigger irrealis marking. In Koro, however, negative polarity does not trigger irrealis marking. The interaction between reality status and negation is described in detail in §2.7 below. This section shows that, not only does negation not trigger irrealis marking, but the realis-irrealis distinction is in fact maintained under the scope of negation. It is clear, therefore, that negation is not an irrealis category in Koro.

Another context in which irrealis marking is found in a number of languages is contexts of uncertainty or inference. As shown in (2.95), even when a speaker has a low level of confidence in the truth of a proposition, realis marking is still perfectly acceptable. Here the speaker does not know whether the subject hit his wife or not, but the subordinate proposition *i rei nambrulun* ‘he hit his wife’ is nonetheless marked as realis. Likewise, in (2.96), occurrence of the adverb *kapwa* indicates that the speaker is uncertain about the truth of the proposition, but this does not trigger irrealis marking.

- (2.95) *pwi, you ta lisi i ∅ re-i nambrulu-n pwi*
 NEG 1SG.SBJ NEG see 3SG REAL strike-SPEC.OBJ spouse-3SG.POSS NEG
 ‘No, I didn’t see him hit his wife.’ (Elicitation-2013-08-09-AD_CA_0143)

- (2.96) *kapwa i ∅ chapol ye-si window a i k-i-ni yau*
 maybe 3SG REAL jump go-via window DIST 3SG PERF-3SG-PERF leave
 ‘Maybe he jumped through the window and is gone’ (2011-03-22-AH_AV-02_0036)

Similarly, inferential use of modal *mas* ‘must’, as in (2.97), does not trigger irrealis marking (compare this with its deontic use in (2.75) above, which does require irrealis marking).

- (2.97) *i ∅ mas i k-i-ni ndrah ndwal*
 3SG REAL must 3SG PERF-3SG-PERF board canoe
 ‘He must have boarded the canoe.’ (Elicitation-2012-08-08-BZ_0057)

Another context that surprisingly does not trigger irrealis marking is frustrative adverb *tahit*. This morpheme indicates that the event of the predicate was attempted, but not fully realized. For example, the utterance in (2.98) indicates that the subject tried to climb the tree, but did not make it to the top, and the utterance in (2.99) likewise entails that a spearing event took place, but that the intended object of the spearing was not struck. In neither case does the clause require irrealis marking.

- (2.98) *i ∅ nak kei a tahit*
 3SG REAL climb tree DIST FRUSTR
 ‘She tried to climb that tree (unsuccessfully)’ (Elicitation-2012-07-23-BZ_0054)

- (2.99) *you* \emptyset *le* *so-i* *i* *tahit*
 1SG.SBJ REAL go.to spear-SPEC.OBJ 3SG FRUSTR
 ‘I went and tried to spear him/her (unsuccessfully)’ (Elicitation-2012-07-23-BZ_0061)

The final context in which irrealis marking might be expected is in interrogatives. In Koro, neither polar nor *wh*-interrogatives trigger irrealis marking. In (2.100), for example, a *wh*-question is unmarked for irrealis, while (2.101) shows an unmarked polar question.

- (2.100) *mweh* *e* \emptyset *me-si* *ndihe?*
 dog PROX REAL come-via where
 ‘Where did this dog come from?’ (v2012-08-02-CB-04_0077)

- (2.101) *au* \emptyset *hurong* *komu* *atua* *ne* *pwi?*
 2SG REAL hear talk 1SG.POSS or NEG
 ‘Did you hear what I said, or not?’ (2011-03-15-AH_AV-01_0183)

Both polar and content interrogatives can be marked for irrealis if this category is independently triggered, for example by future temporal reference, but interrogative mood does not in itself trigger irrealis marking.

2.6.6 Discussion

As discussed above, Bybee claims that languages such as Koro, where a single form is used in a wide variety of irrealis contexts, do not in fact have a coherent grammaticalized irrealis category. In contrast, she claims that what appears to be a single morpheme in such languages is in fact two or more polysemous morphemes, each having grammaticalized in its current construction from some common source morpheme. The Koro data, however, provide strong evidence that in this language the irrealis does constitute a single category, with an invariant, albeit abstract, meaning across uses. Table 2.7 summarizes the contexts that trigger irrealis marking in Koro.

Let us first consider the formal data. Polysemous morphemes often exhibit divergent phonological or morpho-syntactic behavior. Take the polysemous *have* in English, mentioned earlier. In its obligation use it takes an infinitival complement, and often has a devoiced final consonant, whereas in its perfect aspect usage it takes a participial complement, and is often reduced to just the final consonant /v/. In contrast, Koro *k-* has consistent phonological form and morpho-syntactic characteristics across all of its uses. Morphologically, the pattern of inflection is the same across all uses. Verbs in Koro do not inflect, and this inflectional paradigm is restricted to irrealis and perfect markers. Likewise, the suppletive second person singular form *a* occurs in all uses. Syntactically, the restriction against co-occurrence with negation, discussed in the following section, holds across all uses. This is particularly telling, since there is no semantic reason for this restriction, and in all its functions the irrealis can occur in the periphrastic negation construction with modal verb *nap* ‘can’ (see §2.7.2 below). It is also noteworthy that *k-* occurs in exactly the same syntactic environment in all of its uses — unlike English *have*, it does not take different types of complement depending

Semantics	Triggers irrealis in Koro	Additional morpheme
Future	Yes	<i>ha</i> optional
Prospective	Yes	<i>ha</i> optional (very rare)
Jussive modalities	Yes	none
Other deontic modalities	Yes	<i>mas</i> , <i>kara</i> optional with necessity
Purposive complement	Yes	<i>piri</i> optional
Desiderative complement	Yes	none
Conditionals	Yes	<i>lengeri</i> , <i>tehene</i> optional on protasis
Proximative	Yes	<i>pa</i>
Prohibitive	Yes	<i>mbrwa</i>
‘In case’	Yes	<i>mala</i> (<i>pwi</i>)
Past habitual	Optional	none
Negation	No	NA
Uncertainty/inference	No	NA
Frustrative	No	NA
Interrogatives	No	NA

Table 2.7: Distribution of irrealis marking in Koro

on which type of irrealis meaning it expresses. Lastly, as illustrated amply above, most of the uses of irrealis do not require any additional morpheme to specify the particular type of irrealis meaning. Indeed, a number of contexts do not allow any additional specifying morpheme to occur. This must be taken as evidence that the irrealis meaning expressed in each construction is contributed by the irrealis morpheme itself.

Further, this analysis seems to hold true for many languages in the Admiralties family. A cognate form with the same patterns of inflection and suppletion, and with roughly the same range of uses, is found in each of the other Admiralties languages for which sufficient data is available.¹⁹ This suggests that the current form and function of the irrealis have persevered for some time in the sub-group, and that this is not simply a recent idiosyncratic grammaticalization in Koro.

Turning now to semantics, we can note that a comparison of tables 2.6 and 2.7 reveals that the Koro irrealis occurs in just those contexts predicted for a marker of temporal non-specificity. Namely, it occurs with future and prospective aspect, jussive modalities, conditional clauses, and past habitual aspect. Crucially, it is not triggered by negation, presupposition, uncertainty, or interrogative mood. These latter contexts are predicted to trigger irrealis marking for the ‘unrealized’ or ‘non-assertion’ types of irrealis, and they are reported to do so in a number of languages. The fact that Koro irrealis does not occur in these contexts suggests that neither of those characterizations captures its core meaning. I

¹⁹These are Paluai (Schokkin 2014b), Lele (Böttger 2015), Loni (Hamel 1994), Sivisa Titan (Bower 2011), and Kele (Ross 2002e).

suggest, therefore, that the Koro irrealis encodes a meaning of ‘temporal non-specificity’.

The question remains, however, as to what exactly ‘temporal non-specificity’ is. It has been observed that what is common to all the uses of an irrealis like that in Koro is that no specific event is referred to. In the case of future or hypothetical events, they cannot be referred to because they do not exist, while in the case of past habituals, a set of iterated events is evoked, but no single instance is referred to directly. The meaning of temporal non-specificity therefore has nothing to do with how precisely an event is located in time (for example with a temporal adverbial such as ‘yesterday at 3:15 in the morning’), but has to do instead with whether the predicate refers to an instance of that event in the real world of the discourse. (I use the term ‘real world of the discourse’ to distinguish this from any possible worlds evoked, for example, by conditionals or deontic modals.) Baker and Travis (1997) provide a formal analysis of this notion of temporal non-specificity for Mohawk ‘future’ prefix *v-*, which has a very similar range of functions to those of irrealis in Koro. Most importantly, like the Koro irrealis, the Mohawk so-called ‘future’ occurs in past habitual contexts. Borrowing Heim’s concept of Quantifier Indexing from the nominal domain, Baker and Travis argue that this morpheme in Mohawk indicates that the event variable of the verb undergoes Quantifier Indexing, and thus gets its quantificational force from the environment, rather than having its own inherent quantificational force. Whether this particular formal implementation is the most useful remains to be seen, but the analogy between the nominal and verbal domains is an apt one — a verbal category like that in Koro and Mohawk does indeed have a similar non-referential function to that of a non-specific indefinite morpheme in the noun phrase.

Finally, let us briefly compare Koro with Nanti, a language that has been argued to exhibit a prototypical reality status category, expressing a binary distinction between realized and unrealized events (Michael 2014). Table 2.8 compares the contexts of irrealis marking in the two languages. It can be seen from this table that the contexts that trigger irrealis marking in Koro and Nanti largely overlap. However, in past habitual clauses and under the scope of negation, the two languages pattern differently. Koro allows irrealis marking in past habitual clauses, but not under negation, while Nanti exhibits the opposite pattern. The question at issue is whether these are idiosyncratic differences, explicable only by reference to particular grammaticalization trajectories within each language, or whether the differences point to the existence of two internally-coherent semantic categories. Clearly, an examination of just two languages cannot settle this debate, but I argue that these data are consistent with an analysis that invokes two stable categories — ‘unrealized’ and ‘temporally non-specific’. Where the two languages both use irrealis marking, these are contexts that are both unrealized and temporally non-specific. Where marking in the two languages differs, namely with past habitual and negation, these are contexts that have different values for realization and temporal specificity. Michael makes a strong case that the irrealis category in Nanti is in fact a cohesive grammatical category that marks unrealized events, and the data in the current paper likewise support an analysis of Koro irrealis as an internally consistent category expressing temporal non-specificity. It remains to be seen whether similar analyses can be invoked to account for the apparently idiosyncratic patterning of irrealis morphemes in other languages.

Semantics	Triggers irrealis in Nanti	Triggers irrealis in Koro
Future	Yes	Yes
Deontic modality	Yes	Yes
Conditionals	Yes	Yes
Prospective, purposive	Yes	Yes
Desiderative complement	Yes	Yes
Interrogatives	No	No
Past habitual	No	Yes
Negation	Yes	No

Table 2.8: Comparison of contexts that trigger irrealis marking in Koro (irrealis = temporally non-specific) and Nanti (irrealis = unrealized)

2.7 Negation

Negation of non-verbal clauses in Koro is achieved with clause-final particle *pwi*, as in (2.102). Here the subject *nambrulu yourun* ‘our husbands’ is followed by nominal predicate *ndramat* ‘people’ and *pwi* occurs at the end of the clause.

- (2.102) *nambrulu yourun ndramat pwi*
 spouse 1PL.EXCL person NEG
 ‘Our husbands are not people’ (v2012-08-02-CB-04_0094–95)

Negation of verbal clauses requires an additional element, *ta*, which occurs immediately before the verb, as in (2.103). This utterance is ungrammatical without *ta*.

- (2.103) *you *(ta) lisi i pwi*
 1SG.SBJ NEG see 3SG NEG
 ‘I didn’t see him’ (Elicitation-2012-07-12-AD_BZ_0069–70)

As illustrated in (2.103–2.105), particle *pwi* is truly clause-final, occurring after any complements or adjuncts. For example, as shown in (2.104b), *pwi* cannot precede a temporal adverb. Nor can it precede an instrumental modifier, as the ungrammaticality of (2.105b) indicates.

- (2.104) a. *Rex ta me munuwe pwi*
 Rex NEG come prev.day NEG
 ‘Rex didn’t come yesterday’ (Elicitation-2012-07-20-AD_BZ_0043)
- b. **Rex ta me pwi munuwe*
 Rex NEG come NEG prev.day (Elicitation-2012-07-20-AD_BZ_0044)

- (2.105) a. *you ta re-i i le parakei pwi*
 1SG.SBJ NEG strike-SPEC.OBJ 3SG go.to stick NEG
 ‘I didn’t hit him with a stick’ (Elicitation-2012-07-30-AD_0123)
- b. **you ta re-i i pwi le parakei*
 1SG.SBJ NEG strike-SPEC.OBJ 3SG NEG go.to stick
 (Elicitation-2012-07-30-AD_0122)

The position of *pwi* with respect to clausal complements and adjuncts, however, is variable, and this will be discussed further in §2.7.3 below.

Miestamo (2005) develops a typology of negation, based on the relation in a given language between negative polarity clauses and their positive counterparts. He identifies two ways in which this relation can be symmetrical or asymmetrical. Clauses where the form of the construction changes in the negative (in addition to the simple insertion of the negative element) show structural asymmetry. Paradigmatic asymmetry, on the other hand, refers to a restriction of choices or neutralization of contrasts in a paradigm, such as person or TAM, under negation. Koro negation exhibits asymmetry in both these domains. Asymmetry in the paradigm involves suppression of imperfective aspect marking under negation (§2.7.1). Asymmetry in the construction comes about because verbal clauses with overt aspect marking cannot be negated directly, but instead must occur in an alternative biclausal construction (§2.7.2). I will discuss each of these types of asymmetry in turn.

2.7.1 Asymmetry in the paradigm

Koro verbal negation exhibits paradigmatic asymmetry in TAM marking. When the imperfective construction is negated, it can only have a negative habitual or negative ability reading, as in (2.106) and (2.107).

- (2.106) *i ta ti jan karahat pwi*
 3SG NEG stay eat mud.crab NEG
 ‘He never eats mud crab’ (Elicitation-2012-08-07-AD_0026)

- (2.107) “*O Chichindrikawa, you pwa tehene au ta ti nak*
 INTERJ Chichindrikawa 1SG.SBJ say thus 2SG NEG stay climb
pamei pwi.”
 betelnut NEG
 ‘Oh, Chichindrikawa, I thought you couldn’t climb betelnut at all.’
 (2011-03-08-AH_AV-01_0085-0086)

A negative progressive reading is achieved instead with a simple negated clause without any overt imperfective marking, as in (2.108).

- (2.108) *au* \emptyset *luk-i* *mal* *me* *jua, you* *ta* *suwe* *ndwal*
 2SG REAL put-SPEC.OBJ wind come 1SG 1SG.SBJ NEG paddle canoe
pwi
 NEG

‘When you called me (on the phone) I was not paddling the canoe’

(Elicitation-2012-08-04-AD_CA_0005)

In other words, without context, a simple negated clause is ambiguous between a negative perfective and a negative imperfective interpretation. This is a case of asymmetry in the paradigm, where choice of morphological aspect categories is restricted under negation. Such neutralization of a perfective–imperfective distinction under negation is relatively common cross-linguistically.

2.7.2 Asymmetry in the construction

As noted in §2.2, preverbal negator *ta* cannot cooccur with any of the TAM markers. This means that clauses marked for irrealis aspect cannot be negated by simple addition of *ta* and *pwi*. Instead, clauses with irrealis marking must occur in a biclausal construction with modal verb *nap* in order to be negated. This is illustrated in (2.109–2.110). In this construction negated *nap* occurs as the main verb and takes the irrealis marked clause as its complement.

- (2.109) *mwah* *ta* *nap* *ha* *you* *k-u* *tuwe-ni* *ni* *pwi*
 next.day NEG can PROSP 1SG.SBJ IRR-1SG cook-SPEC.OBJ fish NEG

‘Tomorrow I won’t cook the fish ~ I won’t be able to cook the fish’

(Elicitation-2012-07-14-AD_BZ_CA_0010)

- (2.110) *ha* *kopwe-m* *k-i* *la, ta* *nap* *i* *k-i* *me* *pelingan*
 PROSP hand-2SG.POSS IRR-3SG go NEG can 3SG IRR-3SG come up
pwi
 NEG

‘If you put your hands (on it), it won’t come up’

(2011-04-23-AA-03_0239)

The verb *nap* is borrowed from Tok Pisin. Tok Pisin *inap* (<English *enough*) is a modal verb expressing ability or permission.²⁰ Modal *nap* in Koro likewise expresses ability, as in (2.111) or permission or possibility, as in (2.112).

- (2.111) *au* *nap* *a* *la* *kor* *manda?*
 2SG can 2SG:IRR go.to:ANDAT village main

‘Can you go to town? (Are you big enough? Do you know the way?)’

(Elicitation-2012-08-06-AD_BZ_0131)

²⁰It is also a stative lexical verb meaning ‘be enough, be sufficient; be full or satiated’ and a preposition meaning ‘until’.

- (2.112) *i nap a la kor manda?*
 3SG can 2SG:IRR go.to:ANDAT village main
 ‘Can you go to town? (Are you allowed? Is it possible?)’
 (Elicitation-2012-08-06-AD_BZ_0132)

As illustrated here, there is a structural difference correlated with these two slightly different readings of *nap*. When the subject appears before *nap*, as in (2.111), the ability reading arises, whereas for a permission or possibility reading *nap* takes invariant third person singular subject marking and the subject appears after *nap*, as in (2.112) and (2.113), where pronominal subject *to* occurs after *nap* and before irrealis marker *ka*. (Due to idiosyncrasies in the person paradigm, this difference is somewhat obscured in second person singular.)

- (2.113) *i nap to k-a la kor ia*
 3SG can 1PL.INCL.SBJ IRR-NON.SG go.to:ANDAT afternoon
 ‘We can go this afternoon (it’s possible)’ (Elicitation-2012-08-10-BZ_0001)

Despite its semantics, which are typical of a modal auxiliary, the morpho-syntactic behavior of *nap* indicates that it is a lexical verb rather than an auxiliary. The distinction between auxiliary verbs and lexical verbs that take clausal complements ultimately comes down to whether the resulting construction is mono-clausal or bi-clausal. An auxiliary takes a verbal complement (a VP or other extended projection of V) that is smaller than the constituent of which the auxiliary is head, and crucially, an auxiliary construction is monoclausal. As such, it has just a single subject position. In contrast, a lexical verb can select a complement of any size, and if it creates a bi-clausal construction, there can be two subjects expressed. Koro *nap* takes a CP, AspP, or TP complement, as in (2.109), where it takes an AspP, (2.113), where it takes a TP, and (2.114), where it takes a CP headed by complementizer *piri*.

- (2.114) *nderu-∅ e ta nap piri k-i serim niu e*
 child-1SG.POSS PROX NEG can OF/FOR IRR-3SG share coconut PROX
pwi
 NEG
 ‘My child is not going to share these coconuts’ (2011-03-31-AH_AV-01_0235)

There are clearly two potential subject positions in such constructions. This is evident in (2.115), where both subject positions are overtly filled with first person singular subject pronoun *you*.

- (2.115) *o, you ta nap you k-u nak ∅ pwi*
 INTERJ 1SG.SBJ NEG can 1SG.SBJ IRR-1SG climb 3INAN.OBJ NEG
 ‘Oh, I won’t be able to climb it’ (2011-04-08-AH_AV-01b_0013)

Typically, however, only a single subject is expressed in a *nap* construction. When the overt subject is in the downstairs clause, default third person singular marking occurs immediately preceding *nap*, as in (2.113) above. When a thematic subject instead occurs before *nap* there can optionally be a gap in the downstairs clause, as in (2.116).

- (2.116) *you_i ta nap —_i k-u so-i ni pwi*
 1SG.SBJ NEG can IRR-1SG spear-SPEC.OBJ fish NEG
 ‘I won’t spear the fish’ (Elicitation-2012-07-16-BZ_0021)

These different word orders could be analyzed as a raising alternation, where the subject in a construction like that in (2.116) has raised out of the downstairs clause into a non-theta-marked position in the upstairs clause. However, the difference in modal interpretation (illustrated in (2.111–2.112) above), combined with the fact that two overt subjects do sometimes occur, suggests that there are two different verbs *nap* — one which has a thematic subject and one which does not. The former has ability semantics while the latter indicates permission or possibility. This semantic difference aligns with the proposed syntactic difference, in that the verb that expresses the subject’s ability assigns a theta role to that subject, whereas the verb expressing permission or possibility does not. Utterances like (2.114) and (2.116), where there is no overt subject in the downstairs clause, likely involve (optional) pro-drop under identity with the higher subject.²¹

When the non-theta-marking *nap* construction is negated, third person marking does not appear preceding *nap* — instead just preverbal negator *ta* occurs, as in (2.117) (cf. (2.113) above).

- (2.117) *ta nap to k-a la koria pwi*
 NEG can 1PL.INCL.SBJ IRR-NON.SG go.to:ANDAT afternoon NEG
 ‘We can’t~won’t go this afternoon’ (Elicitation-2012-08-10-BZ_0002)

This suggests that the *i* that occurs preceding *nap* in utterances such as (2.113) above is not a subject pronoun, but is instead the overt third person singular allomorph of the realis marker. If it were a subject pronoun instead, we would expect it to fill the subject position of the main clause, and it should therefore occur preceding *ta* in the negated clause. The fact that *nap* does not require a subject element to precede it, but can be preceded just by polarity or reality status marking, is further evidence that in this construction it does not assign a thematic role to its subject.

As was illustrated in (2.8–2.9) above, perfect aspect *k...-ni*, like irrealis *k-*, cannot cooccur with negation. However, unlike the irrealis, *k...-ni* cannot occur in the biclausal construction with *nap* either. This is shown by the ungrammaticality of (2.118), where *nap* takes a perfect-marked clause as its complement.

- (2.118) **ta nap you k-u-ni tuwe-ni ni pwi*
 NEG can 1SG.SBJ PERF-1SG-PERF cook-SPEC.OBJ fish NEG
 Intended: ‘I haven’t cooked the fish (yet)’ (Elicitation-2012-07-16-BZ_0003)

Instead, a negative perfect meaning is expressed by replacing clause-final *pwi* with *mwasau* ‘not yet’, which occupies the same strictly clause-final slot as *pwi*.

²¹Another possibility is that the permission/possibility verb is in fact a raising verb, and that the construction that only exhibits an overt subject in the upstairs clause is a raising construction. Detailed semantic elicitation would be needed to differentiate between these two analyses, and I leave this possibility open for future research.

(2.119) *you ta tuwe-ni ni mwasau*
 1SG.SBJ NEG cook-SPEC.OBJ fish not.yet
 ‘I haven’t cooked the fish yet’ (Elicitation-2012-07-14-AD_BZ_CA)

(2.120) *Luwe ta me mwasau*
 Luwe NEG come not.yet
 ‘Luwe hadn’t come yet’ (2011-03-11-AH_AV-02_0063)

This can be seen as a further case of structural asymmetry under negation, because the perfect is expressed by two different constructions in positive and negative polarity. Unlike *k-...-ni*, *mwasau* is not a TAM inflection, since it can also occur in non-verbal clauses, which cannot take TAM marking. This is shown in (2.121), with the nominal existential predicate *ndwal mandan* ‘big canoe’.

(2.121) *koro ndwal ndohin; ndwal mandan mwasau*
 PROX canoe small canoe big not.yet
 ‘This is a small canoe; (there’s) not yet a big canoe’ (2011-03-15-AH_AV-01_0161)

In addition, *mwasau* appears to have an entailment that the event is expected to occur. That is, it seems to translate best into English as ‘have not yet’, rather than simply ‘have not’. Despite the structural and semantic differences between *k-...-ni* and *mwasau*, I posit that the existence of *mwasau* blocks the biclausal *nap* negation strategy from occurring in perfect aspect.²²

There are therefore two types of asymmetry in the negative construction: in irrealis a biclausal negation strategy with raising verb *nap* is employed; in perfect aspect the perfect aspect marker is replaced by negative *ta* and a different clause-final negator is used.

2.7.3 Subordination and negation

When two verbs in separate main clauses are negated, each verb takes its own preverbal negator *ta* and each clause takes its own clause-final negator *pwi*. This is illustrated in (2.122), where both the verbs *jeni* ‘eat’ and *numwi* ‘drink’ take preverbal *ta*, and each clause has its own clause-final negator.

(2.122) *uru ta yen-i ∅ pwi, uru ta numwi chu a*
 3DU NEG eat-SPEC.OBJ 3INAN.OBJ NEG 3DU NEG drink soup DIST
pwi
 NEG
 ‘They didn’t eat it, they didn’t drink the soup’ (2011-04-23-AA-02_0048)

²²An alternative analysis of *k-...-ni* in Koro is that it is in fact a morpheme meaning ‘already’, rather than a pure perfect aspect marker. Although I have not done targeted elicitation on this topic, it appears to fit many of the properties of such a morpheme listed by Vander Klok and Matthewson (2015). If this were the case, then the blocking effect of *mwasau* would make even more sense, since there tends to be a correlation between ‘already’ in positive polarity and ‘not yet’ under negation.

In simplex clauses, the position of negative morphemes is fixed, and cannot be manipulated to express scope differences. In subordinate clause constructions, on the other hand, the position of negators may be manipulated to reflect scope, or to resolve ambiguity. Specifically, the position of preverbal *ta* determines whether it is the main or subordinate predicate that is negated. Koro allows both finite and non-finite subordination, but only finite subordinate clauses may be negated. Different verbs take different-sized finite complements, and negation possibilities also differ according to this. The verb *lisi* ‘see’, for example, can take a finite AspP or TP complement, such as *i los me pwan* in (2.123).

- (2.123) *you* \emptyset *lisi* *i* \emptyset *los* *me* *pwan*
 1SG.SBJ REAL see 3SG REAL fall come down
 ‘I saw him fall down’ (Elicitation-2013-07-30-AD_CA_0095)

When negated, either the main predicate or the subordinate predicate is under the scope of negation, depending on the position of preverbal *ta*. This is illustrated in (2.124).

- (2.124) a. *you* *ta* *lisi* *i* \emptyset *tuwe* *ndrangos* *pwi*
 1SG.SBJ NEG see 3SG REAL cook rice NEG
 ‘I didn’t see her cook rice’ (Elicitation-2012-07-12-AD_BZ_0075)
- b. *you* \emptyset *lisi* *i* *ta* *tuwe* *ndrangos* *pwi*
 1SG.SBJ REAL see 3SG NEG cook rice NEG
 ‘I saw her not cooking rice’ (Elicitation-2012-07-12-AD_BZ_0074)

In (2.124a), where *ta* marks the matrix verb, the scope of negation is ambiguous — it either takes scope only over the matrix verb, or it has the whole biclausal construction in its scope. In other words, the construction does not entail that the girl cooked rice, and it is ambiguous as to whether the subject saw the girl or not. It is felicitous both in a world where the subject saw the girl (but not when she was cooking rice), and in a world where she did not see the girl at all. This interpretation is evident in the similar example in (2.125).

- (2.125) *pwi*, *you* *ta* *lisi* *i* \emptyset *re-i* *nambrulu-n* *pwi*
 NEG 1SG.SBJ NEG see 3SG REAL strike-SPEC.OBJ spouse-3SG.POSS NEG
 ‘No, I didn’t see him hit his wife (I don’t know whether he did or not)’
 (Elicitation-2013-08-09-AD_CA_0143)

In contrast, in the utterance in (2.124b), negation has scope only over the subordinate verb. This entails that the subject did see the girl, and that she was not cooking rice at the time.

The construction *kalo-* [. . .] *tut* ‘forget’ (literally: ‘throat forget’) takes a CP complement rather than an AspP or TP. This is illustrated in (2.126), where complementizer *tehene* introduces the subordinate clause.

- (2.126) *kalo-* \emptyset *i* *tut* *tehene* *Rex* *i* *me*
 throat-1SG.POSS REAL:3SG forget thus Rex REAL:3SG come
 ‘I forgot that Rex came’ (Elicitation-2012-07-12-AD_BZ)

As shown in (2.127), just like with *lisi* in (2.124) above, either the matrix or the subordinate verb may be negated separately in this construction by altering the position of preverbal *ta*. In either case, *pwi* occurs at the end of the whole clause. Additionally, both matrix and subordinate clause may be negated by placing preverbal *ta* before both verbs, as in (2.127c).

- (2.127) a. *kalo-∅* *ta* *tut* *tehene* *Rex* *i* *me* *pwi*
 throat-1SG.POSS NEG forget thus Rex REAL:3SG come NEG
 ‘I didn’t forget that Rex came’ (Elicitation-2012-07-12-AD_BZ)
- b. *kalo-∅* *i* *tut* *tehene* *Rex* *ta* *me* *pwi*
 throat-1SG.POSS REAL:3SG forget thus Rex NEG come NEG
 ‘I forgot that Rex didn’t come’ (Elicitation-2012-07-12-AD_BZ)
- c. *kalo-∅* *ta* *tut* *tehene* *Rex* *ta* *me* *pwi*
 throat-1SG.POSS NEG forget thus Rex NEG come NEG
 ‘I didn’t forget that Rex didn’t come’ (Elicitation-2012-07-12-AD_BZ)

Unlike the constructions with *lisi* above, in these negated constructions there is no ambiguity about the scope of negation — negation has scope only over the verb it marks. In other words, the utterance in (2.127a) entails that Rex did come. This scopal difference also correlates with a morpho-syntactic difference in the possible placement of clause-final *pwi*. When both verbs are negated there is variation in the behavior of the clause-final negative particle (*pwi* or *mwasau*). It is ungrammatical for two clause-final negators to occur in sequence, but one may optionally occur after the matrix verb, as in (2.128b).

- (2.128) a. **kalo-∅* *ta* *tut* *tehene* *Rex* *ta* *me* *pwi* *pwi*
 throat-1SG.POSS NEG forget thus Rex NEG come NEG NEG
 (Elicitation-2012-07-12-AD_BZ)
- b. *kalo-∅* *ta* *tut* *pwi* *tehene* *Rex* *ta* *me* *pwi*
 throat-1SG.POSS NEG forget NEG thus Rex NEG come NEG
 ‘I didn’t forget that Rex didn’t come’ (Elicitation-2012-07-12-AD_BZ)

This can only occur with verbs that take a CP complement; that is, this is only allowed with constructions in which negation does not have ambiguous scope. In contrast, verbs like *lisi* with which negation has ambiguous scope cannot take *pwi* after the matrix verb, as shown in (2.129b).

- (2.129) a. *you* *ta* *lisi* *Calem* ∅ *los* *me* *pwan* *pwi*
 1SG.SBJ NEG see Calem REAL fall come down NEG
 ‘I didn’t see Calem fall’ (Elicitation-2013-07-30-AD_CA_0097)
- b. **you* *ta* *lisi* *pwi* *Calem* ∅ *los* *me* *pwan*
 1SG.SBJ NEG see NEG Calem REAL fall come down
 (Elicitation-2013-07-30-AD_CA_0100)

Subordinate clauses that are adjuncts rather than complements behave differently again. They *require* a clause-final negator to immediately follow the clause it has scope over — that is, they obligatorily follow the pattern in (2.128b). For example, the reason construction in (2.130) obligatorily takes negative *pwi* after the matrix clause; unlike with complement clause constructions, *pwi* cannot occur only once at the end of the whole construction.

- (2.130) a. *you ta chim ndrangos pwi le cha pondrokohol ta wenei*
 1SG.SBJ NEG buy rice NEG because money NEG enough
pwi
 NEG
 ‘I didn’t buy rice because I didn’t have enough money’
 (Elicitation-2011-03-22-AH_AV)

Like the examples with *popahar*, such constructions do not exhibit ambiguity in the scope of negation.

Presumably the different syntactic structures of these three types of subordination account for the observed differences in morpho-syntactic marking and semantic scope, but an exploration of their structure is beyond the scope of this study. What is relevant for our purposes is the fact that SVCs distinguish themselves from coordinated or apposed main clauses and subordinate clauses in part by their behavior under negation. As will be discussed further in Chapters 5 and 6, in Koro SVCs only V_1 can take preverbal *ta*, and the clause-final negator occurs after the whole SVC (as well as after any other material such as temporal or spatial modifiers). Despite this syntactic marking though, negation unambiguously takes semantic scope over the whole SVC. This behavior differs from that of all the subordinate clause constructions discussed in this section, providing evidence that SVCs have a distinct syntactic configuration.

2.8 Conclusion

In this chapter I surveyed the morpho-syntax and semantics of functional morphemes in Koro verbal clauses. These include prospective, proximative, and perfect aspect markers, overt and null reality status markers, and negation. Koro does not have any grammatical realization of tense in verbal clauses and I argued that tense is not even expressed lexically in the system of temporal adverbs. As such, Koro can truly be considered a tenseless language. In addition to the aspectual categories discussed in this chapter, Koro verbal clauses can also occur in imperfective aspect. Unlike the other aspectual categories, which are realized by dedicated functional heads, imperfective aspect is realized by a complex construction involving a locative predicate followed by the main lexical verb. The syntax and semantics of this SVC-like construction will be discussed in detail in Chapters 5 and 6.

Chapter 3

Path verbs and locative predicates

3.1 Introduction

All SVCs in Koro are asymmetrical. This means that in every Koro SVC, one of the verb slots is restricted to just a small closed class of verbs. The verb in the restricted SVC slot is known as the ‘minor verb’, while that occurring in the unrestricted slot is termed the ‘major verb’ (Durie 1997, Aikhenvald 2006b:22).¹ In Koro, minor verbs are restricted to unaccusative predicates of path and location, which form a closed class comprising a number of subclasses. The aim of this chapter is to provide a detailed description of the syntax and semantics of this subclass of verbs, in order to provide a background for the analysis of their use in SVCs. Understanding the syntax and semantics of these verbs when they occur in mono-verbal predicates is crucial to understanding their behavior in SVCs.

Table 3.1 lists the full set of verbs and non-verbal predicates that can occur in restricted slots in Koro SVCs, and summarizes their morpho-syntactic properties. These verbs are *le* ‘go to’, *la* ‘go’, *me* ‘come’, *mul* ‘return’, *jau* ‘leave’, *tu* ‘stay’, *ti* ‘stay’, *mi* ‘sit’, *sa* ‘stand’, *ye* ‘lie’, and locative copula *ta* ‘be located’. In addition, the locative and posture verbs can take prefixes *le-* and *la-* to derive a non-verbal proximative locative predicate. These verbs fall into two main semantic and morpho-syntactic classes: path verbs and locative predicates. Each of these then further divides into subclasses. In this chapter I discuss each class in turn, describing their morpho-syntactic and semantic behavior when they occur as the main verb in a clause. First, §3.2 describes some of the characteristics shared by all path and locative predicates in Koro. Then §3.3 describes the subclass of path verbs, which is divided into prepositional (§3.3.1) and non-prepositional path verbs (§3.3.2), and §3.4 describes the verbal and non-verbal locative predicates. Finally, there are some concluding observations in §3.5.

¹See Chapter 4 for more information about symmetry in SVCs.

²There appears to be one example of nominalized *jau* in the corpus, but I need to investigate this possibility further.

³‘V’ here stands for any of the existential or posture verbs.

	Form	Gloss	Allows non-agentive subject	Verbal	Takes goal or location	Punctual	Deictic	Encodes manner	Can be nominalized
Path verbs	<i>le</i>	go to	✓	✓	✓	✓	×	×	×
	Prepositional <i>la</i>	go	✓	✓	optional	✓	✓	×	×
	<i>me</i>	come	✓	✓	optional	✓	✓	×	×
Non-prepositional	<i>jau</i>	leave	✓	✓	×	✓	×	×	? ²
	<i>mul</i>	return	✓	✓	×	×	×	×	×
Locative verbs	<i>ru; ri</i>	be located, stay	✓	✓	optional	×	×	×	×
Locative predicates	Posture verbs <i>mi; sa; ye</i>	sit; stand; lie	✓	✓	✓	×	×	✓	×
	Locative copula <i>ta</i>	be located	✓	×	✓	×	×	×	N/A
Proximal prefix	<i>le-V³</i>	V here	✓	×	per V	×	✓	per V	N/A

Table 3.1: Morpho-syntactic properties of path and location predicates

Verb	Sg realis/irrealis	Pl realis	Pl irrealis	Perfect
<i>jau</i> ‘leave’	<i>k-V au</i>	<i>jau</i>	<i>k=au</i>	<i>k=V=ni yau</i>
<i>tu/ti</i> ‘stay’	<i>k-V ru/ri</i>	<i>tu/ti</i>	<i>k=a ru/ri</i>	N/A
<i>le/la</i> ‘go (to)’	<i>k-V le/la</i>	<i>le/la</i>	<i>k=a le/la</i>	<i>k=V=nda</i>

Table 3.2: Root allomorphy of path and locative verbs

3.2 General properties of path and locative predicates

Before delving into the syntax and semantics of path and locative predicates, a brief note about their allomorphy is in order. The vast majority of verbs in Koro have a single form that does not inflect for person, reality status, or aspect. The only exceptions amongst regular lexical verbs are the five verbs with an initial palatal stop — *jan* ‘eat’, *jiw* ‘call’, *jin* ‘drink’, *jir* ‘crawl’, and *jih* ‘dig’ — and the verb *tang* ‘cry’.⁴ For each of these verbs the initial stop undergoes lenition in certain morpho-syntactic environments, namely with a singular subject without overt aspect, polarity, or reality status marking, and in irrealis with all subjects. Path verb *jau* ‘leave’, which likewise has an initial palatal stop, and locative verbs *tu* and *ti* ‘stay’, which begin with an alveolar stop like *tang*, follow the same pattern of allomorphy. Verbs *le* and *la*, on the other hand, have a different pattern of allomorphy. They are the only verbs that have a special form for perfect aspect. The difference between the two verbs is neutralized, and they both share perfect allomorph *-nda*, which cliticizes to the preceding inflected perfect marker. These patterns of allomorphy in path and locative verbs are summarized in Table 3.2. The fact that these patterns of root allomorphy are maintained in SVCs provides one piece of evidence that minor verbs in Koro SVCs are in fact the same morphemes as their main verb counterparts, rather than having a separate entry in the lexicon. If the latter were true, we might expect some morpho-phonological differences between the two uses. In contrast, the minor verbs in Koro SVCs retain all of the semantic, syntactic, and morpho-phonological properties of their main verb counterparts, as will be demonstrated in Chapter 5. The remainder of this section focuses on the argument structure and derivational possibilities of path and locative predicates in Koro.

⁴These are the only verb roots for which there is regular allomorphy. A fairly large number of other verbs exhibit an alternation between root-initial /t/ and /r/, but it is not obviously conditioned by person, number, reality status, etc. The forms are often in free variation, or are dialectal variants, but there are some indications that the root allomorphy may reflect a residual pluractionality system. For instance, one consultant informed me that the verb *rakeye* ‘throw’ is used for many objects while *takeye* is used for a single object.

3.2.1 Unaccusativity

The main property shared by all path and locative verbs in Koro is their unaccusativity. It is generally accepted that intransitive verbs with an agentive subject are unergative, whereas those with a non-agentive subject are unaccusative (Levin and Rappaport Hovav 1995:136). All path and locative predicates in Koro allow non-agentive subjects, as shown in (3.1–3.7) below. In each of these examples, the subject of the path verb (3.1–3.5) or locative predicate (3.6–3.7) is inanimate, and therefore necessarily non-agentive. For instance, in (3.1), intransitive path verb *la* ‘go’ takes three inanimate subjects: *epi* ‘sago’, *rais* ‘rice’, and *palawa* ‘flour’. Likewise for the motion verbs *le* ‘go to’ in (3.2), *me* ‘come’ in (3.3), *mul* ‘return’ in (3.4), and *yau* ‘leave’ in (3.5), and the locative predicates *ri* ‘stay’ in (3.6) and *lemi* ‘sit here’ in (3.7).

- (3.1) *eniyan atua epi i la, rais i la, palawa i*
 food 1SG.POSS sago REAL:3SG go rice REAL:3SG go flour REAL:3SG
la
 go
 ‘My sago food went, rice went, flour went’ (v2012-08-01-AH-05_0218-20)
- (3.2) *boks tih ∅ le mahun*
 box one REAL go.to far
 ‘One box went away’ (2011-03-11-AH_AV-02_0103)
- (3.3) *mara-n i me lengeri mara-m*
 front-3SG.POSS REAL:3SG come like front-2SG.POSS
 ‘His front is facing you’ (2011-03-31-AH_AV-04_0097)
- (3.4) *pwan e i mul i la, i ∅ le pwan*
 ground PROX REAL:3SG return REAL:3SG go 3SG REAL go.to down
 ‘The sea floor went back down’ (v2012-07-31-AH-03_0023)
- (3.5) *pos k-i-ni yau, ndroloh k-i-ni yau*
 paddle PERF-3SG-PERF leave bail PERF-3SG-PERF leave
 ‘The paddle had gone, the bail had gone’ (2011-04-03-BD-03_0013)
- (3.6) *i ∅ ri ke pwan kepi*
 3SG REAL stay DAT down only
 ‘It (a coconut palm) just stayed close to the ground (i.e., it didn’t grow tall)’
 (2011-03-31-AH_AV-01_0073)
- (3.7) *tapiok le-mi londia ndap*
 cassava PROX-sit inside basket
 ‘The cassava is in the basket’ (Elicitation-2012-07-16-BZ_0248)

In the absence of morpho-syntactic tests for unaccusativity in Koro, the ability of these verbs to occur with non-agentive subjects provides good evidence that they are unaccusative.

The various unique behaviors of unaccusative verbs cross-linguistically have typically been explained syntactically by positing that they have only an internal argument, and no external argument (e.g., Levin and Rappaport Hovav 1995). To claim that Koro verbs of path and location are unaccusative therefore entails that they have an internal argument, but no external argument. Most of these path and locative predicates, however, license more than one argument, and it may therefore seem incongruous to posit that they lack an external argument. For example, in (3.8), path verb *me* ‘come’ is immediately followed by the noun phrase *kor* ‘village’, which encodes the goal of motion. Likewise in (3.9), locative verb *ti* ‘stay’ is immediately followed by noun phrase *kor a* ‘that village’.

(3.8) *you* \emptyset *me* *kor*
 1SG.SBJ REAL come village
 ‘I came to the village’ (v2012-08-01-AH-05_0006)

(3.9) *u* \emptyset *ti* *kor* *a*
 3PL.SBJ REAL stay village DIST
 ‘They stayed in that village’ (2011-04-07-AH_AV-01_0013)

The post-verbal argument in such clauses looks on the surface like a direct object because, just like direct objects of prototypically transitive verbs such as ‘hit’, it occurs directly following the verb and is not marked by any type of oblique case marking. If this argument were indeed a direct object, it would be the internal argument of the verb, and the surface subject would necessarily be the external argument.

There are several pieces of evidence, however, that suggest the apparent object of path and locative predicates is in fact an oblique rather than a direct object. From a semantic stand-point, the argument has the role of goal with path verbs, and of location with locative predicates. This is an atypical role for direct objects, and is more typically realized by an oblique argument. This gives a semantic hint that the post-verbal argument may not be a direct object, and as it turns out, three lines of morpho-syntactic evidence back this suspicion up: optional marking with *he*; realization as *i* instead of a null pronoun; and the ability to be indexed with a demonstrative enclitic.

Firstly, as shown in (3.10–3.11), the post-verbal argument of path and location verbs can optionally take preposition *he* if it is animate. (The semantic contribution of this morpheme is not entirely clear, but it is likely related to comitative preposition *hewe*.) In (3.10), for example, the locative argument *yourun* is preceded by preposition *he*, while in (3.11) goal argument *i* is likewise marked by *he*.

(3.10) *u* \emptyset *ti* *he* *yourun*
 3PL.SBJ REAL stay DAT 1PL.EXCL
 ‘They stayed with us’ (v2012-08-02-CB-01_0167)

- (3.11) *mwa i ∅ le he i*
 COORD 3SG REAL go.to DAT 3SG
 ‘And he went to him’ (2011-04-07-AH_AV-01_0101)

The preposition *he* cannot occur with any other post-verbal arguments, suggesting that these locative and goal arguments differ syntactically from regular direct objects.

Secondly, anaphoric direct objects in Koro are null when inanimate, whereas anaphoric locative arguments are realized with overt pronoun *i*, just like other oblique objects. In (3.12), for example, the inanimate referent *niu* ‘coconut’ is first introduced as the direct object of transitive verb *tali* ‘squeeze’, and is then referred to with a null pronoun when it occurs as the direct object of *tuwe* ‘boil’.

- (3.12) *taim i ∅ me, to k-a-ni tal-i*
 time 3SG REAL come 3PL.INCL.SBJ PERF-NON.SG-PERF squeeze-SPEC.OBJ
niu mwa to ∅ tu tuwe ∅ kepi
 coconut COORD 3PL.INCL.SBJ REAL stay boil 3INAN.OBJ only
 ‘When s/he came, we had already squeezed the coconut, and we were just boiling it’
 (Elicitation-2012-08-08-BZ_0014)

In contrast, the object of preposition *piri* ‘of, for’ in (3.13) is realized as *i*, as is the object of similative *tehene ke* in (3.14). This shows that oblique inanimate objects are indexed with overt *i*, rather than a null pronoun.

- (3.13) *you ∅ laikim ndrakanat le hewe bunara piri i*
 1SG.SBJ REAL want arrow go.to with bow OF/FOR 3OBL
 ‘I want an arrow with the bow for it’ (2011-04-23-AA-02_0291–93)

- (3.14) *koro liye tehene ke i*
 PROX also thus DAT 3OBL
 ‘This one is just like the other’ (2011-03-31-AH_AV-06_0133)

In summary, inanimate referents are indexed with a null third person pronoun if they occur as the direct object of a verb and with overt *i* if they occur as the object of a preposition. Crucially, the post-verbal arguments of path and locative verbs are realized with *i* instead of a null pronoun. This is illustrated in (3.15), where the goal argument of *le* (a clamshell introduced a few clauses before) is indexed by pronoun *i*.

- (3.15) *kopwe-m mbrwa k-i le i!*
 hand-2SG.POSS PROHIB IRR-3SG go.to 3OBL
 ‘Don’t put your hands on it!’ (2011-04-23-AA-03_0237)

The fact that the goal and locative arguments that follow path and location verbs take the same form as prepositional objects suggests that they are also oblique arguments.

Finally, the post-verbal argument of path and locative verbs can take the form of a demonstrative enclitic, unlike direct objects, which can only be indexed with a demonstrative pronoun. The full set of demonstrative enclitics and pronouns is given in Table 3.3.

When the goal or location argument of a path or locative predicate is not anaphoric but is instead exophoric (i.e., indexes a location in the physical context of the utterance), then a demonstrative enclitic occurs instead of a personal pronoun. This is shown in (3.16), where the speaker is describing one of the pictures in the Men and Tree Game (Levinson et al. 1992). She is using landmarks in the environment to describe to her interlocutor the orientation of a man pictured on a small card. She explains that his back is to Awe (the adjacent property) and his front is towards ‘here’. Since the (figurative) goal of the path verb *me* is present in the environment, she uses proximal demonstrative clitic *=e* to index it.⁵

- (3.16) *timou le tehene ndrupo-n Ø le Awe mara-n*
 one:PERSON go.to thus back-3SG.POSS REAL go.to Awe front-3SG.POSS
 Ø *me e*
 REAL come PROX
 ‘One man has his back to Awe and he is facing this way’
 (2011-03-31-AH_AV-06_0071)

In contrast, true transitive verbs cannot take a demonstrative enclitic in place of an argument. Instead, they take a demonstrative pronoun — proximal *koro* or distal *kara* — when their object is exophoric. For example, in (3.17) the post-verbal argument of *rai* ‘beat’ is a new referent that is available in the (imagined) physical context of the discourse.⁶ Because *rai* is transitive and its post-verbal argument is a direct object, it is indexed with demonstrative pronoun *koro*, not with the enclitic *=e*.

- (3.17) *i Ø ra-i koro*
 3SG REAL strike-SPEC.OBJ PROX
 ‘He beat this (drum)’
 (2011-03-11-AH_AV-01_0111)

The fact that the post-verbal argument of path and location predicates can be realized as a demonstrative enclitic provides further evidence that it does not have the same status as the direct object of transitive verbs, which can only be realized with a lexical noun phrase, or a personal or demonstrative pronoun.

In summary, the post-verbal argument of path and locative predicates is an oblique object rather than a direct object because: (i) it expresses a goal or location; (ii) it can optionally take preposition *he*; (iii) when anaphoric, it is realized as *i*, whereas inanimate direct objects are null; and (iv) when exophoric, it can be realized with a demonstrative enclitic, whereas direct objects must be referred to with a demonstrative pronoun. Given the above evidence, we can salvage the claim, made at the beginning of this section, that path and location predicates in Koro are unaccusative, despite appearing to be transitive on the surface. If we posit that the post-verbal argument of such predicates (the surface

⁵The demonstrative enclitics are represented as separate words orthographically.

⁶This is what Bühler (1934:12ff.) (cited in Himmelmann 1996:222) refers to as *Deixis am Phantasma*. The referent is not actually present in the real physical environment of the speech act, but is part of an imagined physical world set up in the narrative. The narrator indexes certain elements of the narrative world as if they were present in the real world. In this example, he points to certain points in space around his body as if the drums were there.

In contrast, path verbs cannot be nominalized. For example, in (3.19) the verb *la* ‘go’ cannot be reduplicated, and therefore cannot occur in argument position. In order for *la* to occur as the complement of verb *lengi* it must be marked with irrealis *k-*, as in (3.20).

- (3.19) **you* \emptyset *lengi la~la* *so kit*
 1SG.SBJ REAL like REDUP:NMLZR~go spear octopus
 Intended: ‘I like to go and spear octopus’ (Elicitation-2012-07-27-AD_BZ_0138)

- (3.20) *you* \emptyset *lengi k-u la so kit*
 1SG.SBJ REAL like IRR-1SG go spear octopus
 ‘I like/want to go and spear octopus’ (Elicitation-2012-07-27-AD_BZ_0137)

As shown in (3.21–3.22) non-prepositional path verb *mul* ‘return’ exhibits the same behavior.

- (3.21) **you* \emptyset *lengi mu~mul* *le kor*
 1SG.SBJ REAL like REDUP:NMLZR~return go.to village
 Intended: ‘I like to go back to the village’ (Elicitation-2013-07-31-AD_CA_0079)

- (3.22) *you* \emptyset *lengi k-u mul le kor*
 1SG.SBJ REAL like IRR-1SG return go.to village
 ‘I like/want to go back to the village’ (Elicitation-2013-07-31-AD_CA_0080)

Likewise, as illustrated in (3.23), when locative verb *tu* occurs in argument position it takes irrealis marking, rather than being nominalized. (Here it occurs in an SVC, functioning as a marker of imperfective aspect.)

- (3.23) *you* \emptyset *lengi you k-u ru ndawan me au*
 1SG.SBJ REAL like 1SG.SBJ IRR-1SG stay:IRR/SG strong come 2SG
 ‘I like being ~ want to be stronger than you’ (Elicitation-2012-07-30-AD_0192)

The inability for path and locative verbs to be nominalized suggests that they differ morpho-syntactically from other verbs in the language. They also have unique semantic properties. In the following sections I outline the semantics of each subclass of path and locative predicates, including their indexical properties and their lexical aspect.

3.3 Path verbs

The class of path verbs in Koro comprises *me* ‘come to(wards) speaker or addressee’, *le* ‘go to’, *la* ‘go (away from deictic center)’, *jau* ‘leave’, and *mul* ‘return’. These five path verbs form a closed morpho-syntactic class, with two subclasses. One subclass includes path verbs *le* ‘go to’, *la* ‘go’, and *me* ‘come’, which license (but do not require) a goal argument, while the other subclass comprises *jau* ‘leave’ and *mul* ‘return’, which do not allow a goal argument. I label the former class ‘prepositional’ and the latter ‘non-prepositional’. I use these terms instead of ‘transitive’ and ‘intransitive’ because, as discussed above, the post-verbal argument of the prepositional verbs is oblique, not direct. The term ‘prepositional’ is

intended to convey two properties of these verbs. Firstly, they have a prepositional function, in that they license an oblique argument, and secondly, this subclass is grammaticalizing in certain contexts into a class of prepositions (see §5.2.1).

Both prepositional and non-prepositional path verbs in Koro have pure path semantics. They do not encode manner or other properties of the figure or ground. Compare this with motion verb *woh* ‘fly’ in (3.24), which specifies the manner of motion of the figure, and *chong* ‘enter’ in (3.25), which specifies that the ground is some kind of container.

- (3.24) *mandourang kepi ra ∅ woh*
 morning only all REAL fly
 ‘In the morning they flew’ (v2012-08-02-CB-04_0264)

- (3.25) *you ∅ chong le londia wum*
 1SG.SBJ REAL enter go.to inside house
 ‘I entered the house’ (Elicitation-2013-07-18-AD_0110)

Path verbs can be used for any manner of motion, and with any type of figure or ground. For instance, in (3.26), which describes the same event as the utterance in (3.24) above, the verb *me* is used to describe flying motion towards the deictic center, while in (3.27) it describes a walking motion.

- (3.26) *piri koro i me, piri koro i me, piri koro i*
 OF/FOR PROX 3SG come OF/FOR PROX 3SG come OF/FOR PROX 3SG
me
 come
 ‘From here they came, from here they came, from here they came’
 (v2012-08-02-CB-04_0266)

- (3.27) *mwa you ∅ me pohaleng*
 COORD 1SG.SBJ REAL come beach
 ‘And I came to the beach’ (v2012-07-21-AD_BZ-02_0082)

As (3.28) illustrates, path verb *me* can also be used when the motion is into a container, just as *chong* can.

- (3.28) *u k-a me londia-n*
 3PL.SBJ IRR-NON.SG come inside-3SG.POSS
 ‘They would come inside (the house)’ (v2012-08-02-CB-04_0034)

But *me*, unlike *chong*, clearly does not entail motion into a container. This is evidenced in (3.27) above, where the ground, *pohaleng* ‘beach’, is not a container. The other path verbs all behave like *me* in this respect, having no restrictions on manner, figure, or ground.

3.3.1 Prepositional path verbs

The prepositional path verbs are *la* ‘go’, *me* ‘come’, and *le* ‘go to’. As mentioned above, the defining property of this class of verbs is that they directly license a goal argument. With both *la* ‘go’ and *me* ‘come’ the goal argument is optional, whereas *le* ‘go to’ requires a goal. In the remainder of this section I describe and exemplify the deictic and aspectual properties of these verbs.

3.3.1.1 Spatial deixis

When an overt goal argument occurs, there is a three-way deictic contrast between the prepositional path verbs: *me* encodes motion towards origo, *la* encodes motion away from origo, and *le* is deictically neutral, simply encoding directed motion. This is illustrated in (3.29–3.31). In (3.29) the use of *me* entails that the goal location (the village) is at or close to the established deictic center (typically where the speaker and/or addressee are located). In contrast, the use of *la* in (3.30) indicates that the goal location (town) is located away from the deictic center. It additionally entails that the source of motion (the location from which the subject will leave) is close to the deictic center — in other words, use of *la* indicates that the direction of motion is away from the current deictic center. Finally, the use of *le* in (3.31) does not give information about the path of motion, but simply encodes motion in any direction.

- (3.29) *Rex i me kor*
 Rex REAL:3SG come village
 ‘Rex came to the village (which is where we are/were)’
 (Elicitation-2013-07-23-AD_0115)

- (3.30) *mwah i k-i la taun*
 next.day 3SG IRR-3SG go:ANDAT town
 ‘Tomorrow he will go to town (from here)’
 (Elicitation-2013-07-23-AD_0082)

- (3.31) *mwah i k-i le taun*
 next.day 3SG IRR-3SG go.to town
 ‘Tomorrow he will go to town (from here or from somewhere else)’
 (Elicitation-2013-07-23-AD_0083)

Since *le* cannot occur without an overt goal, when no goal argument is expressed there is a two-way deictic contrast: *me* still encodes motion towards origo, but *la* is deictically neutral. In other words, *la* is neutral without an overt goal argument, but expresses andative semantics when a goal occurs.⁷

An interesting feature of this paradigm of deictic path verbs in Koro is that the deictic center is understood by default to include both the speaker and the addressee. As a result,

⁷There also exists a homophonous manner verb *la* ‘walk’, but this verb can be distinguished from path verb *la* on morpho-syntactic as well as semantic grounds. It does not, for instance, change phonological form in the perfect aspect, it does not license a goal argument, and it can be nominalized.

motion towards either speaker or addressee is obligatorily expressed with *me*, as in (3.32–3.33).

- (3.32) *Calem* \emptyset *me* *jua*
 Calem REAL come 1SG
 ‘Calem came to me’ (Elicitation-2012-07-30-AD_0027)

- (3.33) *i* *p-i* *k-i* *me* *au*
 3SG PRXMV-3SG IRR-3SG come 2SG
 ‘He wants to come to you’ (Elicitation-2012-07-30-AD_0026)

Unlike in languages like English, where *go* can optionally be used for motion towards the addressee, in Koro motion away from the speaker and towards the addressee must be encoded with venitive *me* — the andative or neutral forms (*la* and *le*) are not allowed.

3.3.1.2 Lexical aspect

As well as this deictic alternation between the ‘transitive’ and ‘intransitive’ versions of *la*, the lexical aspect of the verb phrase headed by *la* or *me* changes depending on whether or not a goal is overtly expressed. Specifically, the ‘intransitive’ versions of these verbs head an atelic predicate, while the ‘transitive’ versions head a telic predicate. Venitive *me*, when used intransitively, typically has an implicit goal which is at, or very close to, the origo. One might expect, therefore, that this goal is included in the lexical semantics of the verb, even when it is not lexically encoded in a separate goal phrase. However, the different entailments of *me* with and without an overt goal show that this is not the case. When *me* occurs without an explicit goal, there is an implied goal — the location of the speaker or addressee. Without further specification, there is an implicature that the goal is reached. This is shown in (3.34), which indicates that the subject would have come to the location of the addressee had it not rained. The interpretation is not just that the subject would have moved in the direction of the addressee’s location, but rather that they would have reached it.

- (3.34) *munuwe* *tehene* *lengin* *pwi*, *youru* *k-a* *me*
 day.before thus rain NEG 1DU.EXCL IRR-NON.SG come
 ‘Yesterday if it had not rained, we would have come (to where you were)’
 (Elicitation-2011-03-31-AH_AV_0003)

In other words, the implicature of this utterance is that the target state of *me* includes reaching a goal, and that the goal is the addressee’s location.

Now consider the examples in (3.35–3.36), both of which describe a situation where the subject was on the other side of a sea passage and paddled towards the speaker. In (3.35) there is no overt goal expressed. As shown above, the typical interpretation of *me* without an overt goal is that the implicit goal was reached. But in this example, the implicature is shown to be defeasible by the second clause *mwa i sotah ndrokowa ndas* ‘but he stopped in the middle of the passage’. The utterance is interpreted to mean that the subject stopped in the middle of the passage before having reached the speaker’s location. Conversely, in

(3.36), where *me* has an overt goal *kor* ‘village’, the reaching of this goal is entailed. This is clear from the fact that, unlike in (3.35), the following clause cannot be understood as denying that the goal was reached, but instead must be interpreted as a subsequent event that occurred after the goal was reached.⁸

(3.35) *i* \emptyset *me*, *mwa* *i* \emptyset *sotah ndrokowa ndas*
 3SG REAL come COORD 3SG REAL stop middle sea
 ‘He came towards me, but he stopped in the middle of the passage’
 (Elicitation-2013-07-29-AD_CA_0157)

(3.36) *i* \emptyset *me kor*, *mwa* *i* \emptyset *sotah ndrokowa ndas*
 3SG REAL come village COORD 3SG REAL stop middle sea
 ‘He came to the village, and (then) he stopped in the middle of the passage (on the way back)’
 (Elicitation-2013-07-29-AD_CA_0158)

It is therefore clear that with prepositional verbs in Koro, reaching of the goal is an entailment when an overt goal is present, and an implicature when it is not. Another way of saying this is to say that prepositional path verbs head an atelic predicate when no overt goal is present, and a telic one when there is an overt goal argument. This is schematized in Kleinian terms in (3.37–3.38). As shown here, being at the goal location is included in the target state of the predicate with an overt goal argument, but not in the target state of the path verb occurring by itself.

(3.37) LEXICAL CONTENT OF *me*
 SS = subject further from deictic center
 TS = subject closer to or at deictic center

(3.38) LEXICAL CONTENT OF *me kor*
 SS = subject further from deictic center and not at the village
 TS = subject closer to deictic center and at the village

Although the prepositional path verbs do not include reaching of a goal in their lexical content — in other words, they are atelic — they have the characteristics of punctual verbs. This places them in the class of ‘semelfactives’, which are atelic, punctual events (Comrie 1976, Smith 1997). The most convincing piece of evidence for this analysis concerns their behavior under the scope of imperfective aspect. Although none of the prepositional path verbs can occur as the major verb in an imperfective aspect construction, they can cooccur with dummy verb *po* ‘do; make’. For example, the utterance in (3.39), in which locative copula *ta* is the minor verb and path verb *me* is the major verb, is ungrammatical.⁹

(3.39) **i* *ta* *me*
 3SG LOC.COP come
 Intended: ‘He is coming ~ he comes’
 (Elicitation-2012-08-06-AD_BZ_0188,
 Elicitation-2013-07-29-AD_CA_0141)

⁸These two different interpretations are facilitated by the fact that coordinator *mwa* can have a sequential or an adversative reading.

⁹See §5.3.2.3 for more detail about restrictions on the cooccurrence of locative and path verbs.

In order to express an imperfective meaning, *me* must occur as the minor verb in an allative or directional SVC, with dummy verb *po* ‘do’ as the major verb. This is illustrated in (3.40), where the SVC *i ri po i me pilingan* expresses the meaning ‘it kept coming up (over and over again)’. Here minor verb *ri* ‘stay’ expresses imperfective aspect, *me* ‘come’ expresses venitive motion as the minor verb in the allative SVC, and dummy verb *po* ‘do’ occupies the major verb slot, but does not contribute any semantic content. (Bracketing indicates the nested structure of the SVCs in this example.)

- (3.40) *yourun* \emptyset *ti nah ti nah i me*, [*i* \emptyset
 1PL.EXCL REAL STAY watch STAY watch REAL:3SG come 3SG REAL
ri [*po i me pilingan*]_{ALLATIVE}]_{IMPERFECTIVE} *mwa yourun*
 stay:SG do REAL:3SG come up COORD 1PL.EXCL
 \emptyset *noh a*
 REAL be.afraid DIST

‘We were watching and watching over this way, it (the water) kept coming up (over and over again) and we were scared’ (v2012-07-21-AD_BZ-03_0010)

Note, however, that even when forced into the imperfective construction, *me* has an iterative rather than a continuous interpretation. As shown in (3.41), a continuous interpretation with prepositional path verbs is in fact impossible — only an iterative or habitual reading is available. In other words, the utterance in (3.41) can either mean that the subject habitually comes (for instance, to my house every day) or, similarly, that there are multiple iterations of her coming over a period of time. It cannot mean she is currently in the process of coming towards the deictic center.

- (3.41) *i ta po i me*
 3SG LOC.COP do REAL:3SG come
 ‘She comes ~ keeps coming’
 #‘She is coming (now)’ (Elicitation-2013-07-29-AD_CA_0143)

Likewise, the example in (3.40) above, which comes from a story about a small tsunami that followed the 2011 earthquake in Japan, describes a situation where the water level kept receding and then rising again. It does not describe a gradual rising event, but rather several iterated events of rising.

Both *la* and *le* follow the same semantic restriction as that illustrated for *me*. For example, in (3.42) the imperfective SVC with directional *la* has an iterative reading, while in (3.43) the imperfective SVC with allative *le* has a habitual reading. In neither case is a continuous or progressive reading acceptable.

- (3.42) *pipiya piri eniyan e i ri po me li kei i*
 rubbish OF/FOR food PROX REAL:3SG stay:SG do come root tree 3SG
ri po i la i ri jan \emptyset
 stay:SG do REAL:3SG go 3SG stay:SG eat 3INAN.OBJ
 ‘As for the food scraps that kept coming down to the roots of the tree, he kept going over and eating them’ (2011-03-09-AH_AV-01_0237)

- (3.43) *au ta po le kor manda?*
 2SG LOC.COP do go.to village main
 ‘Do you go to town (habitually)?’ (Elicitation-2012-08-06-AD_BZ_0136)

Obligatory iterative reading under the scope of imperfective aspect is a defining characteristic of punctual verbs cross-linguistically. Because the event they denote does not have duration, it cannot be viewed as ongoing, and therefore cannot have a continuous interpretation in the imperfective. Non-punctual verbs, on the other hand, typically have a continuous reading in imperfective aspect (Comrie 1976). The obligatory iterative reading illustrated here for prepositional path verbs therefore constitutes strong evidence that they are punctual.

Another unique property of prepositional path verbs in Koro is their inability to cooccur with frustrative adverb *tahit*. This adverb indicates that the end point of an action was not fully achieved, or that the action did not achieve the desired result. For example, with an accomplishment predicate such as *henounou komua kor* ‘learn the village language’ in (3.44) or *kal le pohaleng* ‘swim to the beach’ in (3.45), *tahit* indicates that the target state of the verb (here, having learned the language or having reached the beach) was not achieved.

- (3.44) *you ∅ le henounou komu-a kor tahit*
 1SG.SBJ REAL go.to learn language-INAL.POSS village FRUST
 ‘I went and tried to learn the village language in vain (I couldn’t learn it)’
 (Elicitation-2012-07-27-AD_BZ_0053)

- (3.45) *you ∅ kal le pohaleng tahit*
 1SG.SBJ REAL swim go.to beach FRUST
 ‘I swam towards the beach in vain (I didn’t make it)’
 (Elicitation-2012-07-31-AD_BZ_0065)

With an activity predicate, such as *jiw au* ‘call you’ in (3.46), *tahit* indicates that the activity was undertaken without the intended result (for example the addressee did not hear the subject calling, or did not respond).

- (3.46) *munuwe you ∅ ru jiw au tahit*
 prev.day 1SG.SBJ REAL stay:SG call 2SG FRUSTR
 ‘Yesterday I was calling you in vain’ (Elicitation-2012-07-23-BZ_0051)

As shown in (3.47), however, punctual predicates, such as *chim ndrangos* ‘buy rice’, are incompatible with *tahit*. Speakers deem such utterances ungrammatical, even though a plausible semantic interpretation seems to be available (for example, that the subject could not buy rice, or that buying the rice did not fulfill the intended need).

- (3.47) **you ∅ chim ndrangos tahit*
 1SG.SBJ REAL buy rice FRUST
 Intended: ‘I tried to buy ~ bought rice in vain’
 (Elicitation-2012-07-27-AD_BZ_0051)

Crucially, utterances in which a prepositional path verb occurs as the main verb (rather than as a minor verb in an SVC) do not allow frustrative *tahit*. This is shown in (3.48–3.50), which illustrate that neither *le*, *la*, nor *me* can occur with *tahit*.

- (3.48) **you* \emptyset *le* *taun* *tahit*
 1SG.SBJ REAL go.to town FRUST
 Intended: ‘I tried to go ~ went to town in vain’
 (Elicitation-2012-07-27-AD_BZ_0057)

- (3.49) **you* \emptyset *la* *tahit*
 1SG.SBJ REAL go FRUST
 Intended: ‘I tried to go ~ went in vain’ (Elicitation-2012-07-27-AD_BZ_0058)

- (3.50) **you* \emptyset *me* *tahit*
 1SG.SBJ REAL come FRUST
 Intended: ‘I tried to come ~ came in vain’ (Elicitation-2012-07-27-AD_BZ_0059)

Since activity and accomplishment predicates are compatible with *tahit*, and punctual predicates are not, the fact that prepositional path verbs are incompatible with *tahit* is further evidence that they are punctual.

3.3.2 Non-prepositional path verbs

The non-prepositional path verbs in Koro are *jau* ‘leave’ and *mul* ‘return’. Unlike prepositional path verbs, these verbs never license a goal argument. If a goal argument is present, it must be independently licensed by *le* or *me*. This is illustrated in (3.51), which is ungrammatical without *me* to license goal argument *kor* ‘village’.

- (3.51) *you* \emptyset *mul* *(*me*) *kor*
 1SG.SBJ REAL return come village
 ‘I came back to the village’ (Elicitation-2012-08-04-AD_CA_0110–11)

Unlike *mul*, *jau* can occur with a locative argument immediately following, but this argument is understood as the source location, rather than the goal of the verb, as shown in (3.52).

- (3.52) *mwah* *uru* *k=au* *kor*
 next.day 3DU IRR=leave:NON.SG village
 ‘Tomorrow they will leave the village’ (Elicitation-2012-08-04-AD_CA_0116)

In order for the post-verbal argument to be interpreted as a goal, it must be introduced with *me* or *le*, as is the case for *mul*. This is illustrated in (3.53), where goal argument *kor* ‘village’ is introduced by venitive *me*.

- (3.53) *yaha* *mwa pater,* *yaha* \emptyset *jau* *me* *kor*
 1PL.EXCL with father 1PL.EXCL REAL leave come village
 ‘Us with the father, we left for the village’ (v2012-08-01-AH-05_0161)

Another difference between prepositional and non-prepositional path verbs is that the latter are not deictic. Both *jau* and *mul* can be used when referring to motion either away from or towards the origo. For example, in (3.53) above, *jau* refers to motion towards origo, as indicated by use of venitive *me*. In contrast, in (3.54), the same path verb refers to motion away from origo, indicated by both use of *le* ‘go to’ and the presence of distal enclitic =*a* on the goal noun.

- (3.54) *kara i ∅ yau le ndi pilingan turu, polo angei*
 DIST 3SG REAL leave:3SG go.to very up really top okari.nut
pilingan a
 up DIST
 ‘So he left and went to the very top, the top of the okari nut tree there’
 (2012-07-14-AA-06_0249)

In other words, whereas *me* encodes motion towards speaker or addressee, and *la* encodes motion away from speaker or addressee, *jau* simply refers to the act of leaving, without any specification as to whether the motion of leaving brought the subject closer to or further away from the deictic center. Path verb *mul* allows the same deictic freedom. In (3.51) above, *mul* refers to motion towards origo, as indicated by use of venitive *me*, whereas in (3.55) it denotes motion away from origo (since the utterance was made while the subject was not in California).

- (3.55) *you k-u mul k-i le California*
 1SG.SBJ IRR-1SG return IRR-3SG go.to California
 ‘I will return to California’ (Elicitation-2013-07-29-AD_CA_0121)

Although, as these examples show, *mul* does not have deictic properties, it does place restrictions on the nature of the implied goal. Specifically, it entails that the subject of the verb was previously located at that goal location. In other words, the utterance in (3.55) entails that the speaker has been to California before, just as the translation does in English.

As discussed above, prepositional path verbs cannot occur directly in the imperfective construction, and cannot have a continuous interpretation. Non-prepositional path verbs behave heterogeneously in both these regards. *mul* behaves morpho-syntactically just like the prepositional path verbs in that it must occur with dummy verb *po* ‘do’ in order to have an imperfective reading. This is evidenced by the ungrammaticality of (3.56), in which *mul* is the major verb in an imperfective SVC. Compare this with its grammatical counterpart in (3.57), where *mul* is the minor verb in a directional SVC with *po* as the major verb.

- (3.56) **a lisi! i ta mul*
 2SG:IRR see 3SG LOC.COP return
 Intended: ‘Look! He is returning’ (Elicitation-2013-07-29-AD_CA_0152)
- (3.57) *a lisi! i ta po i mul*
 2SG:IRR see 3SG LOC.COP do REAL:3SG return
 ‘Look! He is returning’ (Elicitation-2013-07-29-AD_CA_0151)

Note, however, that unlike the prepositional path verbs, which can only have an iterative interpretation in imperfective aspect, *mul* can have either an iterative or a continuous interpretation. In (3.57), for example, it denotes an ongoing event at the time of utterance. (Compare this with (3.41–3.43) above.) This provides evidence that *mul*, unlike the other path verbs, is not punctual.

Path verb *jau*, on the other hand, is unlike all other path verbs in being able to occur directly in the imperfective construction. This is illustrated in (3.58), where it occurs directly following imperfective morpheme *ta*.

- (3.58) *i ta po i me mwa i ta jau*
 3SG LOC.COP do REAL:3SG come COORD 3SG LOC.COP leave
 ‘He comes and he leaves’ (Elicitation-2013-07-29-AD_CA_0144)

Despite its ability to occur in the imperfective construction, however, *jau* is like the prepositional path verbs in having only an iterative interpretation. As shown in (3.59), *i ta jau* cannot be understood as referring to an ongoing event, but is rather interpreted as quantifying over a number of separate events occurring over a period of time.

- (3.59) *i ta jau*
 3SG LOC.COP leave
 ‘He leaves (habitually)’
 #‘He is leaving (right now)’ (Elicitation-2013-07-29-AD_CA_0148)

As with the prepositional path verbs, this suggests that *jau* is punctual. Unlike the prepositional verbs though, the change of state expressed by *jau* involves an initial boundary crossing (going from being at a location to not being at that location), rather than a final boundary crossing (reaching a destination). This is shown by the fact that when a post-verbal argument occurs, it is interpreted as a source rather than a goal location, as shown in (3.52) above.

3.4 Locative predicates

The basic locative predicates in Koro are the locative verbs *tu* and *ti* ‘stay, be located’, the posture verbs *mi* ‘sit’, *sa* ‘stand’, and *le* ‘lie’, and the locative copula *ta*. In addition, the locative and posture verbs can take a proximal prefix *le-* ‘proximal singular’ or *la-* ‘proximal plural’ or a distal suffix *-rah* to derive a non-verbal locative predicate. In §3.4.1 I first discuss the properties of the bare and affixed locative and postural verbs and then in §3.4.2 I outline the characteristics of locative copula *ta*. In §3.4.3 the typologically unusual system of spatial and temporal deixis in Koro locative constructions will be examined. But first, I give evidence for the aspectual properties of locative predicates, which are crucial to understanding the semantics of the imperfective construction, as described later in Chapter 5.

Although there are dedicated morphemes for prospective, proximative, and perfect aspect, as well as realis and irrealis, Koro does not have any marking of perfective aspect,

overt or otherwise. As a result, the interpretation of grammatical aspect in a clause without overt aspect marking is in theory ambiguous. In practice, however, there are principles that govern the default aspectual interpretation of such unmarked clauses. All locative predicates in Koro have a default imperfective interpretation. In fact all stative predicates, including non-verbal predicates, have a default imperfective interpretation, while predicates of all other Aktionsarten, including the path verbs discussed above, have a default perfective interpretation, and can only be interpreted as imperfective if they are explicitly marked as such. This type of asymmetry in the aspectual interpretation of stative versus dynamic predicates is somewhat common cross-linguistically, with stative predicates often having a default imperfective interpretation (Bohnenmeyer and Swift 2004:276). This interpretation can be demonstrated in Koro by the distribution of adverb *mwa* ‘still’. This adverb, like *still* in English, can only occur with clauses in imperfective aspect. This is illustrated in (3.60), which is ungrammatical without imperfective morpheme *ta*.

- (3.60) *Sylvia mwa *(ta) ngendeh-i ndran ngandahan*
 Sylvia still LOC.COP hot-CAUS fresh.water hot
 ‘Sylvia is still heating up the hot water’ (Elicitation-2012-07-12-AD_BZ_0168–69)

The semantics of *mwa* require a context in which the situation time (the event time) extends on either side of the topic time (the reference time), and as discussed in §2.3, this is the temporal structure of imperfective aspect. However, as well as occurring in clauses like (3.60), which are overtly marked for imperfective aspect, *mwa* is also grammatical in clauses with an unmarked locative or non-verbal predicate. This is illustrated in (3.61), which has a nominal predicate *numbrunat* ‘boy’, and in (3.62), which has a verbal locative predicate *iru Papichalai* ‘be in Papitalai’.

- (3.61) *i mwa numbrunat*
 3SG still boy
 ‘He’s still a boy’ (Elicitation-2012-08-07-AD_0054)

- (3.62) *you mwa ∅ iru Papichalai you ∅ tihir ndap a*
 1SG.SBJ still REAL stay:SG Papitalai 1SG.SBJ REAL weave bag DIST
 ‘When I was still in Papitalai I made this bag’ (Elicitation-2012-07-20-AD_BZ_0064)

Likewise, *mwa* can occur in predicates headed by non-verbal locative copula *ta*, as in (3.63).

- (3.63) *i mwa ta wum*
 3SG still LOC.COP house
 ‘He’s still at home’ (Elicitation-2011-03-07-AH_AV_0001)

The fact that all locative predicates can occur with imperfective adverb *mwa* is evidence that they have a default imperfective interpretation. Conversely, the fact that telic predicates such as *ngendehi ndran ngandahan* ‘heat the hot water’ in (3.60) above cannot take *mwa* without overt imperfective marking is evidence of their default perfective interpretation.

The utterance in (3.62) illustrates another property of locative predicates that evidences their imperfective quality — namely the fact that they can function as imperfective ‘while’

clauses. The interpretation of the utterance in (3.62) is that the bag-weaving event occurred during the time that the subject was located in Papitalai. In other words, the situation time of the locative predicate is understood to extend either side of the topic time, which is coextensive with the bag-making event. In contrast, an unmarked clause with a non-stative predicate cannot have this interpretation. For example, the first clause in (3.64) below has no aspect marking, and it has a non-stative predicate *chap chalau i me* ‘bring the laplap’. The default interpretation of this clause is perfective. This is evident from the interpretation of this clause with respect to the next, namely that the squeezing coconut event followed the bringing the laplap event. An imperfective interpretation — that is, one where the bringing event was ongoing before, during, and after the squeezing event — is ruled out.

- (3.64) [*taim i* \emptyset *chap chalau i me*] [*to* \emptyset
time 3SG REAL carry laplap REAL:3SG come 1PL.INCL.SBJ REAL
tal-i niu
squeeze-SPEC.OBJ coconut
‘When she brought the laplap we squeezed the coconut’
(Elicitation-2012-08-08-BZ_0015)

In sum, the distribution of *mwa* and the function of locative clauses as ‘while’ adverbial clauses shows that they have a default imperfective interpretation. In contrast, all non-stative verbal clauses, including the path of motion verbs discussed in §3.3 above, have a default perfective interpretation.¹⁰ The lexical aspect of these types of predicates will be important in understanding the semantics of associated motion and imperfective SVCs, to be discussed in detail in §5.3.2.

3.4.1 Locative and posture verbs

It was noted in §3.3 above that path verbs in Koro do not have any restrictions in terms of manner, figure, or ground. The locative verbs *tu* and *ti* likewise do not encode anything about the posture or shape of the figure or ground, and can be used to talk about any kind of spatial relation between them. For example, *ti* can be used to describe both a stick leaning against a tree, as in (3.65), and clothing folded on a table, as in (3.66).

- (3.65) *parakei ti-rah kei*
stick stay-DIST tree
‘The stick is against the tree (over there)’ (Elicitation-2012-07-16-BZ_0213)
- (3.66) *chuchu ti-rah tebol*
clothing stay-DIST table
‘The clothing is on the table (over there)’ (Elicitation-2012-07-16-BZ_0235)

¹⁰Although I do not have an explicit account of how this default aspectual interpretation comes about, an approach along the lines of that developed in Bohnemeyer and Swift (2004) and Bohnemeyer (2009) is promising.

The posture verbs *mi* ‘sit’, *sa* ‘stand’, and *ye* ‘lie’, on the other hand, have restrictions on the position of the figure. For instance, the verb *sa* is not felicitous to describe clothing lying folded on the table (3.67), but is felicitous in describing a stick leaning more or less vertically against a tree trunk (3.68).

(3.67) #*chuchu sa-rah tebol*
 clothing stand-DIST table

Intended: ‘The clothing is on the table (over there)’ (Elicitation-2012-07-16-BZ_0234)

(3.68) *parakei sa-rah kei*
 stick stand-DIST tree

‘The stick is standing against the tree (over there)’ (Elicitation-2012-07-16-BZ_0210)

In this sense the posture verbs are more semantically contentful than either the locative verbs or the path verbs.

Like the prepositional path verbs discussed above, the locative and posture verbs directly license a locative argument. This is demonstrated in (3.65), (3.66), and (3.68) above, where the locative arguments occur directly following the verb, and are not licensed by any other overt head such as a preposition or other case marker. Like prepositional path verbs *me* and *la*, however, the two locative verbs, *tu* and *ti*, do not require an overt locative argument to occur. As shown in (3.69), locative verbs can occur intransitively, with no following argument. In fact, they occur more often without an overt locative argument than with one.

(3.69) *uru jan uru jin chu le hepwi uru tu*
 3DU eat 3DU drink soup go.to finished 3DU stay

‘They ate, they drank soup, and after that they stayed’

(2011-03-09-AH_AV-01_0129)

In contrast, the posture verbs almost always occur with a following locative argument or demonstrative enclitic, as in (3.70), where posture verb *mi* ‘sit’ is directly followed by locative argument *sawal e* ‘this side’.

(3.70) *i ta mi sawal e*
 3SG LOC.COP sit side PROX

‘S/he is sitting on this side’

(Elicitation-2012-08-04-AD_CA_0036)

The other posture verbs exhibit the same behavior, occurring almost exclusively with a following locative argument.

Locative and posture verbs can either appear in their root form or take one of the derivational affixes *le-* ‘proximal singular’, *la-* ‘proximal non-singular’, and *-rah* ‘distal’. The root forms are clearly verbal, whereas the affixed forms are non-verbal. Verbs are identified syntactically in Koro by their ability to take pre-verbal aspect, reality status, and negation marking (see Chapter 2 for details). As shown below, locative and posture roots can occur with all of these categories. For example, in (3.71), locative verb *ru* occurs with irrealis *ki*, in (3.72) posture verb *mi* occurs with both proximative *pa* and irrealis *ki*, and in (3.73) *tu* occurs with preverbal negator *ta*.

(3.71) *jua, you* \emptyset *helengi nderu- \emptyset* *k-i* *ru*
 1SG 1SG.SBJ REAL like child-1SG.POSS IRR-3SG stay:IRR/SG
 ‘Me, I want my child to stay’ (2011-03-11-AH_AV-01_0241)

(3.72) *i pa k-i mi kundal*
 3SG PRXMV IRR-3SG sit stern
 ‘He tried to sit at the stern (of the canoe)’ (2011-03-21-AH_AV-02_0019)

(3.73) *Kristine ta tu kor pwi*
 Kristine NEG stay village NEG
 ‘Kristine is not in the village’ (Elicitation-2011-03-22-AH_AV_0076)

In contrast, the affixed forms cannot take any of these verbal categories. Instead, they behave morpho-syntactically just like non-verbal predicates. For example, (3.74) shows that proximal *lemi* ‘sitting here’ cannot cooccur with perfect *kuni*, and (3.75) illustrates that locative predicate *letu* ‘be here’ does not take preverbal *ta* under negation — instead it simply takes clause-final negator *pwi*, like other non-verbal predicates.

(3.74) **you k-u-ni le-mi pwan*
 1SG.SBJ PERF-1SG-PERF PROX-sit down
 Intended: ‘I have sat ~ been sitting down here’
 (Elicitation-2012-08-04-AD_CA_0070)

(3.75) *i (*ta) le-tu pwi*
 3SG NEG PROX-stay NEG
 ‘S/he is not here’ (Elicitation-2012-08-07-AD_0006-07)

Their non-verbal status notwithstanding, the affixed forms of the locative and posture verbs retain the semantic and morpho-syntactic properties of their unaffixed verbal bases. For example, the derived forms of the locative verbs can occur with or without a following locative argument. In (3.76), *leti* takes a locative argument *pohaleng e* ‘beach here’, while in (3.77) *letu* occurs without a following argument.

(3.76) *mbrokop le-ti pohaleng e*
 hermit.crab PROX-stay beachPROX
 ‘Hermit crabs live on the beach here’ (2011-04-03-BD-03_0033)

(3.77) *uru mengembru- \emptyset k-a-ni yau, jua kepi you*
 3DU grandchild-1SG.POSS PERF-2SG-PERF leave 1SG only 1SG.SBJ
le-tu
 PROX-stay
 ‘My two grandchildren have gone, it’s only me who remains’ (2011-04-23-AA-02_0435)

Similarly, the derived versions of the posture verbs inherit the restrictions on figure and ground from their verbal bases, as shown in (3.67–3.68) above.

One difference between the bare and affixed forms of the posture verbs concerns their lexical aspect. The bare locative verbs and the derived forms of the locative and posture verbs are unambiguously 1-state. The predicate in (3.78) for example, which includes derived form *mirah*, indicates that the subject is in the state of being seated.

- (3.78) *i mi-rah muniyani kepi*
 3SG sit-DIST easy only
 ‘S/he is seated quietly over there’ (Elicitation-2011-03-31-AH_AV_0009)

In contrast, the bare posture verbs can be interpreted as either 1-state or 2-state. This is seen in (3.79–3.80). In (3.79) bare verb *mi* ‘sit’ is interpreted as a 2-state verb, in which the source state is ‘not seated’ and the target state is ‘seated’. In (3.80), on the other hand, *mi* is interpreted as a 1-state predicate, corresponding to the target state of its 2-state counterpart (i.e., being seated). The difference in interpretation between these two utterances can be attributed to a combination of aspectual marking (irrealis versus imperfective) and contextual information.

- (3.79) *a mi pwan muniyani!*
 2SG:IRR sit down easy
 ‘Sit down slowly/carefully!’ (Elicitation-2013-07-25-AD_0060)

- (3.80) *Rose ta mi pwan koso-∅*
 Rose LOC.COP sit down side-1SG.POSS
 ‘Rose is seated beside me’ (Elicitation-2013-07-25-AD_0061)

Even when it is interpreted as a 1-state predicate, however, posture verb *mi* is not stative. This is evident because, as shown in (3.78) above, *mi* can be modified by manner adverb *muniyani* ‘easy’. In contrast, stative verbs generally cannot be modified by a manner adverb. This is evidence, therefore, that *mi* and other posture verbs are activity predicates when they have a 1-state reading. Based on these distributional facts we can conclude that locative and posture verbs have different Aktionsarten: locative verbs are stative, while posture verbs are activities (non-punctual and atelic) when they have a 1-state reading, and accomplishments (non-punctual and telic) when they have a 2-state reading.

3.4.2 Locative copula *ta*

Aside from the bare and affixed forms of the locative and posture verbs, there is also a non-verbal copula that has a locative function. The form of this locative copula is *ta*. Unlike the locative and posture verbs, it is obligatorily transitive and cannot occur without a following locative argument. This is because its function is to encode a spatial relation between a figure and a ground, and it must therefore take two arguments. The spatial relation it encodes is not lexically specified; it is usually interpreted as describing the default spatial relation between its two arguments. For example, the expression in (3.81a) can only be used if the man (the figure) and the house (the ground) are in the typical spatial configuration — that is, if the man is inside the house. To describe a situation where a non-canonical spatial

relation obtains, for instance the man is on top of the house as in (3.81b), a more specific construction must be used in which a relational noun (here *ndara* ‘its top’) overtly encodes the spatial configuration.

- (3.81) a. *ndramat ta wum*
 man LOC.COP house
 ‘The man is in the house/at home’
 #‘The man is on the house’ (Elicitation-2011-03-07-AH_AV_0037)
- b. *ndramat ta ndara wum*
 man LOC.COP top house
 ‘The man is on the house’ (Elicitation-2011-03-07-AH_AV_0036)

Morpho-syntactically, *ta* is non-verbal. Like the non-verbal affixed forms of the locative and posture verbs, *ta* cannot take verbal categories such as aspect and reality status marking, or pre-verbal negation. This is illustrated in (3.82), which shows that copula *ta* cannot cooccur with irrealis *ki*, and in (3.83), which shows that *ta*, like other non-verbal predicates, cannot take preverbal *ta* under negation.

- (3.82) **mwah ha i k-i ta kor*
 next.day PROSP 3SG IRR-3SG LOC.COP village
 Intended: ‘Tomorrow s/he will be in the village’ (Elicitation-2012-07-30-AD_0219)
- (3.83) *Kristine (*ta) ta kor pwi*
 Kristine NEG LOC.COP village NEG
 ‘Kristine is not in the village’ (Elicitation-2011-03-22-AH_AV_0058)

As was discussed in the previous section, bare and derived locative verbs are 1-state (stage-level) predicates. This entails the existence of a time at which their predicate does not hold true. In contrast, *ta* can function either as a 1-state or a 0-state (individual-level) predicate, and does not entail a contrasting time period during which its predicate does not hold. In its 0-state use it often has an existential type reading, as in (3.84).

- (3.84) *ndara Chopokeleheu a, kara mbruli ta i mwa*
 top Chopokeleheu DIST DIST mountain LOC.COP 3OBL COORD
to k-a la lop
 1PL.INCL.SBJ IRR-NON.SG go.to:ANDAT hide
 ‘Above Chopokeleheu there is a mountain and we’ll go and hide (there)’
 (v2012-07-21-AD_BZ-03_0028)

3.4.3 Spatial and temporal deixis in locative predicates

Just like the demonstrative pronouns and enclitics listed in Table 3.3 above, the affixes that attach to Koro locative and postural verbs exhibit a simple spatial contrast between proximal and distal. This is illustrated by the pair in (3.85–3.86). Both utterances include

the postural verb root *mi* ‘sit’, but they have different spatial deictic properties due to the different affixes on the verb root. The utterance in (3.85) with proximal prefix *le-* can only be used if the subject is located close to the speaker, while the utterance in (3.86) with distal suffix *-rah* can only be used when the theme is distant from the speaker. This spatial contrast is reinforced by the demonstrative clitic that occurs with each predicate.

(3.85) *i le-mi e*
 3SG PROX-sit PROX
 ‘He’s sitting here’ (Elicitation-2012-07-16-BZ_0279)

(3.86) *i mi-rah a*
 3SG sit-DIST DIST
 ‘He’s sitting over there’ (Elicitation-2012-07-16-BZ_0278)

In contrast, unaffixed locative and posture verbs do not have any spatial deictic restrictions. For example, unaffixed *mi* can be used with a proximal ground, as in (3.87), or with a distal ground, as in (3.88).

(3.87) *kara, youru k-a mi pwan e*
 DIST 1DU.EXCL IRR-NON.SG sit down PROX
 ‘We’ll sit down here’ (v2012-07-21-AD_BZ-02_0047)

(3.88) *a la mi li wum pwan a*
 2SG:IRR go.toANDAT sit base house down DIST
 ‘Go and sit down at the base of the house over there’ (Elicitation-2013-08-14-AD_0100)

In both of these examples the verb *mi* simply encodes the seated posture of the theme, and does not give any information about spatial location. The proximal and distal semantics are encoded in the demonstrative enclitics *e* and *a*. All locative and posture verbs in Koro exhibit similar spatially neutral semantics. Likewise, locative copula *ta* can be used for both proximal and distal locations. This is illustrated in (3.89), where *ta* is used to indicate both the location of the speaker and the location of another person who is far from the speaker.

(3.89) *to ta kor, i ta mahun*
 1PL.INCL.SBJ LOC.COP village 3SG LOC.COP far
 ‘We’re in the village, he is far away’ (Elicitation-2013-07-23-AD_0064)

In summary, the locative copula and the bare forms of the locative and posture verbs are not spatially deictic. In contrast, the affixes *le-~la-* and *-rah*, which can attach to the locative and posture verb roots, carry semantics of spatial proximity and distance, respectively.

The fact that affixes attaching to locative verbs carry spatially deictic semantics is not surprising, given that the function of locative predicates is to locate a theme in space. However, these affixes also carry a more unexpected deictic property — that of temporal deixis. As was demonstrated in Chapter 2, Koro does not have any grammatical encoding

of tense. This means that there are no grammatical constructions in Koro that function to locate a predicate in time with respect to the time of utterance. However, locative predicates in Koro exhibit restrictions on their temporal reference that resemble a tense system. For instance, the affixed verb forms, which are exemplified in (3.85–3.86) above, can only be used with present temporal reference. In contrast, the unaffixed locative and posture verbs can only be used with non-present (that is, past or future) temporal reference. Locative copula *ta*, on the other hand, is not restricted in terms of temporal reference, and can typically be used for past, present, and future. On the surface, this pattern displayed by the bare and affixed verbs appears to go against the claim that Koro is a tenseless language. However, there are two important differences between the system of temporal deixis in Koro locatives and a canonical tense system.

The first major difference is in the type of contrast the system makes. There are various types of tense systems in the world’s languages. Some differentiate between past, present, and future, but most distinguish only two categories: past versus non-past (or occasionally future versus non-future) (Bybee and Östen Dahl 1989). In the Koro system of locative predicates, on the other hand, there is a distinction between present and non-present temporal reference. As shown in (3.85–3.86) above, the affixed forms of the verbs have present temporal reference. These forms cannot be used for states of affairs in the past or future. In contrast, the bare forms of the verbs can be used for both past and future temporal reference (although future requires cooccurrence of the irrealis marker), but cannot be used for states of affairs in the present. This is illustrated in (3.90–3.91), which show the past and future use of bare verb *ru*.

(3.90) *munuwe i ∅ ru kor*
 prev.day 3SG REAL stay:SG village
 ‘Yesterday he was in the village’ (Elicitation-2012-07-30-AD_0207)

(3.91) *mwah ha i k-i ru kor*
 next.day PROSP 3SG IRR-3SG stay:IRR/SG village
 ‘Tomorrow he will be in the village’ (Elicitation-2012-07-30-AD_0218)

If we treat this as a system indicating temporally proximal (present) versus temporally distal (past and future) states of affairs, it fits neatly into the mold of a simple spatial paradigm with a proximal–distal distinction, whereas it is highly unusual for a tense system.

A second factor that suggests this locative paradigm in Koro is distinct from tense is its occurrence in non-verbal clauses. It was demonstrated above, on the basis of morpho-syntactic evidence, that the affixed forms of the locative and posture verbs are non-verbal. Tense, on the other hand, is canonically a property of verbal clauses. It would therefore be very surprising if the only exponence of tense were found in non-verbal clauses in Koro, even more so because no other TAM categories can be marked in such clauses. If Koro did in fact have a system of grammatical tense, its morphological exponents would be expected to occupy the T head in a clause, but this is clearly not the case for the spatial deictic affixes in Koro, since non-verbal clauses do not have a TP projection (at least not an overt one). It therefore seems unlikely that the system of temporal deixis described here is a true

Time \ Space	Proximal	Distal	Unspecified
Proximal	<i>le-V~la-V</i>	<i>V-rah</i>	
Distal			locative & posture Vs
Unspecified			<i>ta</i>

Table 3.4: Deictic properties of locative predicates in Koro

tense system. On the contrary, it appears to constitute a temporal paradigm that parallels the spatial paradigm with which it is associated. The spatial and temporal properties of locative predicates in Koro are summarized in Table 3.4 (where V stands for any locative or posture verb root). As will be shown in Chapter 5, these properties are fully retained in the imperfective construction, providing evidence for its status as an SVC.

3.5 Conclusion

In this chapter I described the morpho-syntactic and semantic properties of path and locative predicates. Many of these properties are unique to this subclass of verbs, and distinguish them from all other verbs in the language. For example, although most of these verbs can take a following argument, they are unaccusative rather than transitive — the goal or location argument is an oblique object and not a direct object. In addition, unlike all other Koro verbs, they cannot be nominalized when occurring in argument position. Furthermore, prepositional path verbs are punctual, which is unusual for verbs of motion. Taken together, these facts suggest that there is something unique about the class of path and locative predicates that sets them apart morpho-syntactically from other verbs. On the other hand, both path and locative verbs license verbal categories such as aspect, reality status, and preverbal negation. Since these categories cannot occur in non-verbal clauses, this provides strong evidence that the path and locative verbs are indeed verbal. It appears, therefore, that path and locative verbs are a subclass of lexical verbs, as opposed to comprising a separate word class.

A possible alternative analysis is to treat path and locative verbs in Koro as overt *v* heads. However, this analysis presents problems of its own. Most importantly, since these verbs can occur as the only verbal element in a predicate, the question arises of how a *v* head could occur without an accompanying lexical V. One possibility would be to posit a null lexical V, but there is no evidence for this elsewhere in the language. In all other verbal clauses there must be an overt lexical V. Even when a semantically vacuous ‘dummy’ verb is required (for instance in ‘light verb’ constructions or when path verbs occur in the

imperfective construction), it is the overt form *po* ‘do; make’ that occurs. It could be argued that the language has a null copula, which occurs for example in equative and identificational clauses, but the functional categories that are licensed by a verb cannot occur in such copular clauses, and it is therefore unlikely that a null verb is present. For these reasons I reject an analysis of path and locative verbs as *v* heads. (I will discuss an additional difficulty raised by this analysis later in §6.4.) I assume instead that they comprise a subclass of lexical V heads with certain idiosyncratic morpho-syntactic properties.

Chapter 4

Towards a cross-linguistic definition of serial verb constructions

4.1 Introduction

Although the history of investigation into serial verb constructions is relatively long, there is a surprising lack of consensus on exactly what qualifies as an SVC. This chapter surveys the large body of typological and functional literature, exploring the similarities and differences between various types of constructions that have been identified as SVCs. The discussion focuses on the definition and categorization of SVCs, primarily using examples from the Oceanic family. Throughout the chapter I refine some of the established defining criteria for SVCs, in order to come to a more precise characterization of what does and does not constitute a true SVC. I conclude that SVCs should be defined as multi-verb constructions with the following four basic properties: (i) each verb is a main lexical verb; (ii) the construction is monoclausal; (iii) the construction describes a single event; and (iv) the verbs do not have separate argument structures.

Prior descriptive and typological work on SVCs demonstrates the urgent need for a rigorous definition of the notion. This is evidenced by the large and heterogeneous variety of phenomena that have been referred to under the umbrella of ‘serialization’. For example, Clark (1992), writing about serialization in the languages of mainland southeast Asia, classifies almost all types of asyndetic coordination and subordination as ‘serialization’. In practice, this means that her definition of serialization primarily boils down to a lack of overt marking of coordination or subordination in a given construction. As such, she includes even relative clauses lacking an overt relativizer in her definition of serialization (p.151). Consequently, despite her claim that the article attempts to “define serial verbs in such a precise way that to say a clause is a serial verb construction is to make a significant statement” (p.147), ‘serialization’ under Clark’s definition is essentially synonymous with lack of an overt marker, and therefore offers little insight into the nature of serialization. A similarly broad application of the concept of serialization is offered by Verhaar (1991), who analyzes examples like those in (4.1), from Tok Pisin, as a form of serialization.

(4.1) TOK PISIN

yu stap we na yu kam?
 you be where NA you come

‘Where did you come from?’

Verhaar (1991:127)

Based on the widely accepted definition of serialization, the existence of overt linking morpheme *na* should exclude this type of construction from the category of SVC, but Verhaar uses semantic evidence to argue that this type of construction should in fact be considered a type of verb serialization. A third example of the broad use of the term ‘serialization’ involves the relatively common analysis of examples such as that in (4.2) as SVCs. Here the first verb in the proposed SVC is *boka* ‘be able’, and the second verb is *n̄ha* ‘eat’.

(4.2) KOKOTA

gai a boka n̄ha=di gudu
 1EXCL 1EXCL.SUBJ be.able eat=3PL.OBJ EXHAUSTIVE

‘We could eat them all...’

(Palmer 2009:209)

In languages that lack verb serialization, such a construction would most likely be analyzed as a modal verb, or a control construction. In his discussion, Palmer provides no evidence for an SVC analysis, and in fact other examples suggest that this is not a true SVC in Kokota. For example, in (4.3) the first verb *boka* is unmarked for aspect, while the second verb *fa keli* ‘cause to be good’ is marked with perfective *ke*.

(4.3) KOKOTA

a boka ke fa keli=ni bo ihei
 1EXCL.SUBJ be.able PFV CAUS be.good=3SG.OBJ CONTRASTIVE whoever.SG
ia ta toke=i=na ia malaria
 the.SG SUBORD arrive=3SG.OBJ=that.nearby the.SG malaria

‘We can make good whoever (is) the one who catches malaria’

(Palmer 2009:71)

The fact that the second verb can independently take aspect marking suggests that *boka* and *fa keli* do not form an SVC here. Elsewhere in the grammar Palmer (2009:240) describes *boka* as having two different syntactic behaviors — that of a main verb and that of a preposed adverbial. Analyzing examples like (4.2) above as SVCs relies, among other things, on *boka* being a main verb in that construction. This is simply assumed in Palmer’s analysis, and no evidence is provided. It is possible, therefore, that the example in (4.2) has the same structure as that in (4.3), and that neither is a true SVC.

I point to these examples not because they are especially abhorrent analytical failures, but precisely because they are illustrative of the general approach to SVCs taken in descriptive grammars. Very often, purely surface criteria are applied, and in most cases are not tested in the full range of constructions. Moreover, the surface criteria tend to be applied selectively,

with little justification of the relative importance placed on each criterion. This leads to a vast over-application of the term ‘SVC’ in the descriptive literature and potentially obscures any true universal generalizations about the nature of SVCs. If ‘serialization’ is to be a non-trivial notion, it must surely mean more than simply ‘lack of overt marker of syntactic relation between constituents’ or ‘adjacency of two verbs’. Part of the aim of this dissertation is to provide a more refined definition of SVCs that is cross-linguistically applicable, so as to avoid some of the pitfalls commonly encountered in the literature.

In the remainder of this chapter I survey the functional–typological literature on SVCs, dissecting the criteria that have been used to define and categorize them. First, §4.2 gives an overview of the defining characteristics of SVCs, and discusses ways in which they could be refined and rigorously implemented. Then in §4.3, I survey the parameters of variation that have been observed among SVCs, both within and across languages. Finally, in §4.4 I summarize the scholarly consensus on what should be considered an SVC, and recap the criteria that have emerged from the discussion as most important for differentiating SVCs from other types of multi-verb constructions.

The main findings of this chapter are previewed in Table 4.1, which lists and categorizes the criteria that I argue should be used to identify true SVCs and distinguish them from similar constructions. These criteria are cross-linguistically applicable, and can therefore facilitate typological comparison of SVCs across languages. (In the following chapter I will exemplify the application of these criteria by examining multi-verb constructions in Koro.) The claim put forth in this chapter is that for a construction to count as a true SVC it must have *all* of the properties listed in Table 4.1; if it fails to exhibit one of these properties then it should be disqualified from consideration as a true SVC. Each listed criterion is therefore a necessary, but not sufficient, condition for SVC-hood. As noted above, many typological studies, and many descriptions of individual languages, take a more inclusive approach to SVCs. But such an approach potentially hampers the discovery of universals related to SVCs, since the constructions being compared are not necessarily the same. One of the aims of this dissertation is to find principled ways to exclude non-SVCs from our discussion of the phenomenon, in order to facilitate insightful cross-linguistic comparison.

The criteria in Table 4.1 have not been chosen randomly; on the contrary, there are a number of principles underpinning the choice of these as the crucial diagnostics. One of the most important is that each of the verbs that occurs in an SVC must be a lexical main verb when it occurs in the SVC. In other words, the morpheme occurring in an SVC must be the same lexical item that occurs as a main verb in a mono-verbal predicate. This is intended to differentiate serialized verbs from superficially similar morphemes such as auxiliaries, adverbs, and prepositions, which may have grammaticalized from verbs, but synchronically have distinct lexical and morpho-syntactic properties. The specific criteria that fall out from this principle are discussed and exemplified in §4.2.1. Another important assumption is that SVCs are monoclausal. This differentiates them from phenomena such as raising and control, and secondary predication. The specific criteria relating to monoclausality are outlined in §4.2.2. Additionally, an oft-repeated defining characteristic of SVCs is that the whole construction describes a single event, and this is taken here to be a core property of SVCs. There are a number of criteria that follow from this property, and these are discussed

Main verbhood
Both V_1 and V_2 can occur as a main verb in a mono-verbal clause
Both V_1 and V_2 are unrestricted, or restricted to a recognized morpho-syntactic or semantic subclass of verbs
The semantics of the verbs do not change when serialized
The morpho-phonology of the verbs does not change when serialized
Monoclausality
No overt coordinator or subordinator
No pause between V_1 and V_2
<i>wh</i> -movement of an object is possible
Exocentric derivational morphology has scope over the whole construction
Single eventhood
Temporal operators have scope over both verbs
Only a single manner modifier can occur
If any causative relation is entailed, it is direct causation
Argument sharing
The verbs share one or more core arguments, or
One of the verbs does not introduce any arguments

Table 4.1: Characteristics of true SVCs

in §4.2.3. Obligatory argument-sharing, the fourth defining property of SVCs, is discussed in §4.3.2.

A brief aside about terminology is in order here. Throughout this chapter the term ‘SVC’ is used as a pre-theoretical cover term for all constructions that have been identified as serialization in the literature. By using the term to refer to a particular construction, I am making no analytical claim about its syntactic structure; instead I am adopting the terminology of the original author, or using ‘SVC’ as short-hand for a construction that fulfills many or most of the surface criteria for SVCs, and therefore may be considered as a potential SVC. Throughout this chapter, and in later chapters, a precise definition of SVCs will emerge, based primarily on morpho-syntactic criteria. Where ambiguity may result, I employ the term ‘true SVC’ to refer to a construction that fulfills all the criteria set out in Table 4.1.

4.2 The typological definition of serial verb constructions

Because of the difficulty in pinning down a valid cross-linguistic definition of SVCs, it has sometimes been suggested that SVCs are a constellation, or ‘syndrome’, of features, rather than a well-defined, cross-linguistically valid grammatical structure (e.g., Seuren 1990:14). In her comprehensive cross-linguistic survey of SVCs, Aikhenvald (2006b) argues that SVCs exist on a continuum, with any particular structure in a given language being closer to or further from the SVC prototype. Nonetheless, the structures identified as SVCs in various languages do exhibit a number of consistent similarities which pose analytical challenges, and it has therefore been deemed fruitful to try and identify a cross-linguistic category of SVCs. In an attempt to limit the variety of constructions included in the category of SVC, a number of defining criteria have been proposed. Haspelmath (2015:2), for example, defines an SVC as “a monoclausal construction consisting of multiple independent verbs with no element linking them and with no predicate–argument relation between the verbs.” Other researchers include additional morpho-syntactic, semantic, and prosodic criteria in the definition of SVCs. (4.4) lists the properties that are most often identified as characterizing the prototypical SVC (see, for example, the foundational work of Sebba (1987) and the expansive typological study in Aikhenvald (2006b)).

(4.4) Proposed defining properties of SVCs:

- i. SVCs consist of components that could each stand on their own as a main predicate
- ii. SVCs are monoclausal
- iii. An SVC describes something conceptualized as a single event
- iv. The verbs in an SVC share at least one core argument
- v. SVCs include no marker of coordination or subordination
- vi. SVCs have intonational properties the same as a clause with a single verb
- vii. The verbs in an SVC share one tense, aspect, and polarity value

Not all of these criteria have been considered equally important for defining SVCs. For instance, many languages have a construction that resembles a prototypical SVC in all respects, but each verb can take its own polarity or aspect value. Such constructions are typically treated as types of SVC. Likewise, there are many constructions in which one component of the SVC is obligatorily serialized; that is, it cannot stand on its own as a main predicate. In many such cases, the morpheme in question behaves in all other respects as a prototypical verb root, for example taking transitivity and person marking, and this is the justification for including the construction in a list of SVCs. In contrast, constructions that include an overt coordinator or subordinator clearly fall outside the scope of SVCs, and are rarely treated as SVCs.¹ Throughout this chapter I will discuss each of these criteria, and highlight the relationships between them. Ultimately, I conclude that there are just four main defining criteria for SVCs — namely those in (i–iv) above — and that each of the other criteria is merely a supporting diagnostic for one or more of these primary criteria.

In the remainder of this section I discuss in detail three of the four defining properties of SVCs, focusing in particular on how these manifest in Oceanic languages, and on what diagnostics can be used to test for them. (The remaining property of argument sharing is discussed as a parameter of variation in §4.3.2 below.) §4.2.1 discusses the requirement that each component of an SVC be a main verb. I argue that this criterion should be interpreted in the narrowest possible sense, in order to maintain a valid distinction between true SVCs and other grammaticalized or lexicalized constructions. §4.2.2 focuses on the requirement of monoclausality in SVCs. I survey various tests that have been implemented to identify this property, including lack of overt coordinators or subordinators, monoclausal intonation, and allowance of extraction. Finally, §4.2.3 analyzes the notion of single-eventhood in SVCs, and suggests various concrete diagnostics that can be derived from this somewhat elusive criterion.

4.2.1 Main verbhood

One of the analytically challenging characteristics of SVCs is the fact that they combine two finite main verbs in what appears to be a single predicate.² This is one of the unique properties that initially led researchers to identify them as a new type of syntactic construction. It is important then, in classifying a certain construction as an SVC, to show that each of the predicative elements in it is in fact a main verb. This is typically done by demonstrating that each verb can occur as the main verb in a regular mono-verbal clause. For example, the Cantonese verb *gan*¹ ‘follow’ can occur as the sole verb in a predicate, as in (4.5a), or it can combine with another verb to form an SVC, as in (4.5b).

¹But cf. the analysis of Tok Pisin *na* discussed above (Verhaar 1991), as well as the treatment of Finnish ‘colorative constructions’ in (Armoskaite and Koskinen 2014).

²Some SVCs do consist of more than two verb roots, but most of these appear to be hierarchically structured. I will discuss such SVCs in §4.3.4 below.

(4.5) CANTONESE

a. *ngo*⁵ *gan*¹ *keoi*⁵

I follow him

‘I am with him (as a student, etc.)’

b. *ngo*⁵ *gan*¹ *keoi*⁵ *hok*⁶

I follow him study

‘I study with him (as his student)’

(Matthews 2006:70)

The fact that it can occur independently appears to provide strong evidence that *gan*¹ in (4.5b) is a main verb. However, this approach does not exclude the possibility that certain roots behave as main verbs in mono-verbal clauses, but have a different status when combined with another verb. This type of situation is exemplified, for example, by English *have*. There is clearly more than one lexical entry for *have*; it can be a main verb of possession, but it can also combine with another verb as an auxiliary, in which case it no longer has its possessive reading, but instead indicates obligation or necessity (as in *I have to eat*) or perfect aspect (as in *I have eaten*). A similar situation obtains in the Oceanic language South Efate, which has a series of verbs that can occur as both main verbs and auxiliaries (Thieberger 2006:236). The difference between the main verb use and auxiliary use is clearly evident on syntactic grounds — auxiliaries precede a benefactive constituent, while main verbs follow it.

These examples show that simply demonstrating that a homophonous or related form *can* occur as a main verb does not prove that the form occurring in an SVC has the status of a main verb in that construction. A number of other criteria can help to determine whether or not a root in an SVC is in fact a main verb. The two inter-related parameters of symmetry and semantic shift are most helpful in this regard. In the remainder of this section I will discuss each of these, and then turn to an examination of certain constructions that do not seem to fulfill the main verbhood criterion for other reasons. The overarching argument presented in this section is that any characteristics that necessitate a separate lexical entry for the serialized form of a given verb indicate that the purported SVC is not in fact a true SVC, but is some other type of construction, such as an auxiliary or control construction, an adverbial construction, or a prepositional construction.

4.2.1.1 Symmetry

Symmetry refers to the level of restriction on each of the verb slots in an SVC (Aikhenvald 2006b:21). An SVC is classed as symmetrical if both of the verbs that comprise the SVC (hereafter V_1 and V_2) come from unrestricted and open classes. This is illustrated in (4.6) for Goemai, a Chadic language of Nigeria.³

³Throughout all examples in this chapter and subsequent chapters the verbs in an SVC are underlined.

(4.6) GOEMAI

lap s'wa zak-yit
 receive drink again

‘(He) received (it and) drank (it) again’ (Hellwig 2006:101)

In this construction there are reportedly no restrictions on the type of verb that can occur as V_1 or V_2 ; any two verbs that can be interpreted as occurring in sequence are allowed. In this example V_1 is *lap* ‘receive’ and V_2 is *s'wa* ‘drink’, and the events of receiving and drinking are understood as having occurred consecutively.

In contrast, an SVC is asymmetrical if one of the verb slots allows only a small closed class of verbs to occur.⁴ In such asymmetrical SVCs, the verb occurring in the restricted slot is labeled the ‘minor verb’, while the verb occurring in the unrestricted slot is known as the ‘major verb’. An example of such a construction, again from Goemai, is in (4.7). In this particular type of Goemai SVC the V_2 slot is restricted to a small set of verbs with aspectual functions. In this specific example, the verb *kam* ‘stay’ contributes what Hellwig calls a resultative meaning.

(4.7) GOEMAI

du yok du kam
 PL.LOG.SP return(PL) PL.LOG.SP stay

‘They had returned’ (Hellwig 2006:105)

Symmetricality is an important parameter to consider when classifying SVCs, not only because it can provide evidence of the main verb status of each element of the SVC, but also because it reveals something about the syntactic structure of the SVC. For example, Aikhenvald (2006b:22) suggests that the major verb in an asymmetrical SVC is both the semantic and syntactic head of the construction, while symmetrical SVCs, in contrast, are doubly headed. In addition, symmetrical and asymmetrical SVCs typically follow distinct and predictable diachronic pathways: minor verbs in asymmetrical constructions tend to grammaticalize into tense, aspect, directional, and applicative morphemes, while symmetrical SVCs tend to undergo lexicalization as a whole, becoming verb compounds or idioms (Lord 1993, Aikhenvald 2006b). Due to these diachronic tendencies, it is necessary to examine both symmetrical and asymmetrical SVCs very closely in order to differentiate them from lexicalized compounds on the one hand, and grammaticalized constructions such as auxiliaries, prepositions, and directional particles on the other.

In the case of asymmetrical SVCs, it is necessary to show that the minor verb not only is able to occur as a main verb in a mono-verbal clause, but also that it has main verb status when it occurs in the SVC. If there is a restricted set of verbs that can occur in a given slot, this suggests that those verbs share some unique property or properties, namely that they

⁴Durie (1997) earlier labeled such SVCs ‘unbalanced’, but I retain the more common terminology introduced by Aikhenvald.

have certain syntactic or semantic features that other verbs lack. Depending on the level of restriction of the verb slot (broad, as in “all stative verbs”, or narrow, as in just three or four specific verbs), asymmetry may indicate that the minor verbs in that construction possess certain features *only when they appear in the SVC*, and otherwise lack those features. This entails that there are at least two separate lexical entries for each of those verbs — one when it occurs as a main verb and one when it occurs as a minor verb in an SVC — just as there are multiple lexical entries for the verb *have* in English. For instance, in the Goemai example in (4.7) above, a possible analysis is that there are (at least) two lexical entries for the verb *kam* ‘stay’ — one in which it is a simple main verb, and another in which it is specified as a particular type of morpheme, perhaps an aspectual particle. As a corollary, the syntax of the construction would be such that it allows an aspectual particle, but not a lexical verb, to occur after the main verb. This combination of separate lexical entry and subcategorization within the construction would explain the restricted nature of the apparent V_2 slot.⁵ At the same time, it would disqualify the construction as a true SVC because each ‘verb’ would not qualify as a main lexical verb.

Symmetrical SVCs, on the other hand, must be carefully distinguished from lexicalized idioms and compounds. One way of doing this is to analyze the degree of lexical freedom within the construction. Consider, for example, the type of Goemai SVC illustrated in (4.6) above. If the only restriction on the verbs in this SVC is a semantic one — namely that they must refer to events that can be interpreted as occurring in sequence — then this is most likely a true SVC. If, in contrast, there is in fact a limited set of verb combinations that are accepted as grammatical by speakers, this suggests that each combination of verbs has its own lexical entry, and consequently that the SVC is not necessarily a true syntactic construction. Degree of semantic compositionality can also be indicative of the status of a symmetrical SVC, and this property will be explored in more detail in §4.2.1.2 below.

The parameter of symmetry has typically been treated as binary in the literature — a given SVC is either symmetrical (unrestricted) or asymmetrical (restricted in some way). In contrast to this approach, I argue that, since the degree of restriction on the minor verb slot can give insight into the construction’s status as an SVC, it is crucially important to distinguish between different types or levels of restriction in asymmetrical SVCs. Examining numerous descriptions of asymmetrical SVCs across languages reveals two main types: (i) the minor verb slot is restricted to an independently identifiable subclass of verbs; (ii) the minor verb slot is restricted to one verb, or a small selection of verbs that do not form a coherent morpho-syntactic class and must be lexically listed. An example of the first type of SVC comes from Maŕea, an Oceanic language of Vanuatu. In Maŕea manner SVCs the V_2 slot is restricted to the class of stative intransitives (Guérin 2011:267). V_2 in this type of SVC functions as an adverbial modifier of V_1 , indicating the way in which the action was performed or experienced, as illustrated in (4.8). Here major verb *sa* ‘go up’ is modified by

⁵Hellwig (2006:105) in fact analyzes *kam* in (4.7) as an aspectual particle grammaticalized from a main verb. In other words, her analysis of its synchronic status is exactly what I have proposed here. Other scholars, however, are not always so careful to distinguish asymmetrical SVCs from auxiliary or modal constructions.

minor verb *rro* ‘fast’, which expresses the manner of V_1 .⁶

(4.8) MAŦEA

<u>da-r-sa</u>	<u>i-rro</u>	
1PL.INCL-DU-go.up	3SG.IRR-fast	
‘We go up quickly’		(Guérin 2011:267)

The class of stative intransitives is a fairly broad class, and one that is easily characterized in terms of morpho-syntactic features that all of its members share, to the exclusion of other verbs. This restriction on the V_2 slot therefore does not suggest that the SVC is grammaticalized, or that verbs occurring in the V_2 slot have more than one lexical entry. The SVC can make reference to the existing features of the subclass of verbs, without any need to stipulate further restrictions. For example, if we posit a feature such as [+stative] in the lexical entry for all stative verbs, it is simple to see how the restriction on the minor verb slot could be derived from selectional properties of other heads in the construction.⁷

In contrast, the SVC of ‘testing’ in MaŦea has a much tighter restriction on V_2 — it only allows the sensation verb *rongoa* ‘feel, hear’ to occur. This is illustrated in (4.9), which shows the meaning of ‘test’ or ‘try’ expressed by this SVC.

(4.9) MAŦEA

<i>mo-v</i>	<u>i-ros</u>	<u>rongo</u>	<i>Ŧatiu</i>	
3SG-say	3SG.IRR-grate	feel	coconut	
‘She wants to try grating coconut’				(Guérin 2011:272)

The fact that there is only a single verb that is licensed in the V_2 slot of this construction suggests that this verb may well be undergoing grammaticalization. That is, the simplest analysis of this construction is one in which *rongoa* has two lexical entries — one as a main verb, and one as a kind of auxiliary, modal, or control verb. Unlike with the class of stative intransitive verbs, there is not a unique set of features that differentiates main verb *rongoa* ‘feel, hear’ from all other verbs in the language, and therefore it is likely that there is a separate lexical entry for serialized *rongoa* in which its set of features does differentiate it from other verbs. Similar examples of highly restricted asymmetrical SVCs are given in (4.10–4.11). In the inceptive example in (4.10), from Hoava, only the verb *podalae* ‘begin’ can occur as V_1 . Likewise, in the completive example in (4.11), from Araki, only *iso* ‘finish’ is licensed in the V_2 slot.

⁶Guérin (2011) does not explain why V_2 takes irrealis marking in this construction. V_2 takes third person singular marking because this is what is known in the Oceanic literature as an ‘ambient’ SVC (see §4.3.2 for more details on this type of serialization).

⁷An example of this type of analysis in action is provided by Baker (1989), who posits a certain syntactic structure for resultative SVCs which restricts V_2 to the class of unaccusative verbs through restrictions on theta role assignment.

(4.10) HOAVA

Podalae vose gita, koni vose la pa Kutuke
 begin paddle 1PL.INCL FUT paddle go PREP Kutuke
 ‘We begin to paddle, (we) will paddle to Kutuke’ (Davis 2003:149)

(4.11) ARAKI

Nam re goro mo iso
 1SG.REAL PERF sleep 3REAL finish
 ‘I have finished sleeping’ (François 2002:192)

Like the Maŕea example in (4.8), only a single verb is licensed in the minor slot of each of these SVC types. More information is needed about their behavior outside of SVCs, but the fact that they are the only verbs allowed in each of these constructions strongly suggests that there is something idiosyncratic about the morpho-syntax of these specific verbs that allows them to cooccur with another verb. As such, it is possible that these verbs are behaving as raising verbs or aspectual particles in these examples, rather than as regular main verbs in ‘true’ SVCs.⁸

Between these two extremes of restriction lie a number of constructions with moderately restricted verb slots. For example, directional SVCs in Paamese allow any of six basic motion verbs to occur in the V₂ slot (Crowley 2002b:67).⁹ The utterance in (4.12) exemplifies this construction, in which V₁ can be any motion verb (here *suvulu* ‘climb down’), and V₂ is one of the six basic motion verbs (here *hiitaa* ‘descend’).

(4.12) PAAMESE

ni-suvulu ni-hiitaa netano
 1SG:DIST.FUT-climb.down 1SG:DIST.FUT-descend down
 ‘I will climb down’ (Crowley 2002b:68)

The level of restriction on V₂ in this construction appears to be somewhere between that of the Maŕea manner SVC in (4.8), and that of the highly restricted SVCs in (4.9–4.11). It is tempting then to treat the property of symmetry in SVCs as a continuum, with the poles represented by highly restricted SVCs on the one hand, and symmetrical SVCs on the other. However, this approach is ultimately unappealing because it makes it difficult to draw a consistent line between symmetrical and asymmetrical SVCs, two categories that we know have validity because of their distinct morpho-syntactic and diachronic behaviors. In addition, it is likely that certain highly restricted asymmetrical SVCs are not true SVCs at

⁸It is presumably this type of construction that Haspelmath (2015) intends to exclude from his definition of SVCs when he specifies that there should be “no predicate–argument relation between the verbs.”

⁹Although Crowley is not explicit about how ‘basic motion verbs’ are defined in Paamese, it is notable that all of the verbs he includes in this class are spatially deictic, indicating movement either away from or towards the speaker.

all. It is therefore desirable to be able to characterize symmetry as a categorical, rather than continuous, property.

The solution to this problem is to look at the *type* of restriction on a given slot, rather than the *degree* of restriction. The important characteristic is not the raw number of verbs allowed in the restricted slot, but rather the level of stipulation required to uniquely identify that group of verbs. According to Crowley, for example, the six basic motion verbs in Paamese form a clearly defined subclass of verbs, based on their morpho-syntactic behavior as main verbs. Given this, the fact that only these six verbs can occur as the minor verb in this type of SVC does not necessarily suggest that they are grammaticalized in the construction. Since they already share unique features that distinguish them from other types of verbs in the language, it is plausible that some property of the SVC allows only verbs of that subclass to occur in the restricted slot, without having to stipulate further restrictions.

Jabêm ambient adverbial SVCs provide another case that appears to exemplify an intermediate level of restriction on the minor verb slot. In such SVCs, the V_2 slot is restricted to a set of about a dozen verbs, which behave as adverbial modifiers in the SVC. For example, in (4.13), the verb *wiŋ* ‘go with’ modifies the action of the main verb *ɣoŋ* ‘collect’.

(4.13) JABÊM

se-ɣoŋ *buʔ* *ge-wiŋ*
 3PL-collect areca.nut 3SG-go.with

‘They collected areca nuts as well’

(Ross 2002b:289)

Unlike in the Paamese example above though, this type of SVC in Jabêm restricts the minor verb slot to a heterogeneous set of verbs. The verbs that can appear in this slot are apparently not unifiable on semantic or morpho-syntactic grounds, but must simply be listed. Additionally, they are all restricted to intransitive use in this SVC, and take on idiosyncratic meanings related to, but not identical to, their main verb meanings (Bradshaw (1993:152); Ross (2002b:289)). As such, although this construction allows a greater number of different verbs to occur in the minor slot than does the Paamese directional SVC, the nature of the restriction is stipulative — or lexical — rather than morpho-syntactic. In this sense it is less like the Paamese example in (4.12), and more like the examples in (4.9–4.11).

The generalization to be made about asymmetry in SVCs, therefore, is as follows: if the restrictions on the minor verb slot make reference to an independently identifiable morpho-syntactic subclass of verbs, then the verbs are most likely main verbs when they occur in the SVC (and it is therefore a true SVC); in contrast, if the restrictions are arbitrary, and do not make reference to a pre-existing subclass of verbs, then it is likely that the construction is grammaticalized, and the verbs are not true main verbs when they occur in the minor slot of the SVC. Lexical restrictions on SVCs suggest the existence of a separate entry in the lexicon for each minor verb, and suggest that these constructions should not be considered true SVCs, since both their components are not true main verbs. We can thereby identify three discrete categories of symmetry in SVCs:

- (i) symmetrical SVCs, where there are no restrictions on either verb slot (4.6);

- (ii) asymmetrical SVCs, where one of the verb slots allows only a certain independently recognized subset of verbs to occur (4.8, 4.12); and
- (iii) lexically restricted constructions, where one of the slots allows only certain verbs to occur, but these verbs do not otherwise form a coherent subclass in the language (4.7, 4.9–4.11, 4.13).

The last category should not be considered to fall under the umbrella of true SVCs, due to the fact that they entail a separate lexical entry for the restricted verb when it is used in an SVC as opposed to when it occurs as a main verb. Instead they should be analyzed as grammaticalized constructions involving auxiliaries, modals, prepositions, particles, affixes, et cetera. In the next section, I will identify a fourth class of constructions, based on level of restriction and semantic compositionality, and argue that these too should be excluded from the category of true SVCs.

4.2.1.2 **Semantic shift and compositionality**

There is little consensus as to how far the meaning of a verb in an SVC can stray from its main verb meaning and still count as an SVC. There is general agreement that the two meanings should be transparently related (e.g., Dixon 2006:339), but scholars are inconsistent in the degree of semantic shift they tolerate while still analyzing the construction as an SVC. In this study I assume that if we are to take the criterion of main verbhood seriously, any semantic differences in serialized uses of a particular verb must be directly attributable to syntactic properties of the SVC. If other semantic differences are present, this indicates a separate lexical entry for that verb, and therefore suggests that the construction in question is not a true SVC. This approach reflects a view of SVCs as a syntactic phenomenon.¹⁰ In contrast to this view, certain other scholars have viewed semantic shift or noncompositionality as a characteristic property of SVCs. For instance, Lynch et al. (2002:46) state that SVCs can often be distinguished from other multi-verb constructions in Oceanic by the fact that, among other morpho-syntactic differences, their meanings “are not completely predictable from the meanings of their constituent verbs.” In order for this metric to work, one must assume that SVCs are a lexical phenomenon, akin to compounding, or that certain verbs in SVCs are grammaticalized. In my view, constructions involving lexicalized V-V compounds or grammaticalized verbal morphemes are of great interest, but do not constitute examples of true SVCs. I therefore take the opposing view on the semantics of SVCs: in order for a construction to qualify as an SVC, the semantics of each verb should be identical to its main verb semantics, apart from any differences imparted by the syntax itself.

In light of the syntactic view of SVCs adopted here, it is notable that highly asymmetrical SVCs such as those that fall into category (iii) above often involve somewhat idiosyncratic semantic shift of the minor verb. Consider (4.9) above, which shows a significant degree of

¹⁰Haspelmath (2015:6-8) expresses a similar view on semantic compositionality, but he allows the construction itself to impart additional semantics not necessarily directly derived from syntactic structure. The approach in this dissertation belies a broadly generativist philosophy and stands in contrast to that approach and to theoretical frameworks such as Construction Grammar (Goldberg 1995), in which morpho-syntactic constructions themselves have semantic content, independent of the semantics of the lexical items involved.

change in the semantics of the serialized verb. When *rongoa* occurs as a main verb, it means ‘feel’ or ‘hear’, whereas in the ‘testing’ SVC it means ‘try’ or ‘test’. While clearly related, the meaning of *rongoa* in the SVC is not totally predictable from its meaning when used as a main verb. Similarly, in example (4.7) above the verb *kam* no longer has its full semantics of ‘stay’, but instead adds aspectual semantics to the construction. Again, the resultative interpretation of *kam* in the SVC is unpredictable, since verbs meaning ‘stay’ can take on a variety of aspectual and locative functions in SVCs. The example from Mussau in (4.14) illustrates this point. Here V_1 *toka* ‘sit’, which has very similar semantics to ‘stay’, imparts durative semantics to the construction, indicating that the activity continued for a long time.

(4.14) MUSSAU

<i>ghe</i>	<i>nim</i>	<u><i>toka</i></u>	<u><i>su~ssu</i></u>	<i>poi</i>	
PAST	just	sit	REDUP~breastfeed	EMPH	
‘He just kept sucking (trying to breastfeed)’					(Brownie and Brownie 2007:135)

Compare these examples from Mañea (4.9) and Mussau (4.14) to the examples in (4.6), (4.8), and (4.12), where the verbs all appear to retain their full lexical meaning. It seems that SVCs with lexical restrictions on the minor verb slot (that is, those in class (iii) above) also tend to involve a degree of semantic shift or bleaching. This makes sense, since these are the cases in which I have argued there must be a separate lexical entry for the verb occurring in the minor verb slot. If the verb in the SVC represents a separate lexical entry from the verb occurring as a main verb in a mono-verbal clause, then there is no reason why the two lexical entries should not have semantic differences in addition to any differences in their morpho-syntactic features.

Even when an SVC is not clearly of type (iii), there may still be semantic shift evident in the minor verb. For example, in the adverbial SVC in (4.15), V_2 *sakiaa* ‘ruin’ takes on the related but non-identical meaning of ‘badly’.

(4.15) MUSSAU

<i>me</i>	<i>a=ghe</i>	<u><i>katuu</i></u>	<u><i>saa~sakiaa=la</i></u>	
and	1SG=PAST	fall	REDUP~ruin=PFV	
‘And I fell down badly’				(Brownie and Brownie 2007:137)

Despite the fact that this slot is not lexically restricted (at least, Brownie and Brownie give no indication that it is), the semantic shift alone suggests that the minor verb in this construction is somewhat grammaticalized, akin to minor verbs occurring in type (iii) asymmetrical constructions. We may therefore add semantic identity of the main and serialized versions of a verb as another criterion for identifying true SVCs.

Apart from the three categories of symmetry identified in §4.2.1.1 above, there is a fourth category of symmetry, characterized by severe restrictions on *both* verb slots. Although they are often described as symmetrical, such constructions allow only a very limited

combination of verb roots to occur together, and the semantics are typically noncompositional. This is very common, for example, with SVCs referring to killing events in Oceanic. Many Oceanic languages lack a simple lexical verb ‘kill’ and instead employ a so-called symmetrical SVC for this meaning. In Kairiru (4.16) and Paamese (4.17), for example, the SVC ‘hit die’ or ‘hit kill’ is used to mean ‘kill’.

(4.16) KAIRIRU

Tom woñau o-un-i a-myat ãuon
 Tom dog 3SG-hit-3SG 3SG-die COMPL
 ‘Tom killed the dog’ (Ross 2002c:212)

(4.17) PAAMESE

nua-vinii-nV vuas
 1SG:DIST.FUT:hit-kill-OBJ pig
 ‘I will kill the pig’ (Crowley 2002b:97)

Koro uses a similar construction, *tah...mat* ‘strike die’, as in (4.18).

(4.18) KORO

komu i ngap tehene chinal a u k-a-ni
 word REAL:3SG run thus devil DIST 3PL.SBJ PERF=NON.SG=PERF
tah-i i k-i-ni mat
 strike-SPEC.OBJ 3SG PERF=3SG=PERF die
 ‘Word spread that the devil had been killed’ (v2012-07-31-AD_BZ-05_0128)

In such cases, the verb meaning ‘hit’ or ‘strike’ is often semantically bleached, and the whole compound no longer refers specifically to the act of killing by hitting, but instead encompasses a wider range of killing events. For the Paamese example in (4.17), Crowley (2002b:98) states that “[w]hile this construction would be used to describe a situation where hitting resulted in death, it could also be used where something or someone is killed and there is no specific indication as to the kind of action that caused the death.” Similarly, in the Koro example in (4.18), the devil in question had in fact been killed by spearing, rather than by beating. Although the actions of beating and spearing are very similar, the ability to use the verb sequence ‘strike die’ to refer to an act of spearing to death nonetheless suggests a certain degree of lexicalization. It appears that the full semantics of each verb is no longer activated in such SVCs, and that the whole verb sequence has instead taken on a somewhat idiosyncratic semantics. This is in contrast to similar SVCs in languages such as Watam. In this Papuan language, unlike in the Oceanic languages cited above, V_1 retains its full verb semantics in the collocation, specifying the manner of killing (Foley 2010:85). The Watam construction, unlike the Oceanic ones, represents a true symmetrical SVC, since there is no semantic indication of lexicalization of the verb sequence. As Foley points out, lexicalization

in this case is particularly unlikely, because an additional verb can be inserted between V_1 and V_2 to further specify the manner of killing, such as in *arig- turka- minik-* ‘shoot pierce die’.

Further examples of semantically noncompositional or idiosyncratic SVCs are found in Paluai (Schokkin 2014b:342). For instance, the sequence *song yik* (literally ‘run away search for’) is used to mean ‘hunt’, while *soksok yit* (literally ‘hit with implement chip off’) is an intransitive predicate, referring to an egg hatching. Numerous other so-called symmetrical SVCs in the language exhibit similar semantic shift or metaphorical extension. As Schokkin notes, this indicates that these verb sequences have undergone significant lexicalization. Considering the noncompositional semantics of such SVCs, I would suggest that these do not fulfill the criteria of true SVCs. Instead, it is likely that the two verbs together form a lexical entry with idiomatic semantics.

The existence of idioms such as these is not in itself evidence against an SVC analysis. It is perfectly plausible that these are idiomatic instances of a more widespread symmetrical SVC construction, just as the idiom *kick the bucket* in English is an example of a transitive predicate, which is a core part of English grammar. However, if the *only* examples of a particular SVC are lexicalized and have idiomatic meanings, then it is parsimonious to analyze them as individual collocations, instead of instances of a productive syntactic construction (although they may represent the fossilized remains of one). These would then be similar to English idioms such as *day in, day out*, which do not seem to fit into a productive syntactic pattern. In Chapter 5 I will discuss some additional examples of lexicalized multi-verb constructions in Koro, and demonstrate other ways in which they deviate from the prototypical SVC.

4.2.1.3 Non-main-verbs in SVCs

Focusing on the criterion of main verbhood, I have so far identified two types of constructions that are true SVCs — (i) and (ii) above — and two types that are not — (iii) above (including asymmetrical SVCs where the minor verb has unpredictable semantics), and lexicalized idioms. In this section, I identify three other types of constructions that have been treated as SVCs, but which I will argue should be excluded from the category of true SVCs. These are: SVCs in which one of the elements is non-verbal in simplex clauses; SVCs in which one of the verbs does not occur outside of SVCs; and SVCs in which the phonological form of the serialized verb is not the same as its main verb form.

In Paamese, certain non-verbal elements can occur in what looks like an SVC. For example, the construction in (4.19) resembles an SVC because the second element *maili* ‘left’ takes transitive suffix *-ni*, which otherwise only occurs on verbs.

(4.19) PAAMESE

na-guri *maili-ni* *aai*
 1SG:REAL-take left-TR stick

‘I took the stick in my left hand’

(Crowley 2002b:116)

However, in main clauses, *maili* cannot function as a verb, but is instead a post-nominal modifier (Crowley 2002b:116). A similar example is in (4.20). In Paamese, discontinuous negator *ro-...-tei* usually affixes to the verb. In SVCs the first part prefixes to V_1 and the second part suffixes to V_2 . In (4.20) *-tei* suffixes to *vilai* ‘properly’, making this isomorphic with an SVC. Like *maili* above, however, *vilai* does not occur as a main verb in simplex clauses, but is instead an adverb.

(4.20) PAAMESE

<u><i>ni-ro-sali</i></u>	<u><i>vilai-tei</i></u>	<i>vuasi</i>	
1SG:DIST.FUT-NEG1-spear	properly-NEG2	pig	
‘I will not spear the pig properly’			(Crowley 2002b:118)

Margetts (1999:131) describes a similar situation for Saliba. She identifies four positional slots in Saliba nuclear-layer SVCs, and notes that, while most of the stems occurring in these SVCs can occur as an independent verb, a number of the V_4 stems are nominal modifiers instead.

These examples illustrate constructions that resemble SVCs morpho-syntactically, but include as one of the so-called ‘verbal’ elements a root that is non-verbal. These constructions thereby violate the main verbhood criterion for SVCs, and should be excluded from the analysis of SVCs. Analytically, such constructions clearly present challenges. For instance, what allows a verbal or nominal modifier to take morphology that is otherwise reserved for verbs? Why do certain modifiers allow this, and not others? However, these analytical challenges are different from the challenges posed by true SVCs, and therefore must be treated separately.

A similar type of non-SVC is one where the serialized verb does not occur in any form outside of the SVC. Margetts (1999:122, 131), for example, notes that a number of serialized verbs in Saliba do not occur as independent verbs, nor as any other type of word class. One such example is *watani* ‘follow’, which only occurs as V_3 in an SVC.¹¹ This is illustrated in (4.21), where it combines with V_1 *lao* ‘go’.

(4.21) SALIBA

<i>benā</i>	<i>hinage</i>	<u><i>ku-lao-watani-di</i></u>	
must	also	2SG-go-follow-3PL.OBJ	
‘You must also follow them’			(Margetts 1999:130)

Crowley (2002b:97) lists a large number of such verbs in Paamese. These include morphemes that modify the manner of V_1 , such as *kerati* ‘do energetically’, *peŋe* ‘do perfectly’, and *lahi* ‘do quickly’, those with a directional function, such as *rahiti* ‘go around’, *koti* ‘go across’, and *lei* ‘go out’, and those with main verb semantics, such as *vinii* ‘kill’, *kokoloni*

¹¹Margetts (1999) identifies four slots within SVCs in Saliba. Although *watani* ‘follow’ occurs as the second verb stem in (4.21), its underlying position is V_3 .

‘wait for’, and *viisi* ‘try’. Although these constructions once again resemble SVCs morpho-syntactically, they fail the test of main verbhood. It seems unlikely that all such SVCs form a homogeneous class of constructions; instead there are probably several distinct syntactic constructions represented in this list. For example, the manner and directional modifiers may be adverbs, while *kokoloni* and *viisi* may be control verbs, and *vinii* may be part of a lexicalized phrase. Each of the SVCs containing these different serialized verbs would therefore have different syntactic structure. It would be necessary to look very closely at the behavior of each of these types of SVCs to posit a syntactic analysis, but the mere fact that V_2 in these constructions cannot occur as a main verb precludes a true SVC analysis. As with the examples cited above, the analytical challenges presented by such constructions are separate from those presented by true SVCs.

Finally, there are constructions in which the phonological form of the serialized verb differs unpredictably from that of its main verb counterpart. Again looking at Paamese, Crowley (2002b:100–101) lists seven verbs that have unpredictable phonological form when occurring in SVCs. An example is the verb *tehe* ‘slice, cut’, which appears as *kotehe* when serialized, as in (4.22).

(4.22) PAAMESE

na-musahi *kotehe-nV* *aai*
 1SG:REAL-chop cut.in.two-OBJ log
 ‘I chopped the log in two’

(Crowley 2002b:101)

There is no productive morphological or phonological process in the language that would derive either of these forms from the other; consequently, it is necessary to posit separate lexical entries for the serialized and non-serialized forms of this verb. Like with the examples discussed above, therefore, this type of SVC should be excluded from consideration as a true SVC.

I do not want to suggest that just because a construction allows obligatorily serialized verbs to occur it is not a true SVC. If both verb slots can take morphemes that are clearly main verbs, and in addition to this they admit morphemes whose main verb status is questionable (such as the ones discussed in this section), then the construction can be treated as a true SVC because it clearly involves the cooccurrence of two main verbs, at least in some contexts. However, so-called SVCs in which one of the slots *only* includes morphemes that never occur as a main verb should not be treated as true SVCs. A point that should be stressed here is that the diagnostic tools presented in this chapter are designed with a purely synchronic analysis in mind. All of the constructions discussed in this section almost certainly have a diachronic relation to true SVCs, but the fact that they involve elements that are not identical to any extant main verb indicates that they should not be analyzed synchronically as SVCs.

4.2.1.4 Summary

A primary criterion for identifying SVCs is the requirement that each verb in the SVC be a main verb, capable of forming the predicate in a mono-verbal clause. However, showing

SVCs	Symmetrical SVCs	– no restrictions on either verb slot
	Asymmetrical SVCs	– one verb slot restricted to independently identifiable subclass of verbs
Non-SVCs	Lexicalized idioms	– both verb slots highly restricted; and/or – noncompositional semantics
	Other constructions (raising and control, modals, other auxiliaries, adverbs, prepositions, etc.)	– minor verb slot lexically restricted; and/or – semantic shift of minor verb; and/or – non-verbal minor ‘verb’; and/or – obligatorily serialized minor verb; and/or – minor verb has special phonological form

Table 4.2: Typology of SVC-like constructions, based on criterion of main verbhood

that a given verb occurs both as a main verb and serialized in an SVC is not definitive proof that the verb behaves as a main verb *in the SVC*. We must therefore employ other diagnostics to decide whether the criterion of main verbhood is fulfilled. Two such diagnostics are asymmetry and semantic bleaching. A stipulative (lexical) restriction on one of the verb slots in an SVC suggests that the verbs occurring in that slot have more than one lexical entry, and that they are therefore not true main verbs when they occur in the SVC. In such cases we can say that the verb has grammaticalized in that construction, similar to *have* in English, which has grammaticalized into an auxiliary and a modal, as well as maintaining its life as a main verb. Semantic shift, which tends to accompany grammaticalization or lexicalization, can also help to diagnose the status of a given verb in a particular SVC. Semantic shift or bleaching of the minor verb in an asymmetrical SVC suggests grammaticalization of that construction, while non-compositional semantics in a symmetrical SVC indicates lexicalization of the construction. In both cases, we should exclude these synchronically from the category of ‘true SVCs’, although it is highly likely they developed from what were once true SVCs. Other constructions that have been described as SVCs include those where the root in the minor slot occurs as something other than a verb outside of the SVC, those where the minor verb does not occur at all outside of SVCs, and those where the phonological form of the verb is different when it is serialized. All of these constructions point to there being a separate entry in the lexicon for the serialized form, and these should therefore also be excluded from consideration as synchronic SVCs. Table 4.2 summarizes the types of SVCs that do and do not pass the tests for true SVCs, based on the main verbhood criterion.

4.2.2 Monoclausality

Having determined how to test whether a certain construction passes the test of main verbhood, I now turn to the criterion of monoclausality. Monoclausality is an obligatory feature of an SVC. Part of the mystery of SVCs is what allows two main verbs to occur in a single predicate, and therefore the monoclausality constraint is integral to the definition of SVCs. As such, it is vitally important to define what exactly is meant by ‘monoclausal’, and what constitutes evidence of monoclausality. Unfortunately, this is rarely made explicit in descriptions of SVCs. Based on discussions in the literature, we can assume that this criterion is intended to distinguish SVCs from non-SVC multi-verb constructions such as coordinated clauses, complement clauses, raising and control constructions, and other types of subordinate clause constructions. Most of the surface criteria listed in the introduction to this section aim to diagnose monoclausality. Lack of an overt coordinator or subordinator, monoclausal intonation, expression of a single event, forming a single scopal domain for TAM and negation, and sharing arguments are all potentially indicative of a monoclausal structure; however, most of these criteria in isolation do not unambiguously identify a construction as monoclausal. For example, a number of languages allow asyndetic coordination and subordination. This means that underlyingly coordinated or subordinated structures may not have any overt marking of this syntactic relation. In such languages, lack of a coordinator is not sufficient to show that a given construction is monoclausal (see (4.26) below). I defer discussion of single-eventhood and the marking and scope of TAM and negation to §4.2.3, and of argument sharing to §4.3.2; in the remainder of this section I discuss overt markers of coordination or subordination and intonational properties, as well as introducing the diagnostics of *wh*-extraction and other morpho-syntactic operations that treat SVCs as a single predicate.

One of the fundamental properties that immediately marks a construction as not being an SVC is the presence of an overt marker of coordination or subordination. This marker could be either bound or free. For example, a bound marker of syntactic dependency is illustrated in (4.23), from Wolaitta, an Omotic language of Ethiopia. Here suffix *-iiddí* attaches to the first verb to indicate its dependent status, and to impart the semantics of simultaneity. The presence of this suffix disqualifies the construction as an SVC.

(4.23) WOLAITTA

<i>ʔí</i>	<i>ʔoós-uwa</i>	<i>ʔoott-iiddí</i>	<i>yét't'-eési</i>
3MSG:NOM	work-M:ABS	do-SIML	sing-3MSG:IMPFV
‘He sings while working’			(Amha and Dimmendaal 2006:324)

In (4.24), from Mañea, we see VPs linked by a free morpheme instead. Complementizer *ma* occurs after V_1 *on* ‘look’, and introduces the complement clause. Again, this overt morpheme indicates that the construction is not an SVC.

(4.24) MAŦEA

mo-on ma m̦arao ro mo-valavao
 3SG-look COMP eel here 3SG-big.one

‘He saw that the eel here was big’ (Gu erin 2011:259)

Similarly, in (4.25) there are separate main clauses conjoined with free morpheme *ro* ‘then’.

(4.25) MAŦEA

mo-sa mo-sakai ai ro, mo-otol mo-si na lolo
 3SG-go.up 3SG-sit PRO then 3SG-lay.eggs 3SG-go.down LOC inside

‘She went up, sat on it, then she laid eggs inside’ (Gu erin 2011:320)

As is the case in many languages, in MaŦea the occurrence of free markers of subordination and coordination is optional. Gu erin (2011:259) notes, for instance, that the utterance in (4.24) above is equally grammatical without complementizer *ma*, and the conjunction *ro* in (4.25) is similarly optional. Absence of such an overt morpheme is therefore an unreliable criterion for distinguishing SVCs from other types of multi-verb constructions. While the presence of such a marker definitively disqualifies a construction as a true SVC, lack of such a marker is ambiguous.

Because of the inconclusive nature of the overt marker criterion, the prosodic criterion is often relied on to diagnose monoclausality instead. Although this is typically defined simply by stating that the intonational properties of SVCs “are the same as those of a monoverbal clause” (e.g., Aikhenvald 2006b:1), in practice the difference between SVCs and other multi-verb clauses usually boils down to the absence versus presence of a pause between verbal elements. This is the case, for example, in MaŦea, where SVCs do not contain pauses, whereas coordinated clauses do, even in the absence of an overt marker of coordination (Gu erin 2011:320). A similar situation is illustrated for Goemai in (4.26), which illustrates both an SVC (4.26a) and a sequence of coordinated clauses (4.26b). In these examples, the only surface indicator of a difference between the two constructions is the absence of a pause between the verbs in (a) and the presence of such a pause (represented here by ‘/’) in (b) (Hellwig 2006:92).

(4.26) GOEMAI

a. *sai su ru n-goede gado*
 then run:SG enter:SG LOC-bottom bed

‘Then (he) ran (and) entered under the bed’

b. *d   snaan [...] su / ru dakd’  e lu*
 cricket run:SG enter:SG middle settlement

‘The cricket [...] ran, (and it) entered into town’ (Hellwig 2006:91)

The same pattern is also reported for Emerillon (Tupi-Guaraní) (Rose 2009:651), as well as numerous other languages from a variety of families.

It is clear that intonation can play a crucial role in distinguishing between SVCs and coordinate structures. However, like the absence of an overt morpheme, absence of a pause does not entail that a certain construction is an SVC. There is no indication, for example, that the complement clause construction in (4.24) includes any pause between verbs, even when complementizer *ma* is omitted. We can therefore summarize by saying that absence of overt markers of subordination or coordination and monoclausal intonational properties are both necessary, but not sufficient, conditions for identifying a given construction as an SVC.

Due to the ambiguity of these two criteria, other syntactic criteria must be applied in order to decide more definitively whether or not a certain construction is monoclausal. One syntactic test often applied in the literature is that of movement or extraction. While coordinated structures — even those without an overt coordinator — disallow extraction of an object due to the coordinate structure constraint (Ross 1967), SVCs do allow objects to be extracted (Baker 1989:514). The following examples demonstrate this in Ewe (Niger-Congo). (4.27a) illustrates a sequential SVC, containing the verbs *da* ‘cooked’ and *du* ‘ate’, with shared object *nu* ‘thing’ intervening. In (4.27b), the object is fronted, forming a *wh*-question. In contrast, such an operation is not allowed for coordinate structures.

(4.27) EWE

- a. *Kofi da nu du*
 Kofi cooked thing ate
 ‘Kofi cooked and ate’
- b. *nuka Kofi da du?*
 thing-which Kofi cook eat
 ‘What did Kofi cook and eat?’ (Agbedor 1994:116)

Unfortunately, Oceanic languages typically do not exhibit movement of *wh*-constituents, and therefore this criterion is of limited value in Oceanic (Lynch et al. 2002:52).¹²

However, other types of morpho-syntactic operations do occur with regularity in Oceanic languages, and these can also provide evidence of monoclausality. For example, the behavior of verb sequences under nominalization and relativization can reveal something about their underlying syntax. In (4.28), from Tobabaqita, the SVC *kwage fole* ‘hit (and) split’ takes just a single nominalizer, which has the whole SVC in its scope.

(4.28) TOQABAQITA

- kwage fole-la-na niu qe aqi si qefataqi*
 hit split-NMLZR-3PERS coconut 3SG.NONFUT NEG.V 3SG:NEG be.difficult
 ‘Splitting coconuts (e.g. using an axe) is not difficult’ (Lichtenberk 2006:261)

¹²Although many *wh-in-situ* languages do still exhibit island effects (e.g., Huang 1982), this is not always the case. Koro, for example, allows optional movement of *wh*-constituents. Overt movement is sensitive to islands, whereas *in situ* constituents do not exhibit island effects.

4.2. The typological definition of serial verb constructions

Similarly, a relative clause containing an SVC in Toqabaqita takes just a single relativizer, as shown in (4.29), where relativizer *na* occurs only once for the whole SVC *raa ofu* ‘work with’.

(4.29) TOQABAQITA

...*ka* *faqarongo-a toqa nia ki* [*na kere* *raa ofu*
 3SG:SEQ tell-3OBJ people 3SG PL REL 3PL:NONFUT work be.together
bii nia]. ...
 COMMIT 3SG

‘...he told those people of his who were working with him (to do such and such)’
 (Lichtenberk 2006:262)

A very similar example to that in (4.28) is provided from Lote in (4.30). Again, nominalizer *-nga* occurs just once, but has scope over the whole SVC.

(4.30) LOTE

te-pal chach-nga-ria
 3PL-hit break-NMLZR-3PL

‘their way of breaking open (coconuts)’ (Pearson and van den Berg 2008:49)

According to Pearson and van den Berg (2008:61), reciprocal suffix *-hél* likewise attaches only to V_2 in an SVC, but scopes over both verbs.

Having just a single derivational morpheme occur in an SVC appears to be common cross-linguistically, not just in the Oceanic family. Consider the example in (4.31), from Tariana, an Arawak language of Amazonia. Again there is just a single nominalizer for the whole SVC (although it affixes to V_1 rather than V_2 as in Toqabaqita and Lote).

(4.31) TARIANA

pa-músu-ri pá:
 IMPERS-go.out-NMLZR IMPERS:go

‘exit, place where one goes out (in the direction away from the speaker)’
 (Aikhenvald 2006a:184)

Similarly, Kilian-Hatz (2006:110-111) states for SVCs in Khwe (Koisian) that “the verbs may not be separately passivized” and “the verbs may not be separately nominalized and do not take separately an adverbializing or a purpose suffix; these derivational suffixes are attached to the last verb.”

Such single marking of derivation and subordination has typically been taken as evidence that the verb sequence in an SVC forms a single syntactic unit. These morpho-syntactic behaviors are often touted as evidence that the SVC forms a single predicate. While it is

obviously true that the verbs in an SVC form part of a single constituent, these morpho-syntactic operations on their own do not identify the size or type of that constituent. Without a thorough description of the behavior of coordinate and subordinate constructions under nominalization, relativization, etc., it is impossible to say whether and how the SVCs differ from other types of multi-verb constructions in this regard. In Koro, for example, nominalization is marked only once in SVCs, but this is also the case for complement clause constructions, which are not monoclausal. It is premature then, to conclude that any of the behaviors described in this section are definitive evidence that the SVC in question forms a single predicate, equivalent to the predicate in a monoverbal clause. In order to definitively claim that a given construction is an SVC, it is necessary to also consider the property of single eventhood.

4.2.3 Single eventhood

The previous two sections have focused mainly on morpho-syntactic criteria for identifying SVCs. The criterion of single eventhood, in contrast, is a purported semantic or cognitive property of SVCs. The claim is that SVCs, unlike coordinate and other complex verbal constructions, express a single simple event, or multiple sub-events that form a single macro-event. For instance, Lord (1973:269) notes that in the Kwa languages of West Africa, an SVC represents a single event, while a coordinate structure expresses two separate events. She illustrates this with the examples in (4.32). The utterance in (4.32a) is a coordinated construction, and expresses two separate events — one of drinking and one of dying. In contrast, the example in (4.32b) is an SVC expressing a single event of drowning.

(4.32) EWE

a. *é nò tsī éyē wò kú*
 ‘He drank water and he died’

b. *é nò tsī kú*
 ‘He drowned’

(Lord 1973:269)

In a similar vein, Aikhenvald (2006b:5) observes that SVCs are often translated into non-serializing languages with a simple mono-verbal clause, which suggests that an SVC represents a single event. Likewise, Noonan (2007:88) states that SVCs contain a single assertion “encompassing the entire construction.” These various remarks capture the intuition that an SVC is somehow more tightly bound cognitively than other types of multi-verb constructions. But it is not clear exactly how the notion of ‘single event’ is interpreted by each of these authors, nor how they come to the conclusion that SVCs do in fact represent a single event.

This illustrates one of the major problems with the criterion of single eventhood. Since no consistent methodology has been established within the typological literature on SVCs to determine whether or not speakers are in fact conceptualizing a given state of affairs as a single event, it is difficult or impossible to implement ‘single eventhood’ as a defining criterion for SVCs. In order to give the criterion any methodological traction, it would be necessary to carry out research that would fully separate speakers’ cognitive packaging of events

from their linguistic encoding. This would follow in the tradition, for instance, of recent investigations into linguistic relativity, such as the body of research on correlations between path-framed versus satellite-framed motion constructions and speakers' use of gesture (e.g., Özyürek and Kita (1999), Kita and Özyürek (2003), Ibarretxe-Antuñano (2004), *inter alia*), or studies examining cognitive implications of speakers' use of different spatial metaphors in the temporal domain (e.g., Boroditsky (2001), Núñez and Sweetser (2006), Boroditsky et al. (2011)). To my knowledge, no such research on the relationship between SVCs and eventhood has yet been undertaken. In the absence of established diagnostics, therefore, linguists have attempted to use linguistic properties of constructions as evidence for single eventhood. Pawley (1987), for example, attempts to provide syntactic and lexical evidence for the single versus multiple event status of different types of clauses in Kalam (Papuan) and English, while Givón (1990, 1991) counters that intonation provides more convincing evidence of speakers' cognitive packaging of events. In later work, Pawley (2011:37) suggests that the formulaic nature of certain SVCs is evidence that they represent a single (internally complex) event: "If people use much the same form of words over and over to report a certain sequence of events, there can be little doubt that they are drawing on a conceptual schema that is, in some sense, stored as a single unit." None of these linguistic correlates, however, has been convincingly shown to actually correspond to some cognitive or semantic unit 'single event'. Instead, certain facts about the language have been assumed to provide evidence of speakers' thought processes, without such a link ever being independently demonstrated.

Given the difficulty with 'proving' that a given construction represents a single event, in practice this criterion has typically been used to characterize the types of meanings that are or can be expressed in SVCs, rather than to identify SVCs in a given language (see, e.g., Enfield 2002). And in fact, descriptions abound with examples of SVCs that do not unambiguously express a single event. For instance, the SVCs in (4.26a) and (4.27) above appear to represent two separate events each. Similarly, the example from Kalam in (4.33) below seems to express a number of separate events.

(4.33) KALAM

kik am mon pu-wk d ap agi kn-ya-k
 they go wood hit-smash get come ignite sleep-3PL-PAST

'They went and gathered firewood and brought it, made a fire and slept' or 'They gathered firewood for the night' (Pawley 2011:16)

The two alternative translations offered by Pawley leave a number of questions open. For example, the first translation suggests that the act of sleeping is entailed by the SVC, whereas the second translation suggests sleeping may simply be implied. This distinction, though, is crucial to the question of eventhood. Whether the sleeping event is entailed or merely implied has significance for whether the SVC represents a single event or multiple events. If the sleeping event is entailed, there is little doubt that the SVC expresses multiple events, which may or may not be packaged into a larger macro-event. In contrast, if the sleeping event is merely implied, it is more plausible that the SVC expresses a single event, and that the final verb *kn* 'sleep' does not introduce its own event argument, but functions more like

a modifier of the gathering event. In any case, the possibility that a given construction expresses a single event must be argued for, and cannot be assumed simply on the basis of its fulfilling the formal criteria of an SVC. To do so would beg the question.

Adding to the confusion about single-eventhood is the fact that, as several scholars have noted, what counts as a single event in a given language can be culturally dependent (see, e.g., the arguments in Bruce 1984, Durie 1997, Enfield 2002). Jarkey (2010:112) notes that “a conceptual event is [...] a cultural construct in that, while our common cognitive make-up results in significant commonalities in what can constitute an event token across languages, cultural differences can result in variation with regard to precisely what are considered the salient boundaries of eventhood in some cases.” Just as different language varieties have different nouns that encode culturally salient objects and concepts, different languages allow different types of events to be encoded in SVCs. For example, the utterance in (4.34) from Hmong-Mien (Miao-Yao) is a cotemporal action SVC comprising verb *dhia* ‘jump, stamp, dance’ and verb phrase *tshov qeej* ‘blow the pipes’.

(4.34) HMONG-MIEN

<i>nws dhia tshov qeej</i>	
3SG jump blow bamboo.pipes	
‘He dances (while) playing the pipes’	(Jarkey 2010:130)

According to Jarkey, in Hmong culture the action of dancing while playing the pipes is a recognized activity and can therefore be encoded in an SVC. In contrast, an activity such as *dhia mloog nkauj* ‘dance listen song’, which may seem like an equally likely pair of cotemporaneous actions, is not culturally salient in Hmong and consequently cannot occur in a cotemporal SVC. The result of this cultural dependence is that it is not possible — even in theory — to provide an exhaustive list of types of single events, or to enumerate properties that characterize a single event across languages. This is a result of the fact that what we are discussing are not real world events, but rather speakers’ conceptualizations and descriptions of events (see, e.g., discussions in Krifka 1998, Rothstein 2004, MacDonald 2006).

We have seen that attempts to implement single eventhood as an identifying property of SVCs are hampered by the fact that there are no established criteria for what constitutes a single event, either within a particular language, or cross-linguistically. As such, we are forced to let linguistic criteria stand as a proxy for the ostensibly non-linguistic criterion of single eventhood. One of the most promising such criteria suggested in the literature so far is the ‘macro-event property’ (MEP) (Bisang 2009:805), which is defined by Bohnemeyer et al. (2007:497) as follows: “A construction has the MEP if temporal operations such as time adverbials, temporal clauses, and tenses necessarily have scope over all subevents encoded by the construction.” In other words, if in a given syntactic construction the component subevents of a complex event can be located separately in time, then the construction lacks the MEP. Consider the examples in (4.35). In English, we may use either of these expressions to describe the same event.

- (4.35) a. *Floyd pushed the door shut*
 b. *Floyd pushed the door and it shut*

Only in (4.35b), however, can the subevents of the complex event be separated out and individually modified by temporal adverbials.

- (4.36) a. *Floyd pushed the door shut instantly*
 b. *Floyd pushed the door and it shut instantly*
 c. *Floyd pushed the door instantly and it shut*

In (4.36a), the adverb *instantly* locates the whole complex event in time, relative to some prior mentioned event. In (4.36b), on the other hand, each subevent is located in time relative to one another. Here *instantly* indicates that the shutting event occurred immediately after the pushing event. The adverb in (4.36c) likewise modifies only one subevent — this time the pushing event — and makes no claims about the other subevent. We could just as well say *Floyd pushed the door instantly and it shut much later*. Bohnemeyer et al. (2007) argue that this behavior with temporal adverbs is evidence that the structure in (4.35a) has the MEP, while that in (4.35b) lacks it. I argue in addition that, just like temporal modifiers, the scope of manner adverbs can differentiate between constructions with and without the MEP. If we replace the temporal adverb *instantly* in (4.36) with manner adverb *softly*, we find that the same pattern obtains — only in the resultative construction in (4.36a) does the manner adverb take scope over both events. It is important to emphasize once again that the MEP is a property of morpho-syntactic constructions, rather than of real-world events. Both sentences in (4.35) could be used to describe the same real-world state of affairs — namely, that Floyd pushed the door, causing it to shut — but only the example in (4.35a) treats this state of affairs as a single event.¹³

Besides the scope of temporal and manner adverbs, the primary evidence that SVCs have the MEP is their obligatory sharing of tense, aspect, and polarity values. As shown in (4.37), for example, V_2 in a purposive SVC in Numbami must have the same mood value as V_1 or else the sequence is ungrammatical. In the grammatical SVC in (4.37a) both verbs have the same value for reality status, whereas in (4.37b) V_1 *ma* ‘come’ is unmarked for reality status but V_2 *ndomoni* ‘seek’ takes irrealis marking. As a result, the utterance in (4.37b) is ungrammatical.

¹³This view of the relationship between eventhood and morpho-syntactic and semantic structure is not uncontroversial. For example, in discussing the difference between SVCs and clause chains in Yimas (Papuan), Foley (2010:94–95) claims that, despite structural differences and differences in the scope of modifiers such as *mampi-* ‘again’, both types of construction clearly express the same event structure when they are used to describe the same state of affairs. In making this comment, Foley equates ‘event structure’ with ‘real-world event’. As noted above, however, it is important to separate these two concepts. What is meant by ‘single event’ when discussing properties of linguistic descriptions is a cognitive, semantic, and/or syntactic notion, and not an ontological one.

(4.37) NUMBAMI

a. *e i-ma teteu i-ndomoni aiya*
 3SG 3SG-come village 3SG-look 2SG
 ‘He came to the village and looked for you’

b. **e i-ma teteu ni-ndomoni aiya*
 3SG 3SG-come village 3SG:IRREAL-look 2SG

Intended: ‘He came to the village and will look for you’ (Bradshaw 1993:146)

Such obligatory sharing of TAM categories suggests that an SVC does indeed hold the MEP, and therefore expresses a single event. Foley (2010:93) speculates that this might be due to a cross-linguistic constraint on the syntactic expression of events, in which “a unitary event can never be realised in multiple IPs, but can be spread out over multiple S [= nonfinite or small clause JCK] constituents.” Since tense is a property of the I head, this would entail that both of the verbs in an SVC (which expresses a unitary event) would fall under the scope of a single tense operator.

The issue is complicated somewhat when we separate morpho-syntactic realization of TAM categories from their semantic scope. It is usually understood that any TAM categories in an SVC should take scope over both verbs, just as the adverb *instantly* takes scope over both predicative elements (verb *push* and adjective *shut*) in (4.36a) above. However, the formal marking of these categories differs across different types of SVCs. Most notably, there is a distinction between SVCs where TAM categories are marked once for the whole construction, and those in which each verb takes TAM marking (see §4.3.3 below for examples). In addition, certain SVCs have fixed marking on V_2 regardless of the marking on V_1 . For example, all SVCs in Bali-Vitu have sequential marking on V_2 . This is shown in (4.38). In the example in (4.38a) we see that both V_1 *pete* ‘run’ and V_2 *ua* ‘go’ take sequential marking; in (4.38b), on the other hand, V_1 *mianga* ‘stay’ takes realis marking, while V_2 *hani* ‘eat’ still takes sequential marking.

(4.38) BALI-VITU

a. *e voruko ki pete ki ua na lo-na ke-na rumaka*
 ART giant SEQ:3 run SEQ:3 go PREP inside-3SG POSS-3SG house
 ‘The giant ran into his house again’

b. *ia te mianga ki hani a beti*
 3SG REAL:3 stay SEQ:3 eat ART banana

‘He sat and ate a banana’

(Ross 2002a:379-380)

Interestingly, there is no indication that the sequential marking on V_2 has any semantic effect in (4.38b). The utterance appears to mean that the subject ate a banana while sitting, not that he sat, and then subsequently ate a banana. In other words, the realis marking on V_1 has both V_1 and V_2 in its semantic scope, despite the surface sequential marking on V_2 . A similar pattern obtains in Paamese, where certain mood and polarity combinations on V_1 trigger different mood marking on V_2 . Consider the examples in (4.39).

(4.39) PAAMESE

- a. *inau na-muasi vuasi Ø-emate*
 1SG 1SG:REAL-hit pig 3SG:REAL-die
 ‘I hit the pig to death’
- b. *inau na-ro-muasi-tei vuasi voo-emate*
 1SG 1SG:REAL-NEG1-hit-NEG2 pig 3SG:IMM.FUT-die
 ‘I did not hit the pig to death’

In (4.39a) both V_1 *muasi* ‘hit’ and V_2 *emate* ‘die’ take realis marking. In contrast, in (4.39b) V_1 is negated, and this triggers immediate future marking on V_2 . Realis marking is no longer grammatical on V_2 . However, as with the example in (4.38b), there seems to be no semantic content to the immediate future marking on V_2 ; instead, the realis and negative marking on V_1 have semantic scope over the whole SVC. This is also the case for all other examples Crowley gives of mismatched marking on V_1 and V_2 in Paamese.

In contrast, mismatch of tense, aspect or mood marking in Kele does have semantic consequences. For example, the purported desiderative SVC in (4.40) exhibits a mismatch between the reality status marking on V_1 and V_2 . V_2 *le* ‘go’ takes irrealis marking, and this does indeed appear to reflect irrealis semantics, since the act of going is not entailed.

(4.40) KELE

- yu u-pe k-u-le*
 1SG 1SG-say IRR-1SG-go
 ‘I want(ed)/intend(ed) to go’ (Ross 2002e:139)

Based on Bohnemeyer et al’s definition of the MEP, cited above, SVCs like those in (4.38–4.39), which share a single semantic value for tense and mood, do indeed have the MEP, even though by the surface metric of concordant marking they fail to qualify as SVCs. In contrast, SVCs such as that in (4.40) do not have the MEP because the disparate surface marking of mood on the two verbs reflects the fact that they do not fall under the scope of a single temporal or modal operator. Therefore, such constructions should not be counted as true SVCs. The semantic scope of tense, mood, etc. should be used in conjunction with the scope of temporal and manner adverbs to determine whether a certain construction has the MEP, and consequently whether it is a candidate for a true SVC. Surface marking of TAM categories should not be taken into account unless it has semantic consequences, as in (4.40).¹⁴

Another factor that can be used to test single eventhood is whether there is a direct causal relation between V_1 and V_2 . For verb combinations where a causal relationship is possible, the pattern found across languages is that SVCs entail such a relationship, while

¹⁴An exception is if the form of the TAM and polarity marking on V_2 indicates that it is a dependent verb, rather than a main verb. This would then, of course, disqualify the construction as an SVC. This determination must be made on a case by case basis using language-internal criteria for main versus dependent verb forms.

coordinated structures do not. This relates to Bittner's (1999) cross-linguistic observation that so-called 'concealed causatives' (i.e., those in which the causal relation is not overtly expressed) always represent a semantic relation of direct causation. The following examples from Taba illustrate this generalization. In (4.41a), which is an SVC, the pig's death is understood to be a direct and immediate result of its being bitten, whereas in (4.41b), which is not an SVC, immediate and direct causation is not entailed.

(4.41) TABA

a. *n=babas welik n=mot do*
 3SG=bite pig 3SG=die REAL
 'It bit the pig dead'

b. *n=babas welik n=ha-mot i*
 3SG=bite pig 3SG=CAUS-die 3SG
 'It bit the pig and killed it'

(Bowden 2001:297-8)

The entailment of direct causation relates to the criterion of single eventhood because causation is the main type of semantic relation that is able to unify two subevents into a single macro-event (Croft 1991, Kaufmann 1995, Levin and Rappaport Hovav 1999). As such, an entailment of direct causation between V_1 and V_2 suggests that a particular construction represents a single event, and lack of such an entailment provides evidence that the construction does not represent a single event. Notice that this entailment of direct causation is present in the utterance in (4.35a) above, which is claimed to have the MEP, but is absent in (4.35b), which does not have the MEP. That is, (4.35a) indicates that Floyd's pushing of the door directly and immediately caused it to shut, whereas there is a possible interpretation of (4.35b) where Floyd's pushing did not directly cause the door to shut, or where there was a significant delay between his pushing and the door's shutting. The fact that these properties (having the MEP and entailing direct causation) coincide in both SVCs and in English resultative secondary predicate constructions bolsters the hypothesis that they are both indicative of single eventhood.

In summary, whether a given state of affairs is conceptualized by speakers as a single event or as multiple events is ultimately a non-linguistic question. However, most scholars have a strong intuition that SVCs represent single events, and this is consistently given as one of the key defining criteria of SVCs. Due to the difficulty in applying non-linguistic tests to determine whether or not a construction represents a single event, it has instead been common to use linguistic properties as a proxy for single eventhood. Such properties have included lexical packaging, intonation, sharing of tense, mood, and polarity, scope of temporal adverbs, and entailments of direct causation. Of these, the most promising are the MEP, which entails sharing of all temporal operators and manner adverbs, and the criterion of direct causation. In my analysis of Koro SVCs in Chapter 5 I will focus on these criteria in the examination of single eventhood.

4.3 Parameters of variation

The criteria discussed in §4.2 above define the outer limits of the types of structures that should be considered true SVCs. In contrast, the parameters of variation discussed in this section demonstrate the different types of structures that occur within this range of possible SVCs. In this section, I first describe in §4.3.1 the distinction between nuclear-layer and core-layer SVCs, which has been integral to the analysis of SVCs in the Oceanic family. The following sections discuss and exemplify a number of ways in which SVCs have been observed to vary, both cross-linguistically and within individual languages. §4.3.2 describes the different types of argument-sharing relations found in SVCs, and identifies correlations between argument-sharing patterns and certain semantic functions. §4.3.3 looks at contiguity restrictions on verbs in SVCs, and explores the syntactic ramifications of different types of elements that can intervene in non-contiguous SVCs. The morpho-phonological properties of SVCs are also examined, and differences in marking of categories between different types of SVCs are exemplified. Finally, in §4.3.4 I explore restrictions on the number of verbs that may occur in an SVC, and I argue that close syntactic analysis usually reveals that an SVC including more than two verbs is in fact hierarchically structured, composed of nested dyadic SVCs.

4.3.1 Nuclear-layer and core-layer SVCs

Before discussing each of the variable properties of SVCs, it is important to discuss the categories of ‘nuclear-layer’ and ‘core-layer’ serialization, which have played a major role in the analysis of SVCs in the Oceanic languages. This distinction was introduced by Foley and Olson (1985), who employ a role and reference grammar analysis of the clause. According to this view, the clause consists of three layers: nucleus, core, and periphery (Van Valin and LaPolla 1997:§2.2). The nucleus comprises just the predicate, whether verb, adjective, noun, or another word class. The core includes the nucleus and its semantic arguments, while the periphery includes all elements that are not arguments of the predicate. To form an SVC, a juncture may occur at either the nucleus or the core level. Nuclear-layer SVCs are those that join two predicates to form a complex nucleus with a fused argument structure, whereas core-layer SVCs are less tightly bound. This difference in juncture layer between the two types of SVCs is reflected in distinct surface structures. The verb stems in a nuclear-layer SVC are obligatorily contiguous, and the whole SVC takes a single set of argument marking. Core SVCs, on the other hand, may be disjoint, and each verb stem takes its own argument (and possibly TAM) marking. This distinction is exemplified in (4.42) from Paamese.

(4.42) PAAMESE

a. Nuclear serialization

<i>isal</i>	<i>vinizn</i>	<i>vuas</i>
i-sali	vinii-nV	vuasi
3PL:DIST.FUT-spear	kill-OBJ	pig
‘They will spear the pig to death’		

Nuclear-layer SVC	Core-layer SVC
Fused argument structure	Separate sets of arguments
Contiguous verb stems	Potentially non-contiguous verb stems
Forms a single word	Forms separate words
Single marking of verbal categories	Concordant marking of verbal categories

Table 4.3: Prototypical features of nuclear-layer and core-layer SVCs

b. Core serialization

<i>isal</i>	<i>vuas</i>	<i>he:mat</i>	
i-sali	vuasi	hee-mate	
3PL:DIST.FUT-spear	pig	3SG:DIST.FUT-die	
‘They will spear the pig, thereby killing it’			(Crowley 2002b:83)

In the nuclear-layer construction in (4.42a) the two verb roots *sali* ‘spear’ and *vinii* ‘kill’ occur contiguously, and act as a single grammatical word with a single set of subject and object marking. In contrast, the core construction in (4.42b) allows the NP *vuasi* ‘pig’ to intervene between the verbs. Each verb in this construction acts as its own grammatical word, and takes separate argument marking.

In individual languages there tend to be clusters of structural features that correlate with nuclear and core SVCs respectively. In Paamese, for instance, the discontinuous negator *ro...-tei* behaves differently in the two constructions. In nuclear-layer SVCs it attaches to the SVC as a whole, the prefixed portion attaching to the first verb while the suffix attaches to the second verb, whereas in core-layer constructions both the prefixed and suffixed portions attach to the first verb (although the negator still has scope over the whole construction). Similarly, only nuclear-layer SVCs in Paamese can be nominalized with suffix *-ene*; core-layer SVCs cannot be nominalized as a unit.

As illustrated for Paamese, a single language may make use of both types of constructions, with different functions, or subtly different meanings between them. Other languages only make use of one or the other type of SVC. Looking at a sample of 36 Oceanic languages (listed in Appendix D), I found that they are roughly evenly divided between those that have both nuclear-layer and core-layer SVCs, and those that only have one type. 16 of the 36 languages have both types, eight have only core-layer, and the remaining 12 have only nuclear-layer.¹⁵

¹⁵This appears to go against a generalization made by Muysken and Veenstra (2006:242), who use the terms ‘phrasal’ and ‘clausal’ serialization to refer to roughly the same distinction as that referred to here with the terms ‘nuclear’ and ‘core’, respectively. They claim that the presence of clausal SVCs in a language entails the presence of phrasal SVCs, while the opposite is not true. A similar observation is made by Aikhenvald (2006b:50), who claims that in all languages with more than one type of SVC, at least one type is contiguous (nuclear). The eight Oceanic languages which only exhibit core-layer serialization show that these generalizations do not hold up in the Oceanic family.

The features of prototypical nuclear- and core-layer SVCs are summarized in Table 4.3. Since the parameters summarized in this table may vary independently, some authors (e.g., Aikhenvald 2006b:50, fn.19) have criticized the core–nuclear distinction as not being fine-grained enough to capture the range of variation in SVCs cross-linguistically. This is undoubtedly true; however, the core–nuclear distinction has proven useful in the description of SVCs in the Oceanic literature. Oceanic languages consistently have exactly two structurally distinct types of SVC, each of which exhibits a cluster of features that closely matches those of the prototypical core and nuclear SVC, respectively. In addition, certain properties of the verb hierarchy suggested by Foley and Olson (1985:48) also hint at there being some reality to the core–nuclear divide. They posit the following hierarchy of serializability of different types of verbs, with those on the left more easily serialized than those on the right:

(4.43) motion verbs < stance or postural verbs < stative intransitive verbs < transitive verbs

In his study of SVCs across the Oceanic family, Crowley (2002b:169) finds that the hierarchy holds up for core-layer SVCs, but is almost reversed for nuclear-layer SVCs, suggesting that these are in fact two distinct types of construction. The question remains as to whether nuclear and core SVCs are simply variations on a particular type of syntactic construction (a true SVC), or whether they are in fact qualitatively different constructions. Foley and Olsen’s analysis essentially ascribes differences between nuclear- and core-layer SVCs to their joining different-sized constituents. But in this approach both core and nuclear SVCs involve the same *type* of juncture between constituents. It is not totally clear, however, whether this is the right approach. As will be described in more detail in Chapter 6, some SVCs have the hallmarks of complementation structures, while in others V_2 appears to be a modifier (or adjunct) of V_1 . It is not clear at present whether this difference fits neatly with the nuclear–core distinction or not, and this would be a fruitful area for further investigation.

The remainder of this section describes and illustrates the parameters of variation listed in Table 4.3 above, and additionally discusses restrictions on number and ordering of verbs found in some languages.

4.3.2 Argument sharing and semantic function

Argument sharing has long been given as a defining criterion of SVCs. This appears to follow from the requirement that SVCs must be monoclausal, and that the two verbs therefore form a single complex predicate with a ‘fused’ argument structure. In the functional and typological literature, type of argument-sharing relation has often been used as a primary parameter in categorizing SVCs within and across languages. The range of possible argument-sharing relations has been left quite open in this body of literature. For example, Crowley (2002b:§2.3.1) identifies five patterns of argument sharing in SVCs (which mostly overlap with those identified by Aikhenvald (2006b:§2.6)): same-subject, switch-subject (or ‘switch-function’ (Aikhenvald 2006b:14)), inclusory (or ‘cumulative subject’ (Aikhenvald 2006b:18)), multiple object, and ambient (or ‘event-argument’ (Aikhenvald 2006b:19)). In contrast, formal approaches tend to be more restrictive about the range of argument-sharing relations allowed in SVCs. For example, Baker (1989) specifies that SVCs must share an object; he

explicitly excludes the possibility of any other argument-sharing relation in true SVCs. In this section I exemplify each of the different types of surface argument-sharing found in SVCs cross-linguistically, and make some observations about their properties. I make no claims about the underlying structure of these constructions here, and it may turn out upon further analysis that so-called ‘shared arguments’ in these SVCs represent a variety of different structural relationships or syntactic objects.¹⁶

According to Aikhenvald (2006b:14), the most prevalent and prototypical argument-sharing relationship between verbs in an SVC is shared subject. In such SVCs, the subjects of the two verbs must be identical, and the verbs may additionally share their object arguments, if both are transitive. A same-subject SVC may involve two intransitive verb stems (4.44), a transitive and an intransitive stem in either order (4.45-4.46), or, less commonly, two transitive stems (4.47).

(4.44) JABÊM

ɲapale ke-taŋ ge-ŋgoŋ aⁿdu
 boy 3SG-weep 3SG-sit house
 ‘The boy sits crying in the house’ (Ross 2002b:287)

(4.45) NÊLÊMWA

Hla thege oga hî pwiak
 3PL run leave PROX net
 ‘They run and leave/leaving the (fishing) net’ (Bril 2004b:174)

(4.46) KAIRIRU

bu tai qo-paq qo-myai paqan
 betelnut some 2SG-carry 2SG-come here
 ‘Bring some betelnut here!’ (Ross 2002c:211)

(4.47) PILENI

Lha-ko toa lha-ko mot-ia te pakola la na
 3DU-TA take 3DU-TA cut-TR ART giant DEM DEM
 ‘They cut the giant (to pieces)’ (Næss 2004:238)

In contrast to same-subject SVCs, switch-function SVCs have a transitive V_1 , and the object of V_1 is the surface subject of V_2 . By ‘surface subject’, I refer to the sole argument of V_2 , which would appear in subject position in a monoverbal clause. (In other words, this term should be understood as agnostic about the underlying syntactic position of the shared argument.) This is illustrated in (4.48a), from Koro. Here the object of V_1 *chap* ‘carry’ is *pworere* ‘baby boy’. V_2 *mul* ‘return’ has *pworere* as its sole argument, and in a monoverbal clause it would appear in subject position before the verb, as shown in (4.48b).

¹⁶For example, surface same-subject relationships could represent raising or control constructions; they could indicate *pro*-drop; etc.

The final two types of argument-sharing relation identified by Crowley — inclusory and multiple object — are very rare, both cross-linguistically and within individual languages that allow them. I briefly exemplify them here, but do not discuss these types of SVC in detail. Like switch-function SVCs, inclusory SVCs have a transitive V_1 , but the subject of V_2 includes both subject and object of V_1 . These typically have a comitative reading, as in (4.51), where the first person dual inclusive subject of V_2 *haa* ‘go’ includes both the subject and the object of V_1 *kuri* ‘take’.

(4.51) PAAMESE

<u><i>makurik</i></u>	<u><i>lovaha</i></u>	
ma-kuri-ko	lo-va-haa	
1SG:IMM.FUT-take-2SG	1DU.INC-IMM.FUT-go	
‘I will take you away with me’		(Crowley 2002b:41)

Multiple object SVCs involve two transitive verbs, each with its own object. Like inclusory SVCs, they tend to have a reading of accompaniment.

(4.52) PAAMESE

<i>inau</i>	<u><i>nimun</i></u>	<i>sin</i>	<u><i>hetal</i></u>	<i>tonik</i>
inau	ni-muni	siine	he-tali	tonike
1SG	1SG:DIST.FUT-drink	gin	3SG:DIST.FUT-accompany	tonic
‘I will drink gin with tonic’				
(Crowley 2002b:41)				

Having surveyed the types of argument sharing found in SVCs, we can now look at correlations between certain semantic functions and patterns of argument sharing. Lynch et al. (2002:47-48) identify five main types of serialization in Oceanic languages, based on semantic function: directional/positional, sequential, causative, manner, and ambient. In addition to these categories, Aikhenvald (2006b) discusses a number of functions of SVCs across languages, many of which are also found in Oceanic languages. Most notably missing from Lynch et al.’s list is the aspectual use of SVCs, which is very common across the Oceanic family. Although these semantic categories cross-cut the categories of argument sharing exemplified above, certain generalizations can be made about the relationship between the two, and a number of these correlations are outlined below.

Before launching into a discussion of the other functional types of SVCs, I will briefly discuss ambient SVCs. Lynch et al. include these in their list of semantic types of SVCs. However, the ambient category is really an argument-sharing relation. As described above, it refers to a particular morpho-syntactic marking pattern where V_2 is obligatorily marked as third person singular. Typical functions for ambient SVCs include manner modification, as in (4.49) above, and temporal modification, as in (4.50) above. A better label for this functional category, therefore, might be ‘adverbial’ or ‘modifying’. As will be demonstrated amply in Chapter 5, however, the ambient argument-sharing pattern is by no means restricted to an adverbial function. All core-layer SVCs in Koro are ambient, although they fulfill a variety of

semantic functions. It is therefore prudent to keep the argument-sharing category ‘ambient’ terminologically separate from any particular functional category.

Directional or positional SVCs can be same subject, as in (4.46) above and (4.53) below, or switch function, as in (4.54–4.55) below. Typically directionals will be same subject if V_1 is intransitive, and switch-function if V_1 is transitive (although cf. (4.46) above, which is same subject with a transitive V_1). In (4.53), for example, all three verbs are intransitive, and therefore they automatically share a subject.

(4.53) LOTE

<u>ta-ote</u>	<u>sio</u>	<u>at</u>	
1PL.INCL-paddle	descend	come	
‘We paddled back down’			(Pearson and van den Berg 2008:96)

In (4.54), on the other hand, V_1 *ŋi-gansi* ‘put’ is transitive, and its object *leta* ‘letter’ is the subject of V_2 *yen* ‘lie’. This is therefore a switch-function SVC.

(4.54) TAKIA

<i>Oŋ</i>	<i>sa-∅</i>	<i>leta</i>	<i>ŋu-suti-g</i>	<i>ago</i>	<i>ŋi-gansi</i>	<i>y-en</i>	<i>du</i>
2SG	POSS-2SG	letter	1SG-read-DEP:REAL	thus	1SG-put	3SG-lie	CONT
<i>go</i>							
DEP:REAL							
‘I read your letter and I put it...’							(Ross 2002f:233)

The directional/positional category can be divided into directional, allative, and locative functions. In a directional construction, V_2 is a verb of directed motion, which indicates the direction traveled by the shared argument, as in (4.53)–(4.54) above. An allative construction is very similar, but includes an explicit goal of motion after V_2 , as in (4.55). Here V_2 *mai* ‘come’ takes goal argument *Vomaranda*, indicating the spatial endpoint of the sending event.

(4.55) TAMABO

<i>Ku</i>	<u>tau=a</u>	<i>a</i>	<u>mai</u>	<i>Vomarada</i>
1SG	place=3SG	3SG	come	Vomaranda
‘I sent it to Vomaranda’				
(Jauncey 2002:620)				

Unlike directional and allative SVCs, which have a dynamic verb as V_2 , locative constructions have a stative verb as V_2 . This is a posture or locative verb that indicates either the location of the shared argument after the action of V_1 , or, if V_1 is stative, the location of that state. (4.56) exemplifies a switch-function locative SVC with an active V_1 . Posture verb *iyē* ‘lie’ and its locative argument *weni* ‘bush’ indicate the location of the food after the putting event of V_1 *ki*. (4.57), on the other hand, is a same-subject locative SVC, with a stative V_1 . Here V_2 *mi* ‘stay’ introduces the location of the V_1 state, rather than expressing the endpoint of an action.

(4.56) JABÊM

i *ma-ki* *bani* *i-iye* *weni*
 1PL.EXCL 1PL.EXCL-put food 3SG-lie bush
 ‘We put food in the forest’

(4.57) JABÊM

ewesika *ti-walanga* *ata* *ti-mi* *kapala lalo*
 women 3PL-loosen self 3PL-stay house inside
 ‘The women are relaxing inside the house’ (Bradshaw 1993:155)

Sequential SVCs, in contrast to directional/positionals, are exclusively same subject in Oceanic languages. In this type of SVC, V_1 is a motion verb (typically ‘come’ or ‘go’) and V_2 expresses an event that temporally follows the motion event. This is illustrated in (4.58–4.59), where the action of V_2 is understood to follow the motion of V_1 . The common purposive implicature of sequential SVCs is also evident in (4.58).

(4.58) LOTE

ta-la *tau-a* *ta-mém*
 1PL.INCL-go get-TR mother-1PL.EXCL
 ‘Let us go to get our mother’ (Pearson and van den Berg 2008:96)

(4.59) BARIAI

a-la *a-lei* *tapiok* *ga* *kaokao*
 1PL.EXCL.SBJ-go 1PL.EXCL.SBJ-dig cassava CNJ sweet.potato
 ‘We went and dug cassava and sweet potato’ (Gallagher and Baehr 2005:113)

A more apt label for this type of SVC in Oceanic would be ‘associated motion’. The component verbs are not simply any two verbs whose events occur in sequence; instead, the meaning expressed by V_1 is always that of motion, while V_2 is typically unrestricted. The two defining properties of such SVCs are that (i) they associate a motion event with the main event expressed by V_2 , and (ii) they specify when the motion event occurred with respect to the main action. These functions mirror the functions of bound associated motion morphemes in languages that possess them (Koch 1984, Wilkins 1991). In contrast, other language families commonly exhibit sequential SVCs that do not have a motion restriction on V_1 . One such SVC was exemplified in (4.6) above for Goemai, and a similar example is given from Èdó (Niger-Congo) in (4.60). In this example there are two events, one of cooking and one of eating, which are understood to have occurred in sequence.

(4.60) ÈDÓ

Òzó lé èvbàré ré
 Ozo cook food eat

‘Ozo cooked the food and ate it’

(Stewart 2001:2)

Such unrestricted (or symmetrical) sequential SVCs are rare in the Oceanic family.

The third functional category of SVCs is labeled ‘causative’ by Lynch et al. (2002), but this label is somewhat misleading. So-called ‘causative’ SVCs in Oceanic do not serve the strictly valency-increasing function typically identified by this label cross-linguistically (adding an agent). These have been alternatively referred to, in Oceanic and other families, as ‘cause-effect’ or ‘resultative’ constructions. I use the latter, as it ties such SVCs to a variety of constructions with very similar functions in other languages, such as resultative secondary predicates in English. In a resultative SVC, V_2 identifies the event or state that results from the action of V_1 . This is illustrated in (4.61). Here V_1 *tsunu* ‘hit’ describes an action and V_2 *mate* ‘die’ specifies the result.

(4.61) BANONI

ke tsunu-mate-a nna
 3SG:REAL hit-die-3SG he

‘He hit it dead’

(Lynch and Ross 2002:450)

This example is semantically switch-function, since the shared argument is the object of V_1 and subject of V_2 , and Lynch et al. (2002:47) state that this is typical of resultative SVCs in Oceanic. This can lead to a mismatch between the formal marking of arguments in SVCs versus monoverbal clauses. That is, were the verb *mate* ‘die’ to occur on its own as a main verb, the patient (the person or thing that dies) would be marked as subject, whereas in this SVC it is marked as direct object. In some languages, however, nuclear-layer resultative SVCs are restricted to patterns that preserve the formal marking that would occur in a monoverbal clause. For example, in Saliba, V_2 must be causativized in nuclear-layer resultative SVCs. This is illustrated in (4.62), where the unaccusative V_2 *beku* ‘fall’ takes causative prefix *he-*, resulting in a same-subject pattern.

(4.62) SALIBA

ye-sikwa-he-beku-∅
 3SG-poke/hit-CAUS-fall-3SG.OBJ

‘He poked it to make it fall’

(Margetts 1999:118)

It may be the case that this type of same subject restriction only ever occurs in nuclear-layer SVCs, since these necessarily share a single morphological subject, but as the Banoni example in (4.61) shows, it is certainly not required of nuclear-layer SVCs. It is likely that

something about the syntactic mechanisms for argument sharing in these different types of SVCs determines what type of verb (unaccusative or causativized) can appear in the V₂ slot.

The final semantic type of SVC that Lynch et al. identify is manner. In this type of SVC, V₂ specifies the manner of V₁. They claim that such constructions are same subject, as illustrated by the example in (4.63).

(4.63) PAAMESE

kai ∅-mual ∅-suai
 he 3SG:REAL-WALK 3SG:REAL-DISAPPEAR
 ‘He was walking without being seen’ (Lynch et al. 2002:47)

However, as noted above, SVCs with ambient argument sharing often have a very similar function, and in fact in my survey of 36 Oceanic languages, I found that the adverbial function, which occurred in 15 of the languages, was almost exclusively fulfilled by ambient SVCs, such as those in (4.49–4.50) above. The functional ‘manner’ category identified by Lynch et al. could therefore be broadened to include all types of modifying SVCs, including most SVCs with ambient argument sharing.

Although Lynch et al. do not mention an aspectual category of SVCs in Oceanic, this function is common cross-linguistically, and is indeed found in many Oceanic languages. Aspectual SVCs are asymmetrical and exhibit same subject argument sharing. The most common aspectual function of SVCs in Oceanic is imperfective. Imperfective SVCs have a posture or locative verb as V₁, most often ‘stay’, as in (4.64–4.65) below.

(4.64) SIVISA TITAN

Hi Asa do i kavuen. I tu po maʔas
 Hi Asa only 3SG be.alone 3SG stay do work
 ‘Hi Asa was alone. She was working’ (Bowern 2011:94)

(4.65) SOBEI

w-enon yo-fi
 1SG:REAL-stay 1SG:REAL-make
 ‘I was making’ (Sterner and Ross 2002:181)

Such SVCs typically allow a wide range of imperfective interpretations, including continuous, progressive, and habitual.¹⁷ For example, the Titan SVC in (4.64) with V₁ *tu* ‘stay’ has a past imperfective interpretation. As (4.66) illustrates, the same construction can also be used with a habitual meaning.

¹⁷The sub-categories of imperfective aspect will be discussed further in Chapter 5.

(4.66) SIVISA TITAN

aru no tu ani kulicon.madun
 3DU try stay eat Mandrum.bark

‘They used to (try to) eat Mandrum bark’

(Bown 2011:94)

When posture verbs occur as V_1 , in place of a more general ‘stay’ verb, in some languages they retain their full lexical semantics, while in others they are bleached and the posture entailment no longer holds. An example of the latter type of language is Mañea. For example, Guérin (2011:274) notes that the use of V_1 *tur* ‘stand up’ in (4.67) simply indicates duration of V_2 *saoñi* ‘wait’, with no entailment that the subjects were in a standing position while waiting (and in fact the context of this particular example makes it clear that the subjects were in a variety of postures while waiting).

(4.67) MAÑEA

ratol ma ra-l-tur saonñi=ao aulu
 3PL.PAUC COMP 3PL-IMPV-stand.up wait=1SG above

‘Those who are waiting for me on top’

(Guérin 2011:274)

In contrast, for the closely-related Tamambo language, Jauncey (2011) reports that posture verbs retain their full lexical entailments in aspectual SVCs. (This is also the case in Koro: see Chapter 5.) As argued in §4.2.1.2 above, the bleaching of postural semantics in constructions like (4.67) suggests that the postural verb has a separate lexical entry when it occurs in the SVC. On this basis, I suggest that such constructions should not in fact be treated as true SVCs, whereas those that retain their full lexical semantics should be (in the absence of other disqualifying properties).

Another common type of SVC in Oceanic that is typically described as aspectual is the type illustrated in (4.68–4.69). In this type of SVC V_2 is restricted to a verb meaning ‘finished’, and this imparts a completive semantics to the predicate.

(4.68) SALIBA

se-paisowa-gehe kabo se-lao
 3PL-work-finished then 3PL-go

‘They finish working and then they will go’

(Margetts 1999:138)

(4.69) LONIU

citó kani kani kani kipwic,
 1PAUC.INCL IRR-NONSG-eat IRR-NONSG-eat IRR-NONSG-eat IRR-3SG-finish
citó kaw keme lo um
 1PAUC.INCL IRR-NONSG-go.away IRR-NONSG-come in house

‘We will eat and eat until we finish/it’s gone, we will come on home’(Hamel 1993:119)

Although, as noted, this is usually considered an aspectual type of SVC, I am not aware of any detailed examinations of the aspectual entailments of such SVCs in Oceanic languages.¹⁸ In Chapter 5 I will describe the behavior of a very similar SVC in Koro, and give evidence that it does not in fact have an aspectual function in this language, but is rather a narrative-structuring or sequencing device, analogous to ‘and then’ in English. Given the contexts in which it tends to occur, namely immediately followed by a clause denoting a subsequent event, it is plausible that sequencing is also the primary function of this SVC in other Oceanic languages, although this hypothesis requires further research.

In language families other than Oceanic a variety of further aspectual functions are commonly expressed via SVCs. For example, (4.7) above illustrates the resultative aspectual function of V₂ *kam* ‘stay’ in Goemai. In Khwe an SVC with V₁ *yaá* ‘come’ expresses proximative aspect ‘be about to, nearly’, as illustrated in (4.70).

(4.70) KHWE

n|ĩĩ //gèɛ-khòè-hè *yà* //’ó-à-tè
 DEM female-person-3SG.F come die-AV-PRES

‘This woman is about to die’

(Kilian-Hatz 2006:117)

In (4.71), from Khmer, we find a perfect aspect or ability modal function imparted by V₂ *ba:n* ‘come to have’.

(4.71) KHMER

khpom *phcù:ə(r)* *srae* *ba:n*
 I plough paddy come.to.have

‘I can plough the paddy field’ / ‘I have ploughed the paddy field’ (Bisang 2009:800)

And a number of languages have an SVC similar to that illustrated in (4.68–4.69) above, with V₂ ‘finish’. For instance, in the Tariana example in (4.72) V₂ *sita* ‘finish’ has both an outer aspectual function — indicating perfect aspect — and an inner aspectual function of deriving a telic predicate. This leads to the entailment that the object *kawhi* ‘manioc flour’ has been completely drunk. (Aikhenvald labels this type of SVC ‘perfective’ or ‘resultative’.)

(4.72) TARIANA

kawhi *nu-ira-ka* *nu-sita*
 manioc.flour 1SG-drink-REC.PAST:VIS 1SG-finish

‘I have drunk manioc flour (and there is none left)’

(Aikhenvald 2006a:188)

¹⁸Although Margetts (1999:137) does suggest that this SVC creates a telic predicate when she remarks that transitive SVCs with *gehe* ‘finished’ in Saliba entail that “the involved object is completely affected.”

Unlike what I suggested for similar SVCs in Oceanic, this type of SVC in Tariana and other languages does appear to be primarily aspectual, rather than having a narrative sequencing function.

Two other types of SVC that are very common across the world's languages but occur less often in the Oceanic family are instrumental and benefactive.¹⁹ Consider the instrumental examples from Èdó in (4.73) and Tetun Dili (Austronesian) in (4.74). In both examples, V₁ 'take' introduces an object ('knife'), which is the instrument used to achieve the action of V₂ ('cut').

(4.73) ÈDÓ

Ìsòkè̀n yá ábẹ́ fián émió!wó
Isoken take knife cut meat

'Isoken used the knife to cut the meat'

(Stewart 2001:2)

(4.74) TETUN DILI

abó lori tudik ko'a paun
grandparent take knife cut bread

'Grandfather used the knife to cut the bread'

(Hajek 2006:241)

(4.75), from Twi (Niger-Congo), illustrates the benefactive SVC. Here V₂ *ma* 'give' introduces benefactive participant *me* 'me', the person for the benefit of whom the work is performed.

(4.75) TWI

ɔ yɛ adwuma ma me
he does work give me

'He works for me'

(Lord 1973:270)

Both instrumental and benefactive SVCs are typically understood to be same subject. However, an instrumental SVC such as those in (4.73–4.74) above could be interpreted as either same subject or switch function. In other words, in (4.73) both Isoken (subject of V₁) and the knife (object of V₁) are plausible subjects for V₂. A less ambiguous example from Yoruba (Niger-Congo) is given in (4.76).

¹⁹In my survey of 36 Oceanic languages, two (Numbami (Bradshaw 1993) and Tobati (Donohue 2002)) were found to have an instrumental SVC akin to those found in other languages, where V₁ is a verb like 'take' or 'hold', and only Kokota was found to have a benefactive SVC (Palmer 2009). However, cf. Pawley (1973:143–4) and Lichtenberk (1985), who discuss benefactive constructions with reflexes of POC **pa(nĩ)* 'give' in a number of Oceanic languages. The frequency of such constructions suggests that a benefactive SVC with V₂ 'give' may have existed in POC, or in one of its early daughter languages.

(4.76) YORUBA

won fi sùúrú yanjú òrò náà
 they use patience sort matter the

‘They sorted out the affair with patience’

(Baker 1989:539)

Here the object of V_1 *sùúrú* ‘patience’ is not a plausible candidate for fulfilling the subject role of V_2 *yanjú* ‘sort’. Instead, the SVC appears to be unambiguously same subject.²⁰ The existence of such clearly same subject instrumental SVCs suggests that other instrumental SVCs are also same subject, despite the surface ambiguity. Another fact in favor of the same subject analysis has to do with the types of verbs allowed in the V_2 slot of instrumental SVCs. A highly notable feature of switch-function SVCs generally is that V_2 is unaccusative (as first noted by Baker (1989)). We see this in directional, positional, and resultative SVCs. For instance, in the switch-function examples cited so far in this section there are a variety of unaccusative V_2 s, including ‘return’, ‘go inland’, ‘come’, ‘lie’, and ‘die’. None of the confirmed switch-function SVCs has an unergative or transitive V_2 . In addition, such SVCs have a broadly resultative meaning, in which the event or state signified by V_2 is a direct result of the event of V_1 . This is evident, for example, in (4.54), where the pulling of the boat results in its moving inland, or in (4.61), where the death is a direct result of the hitting event. In contrast, the cutting event denoted by V_2 in (4.73–4.74) above is not a result of the taking event of V_1 . It is not even clear, in fact, that V_1 in such SVCs always represents an actual event of taking. In many cases the SVC seems to be more grammaticalized, with V_1 simply having an applicative function. Due to the differences in restrictions on V_2 and in event structure of the overall SVC, it seems likely that instrumental SVCs such as those in (4.73–4.74) have a different argument sharing relation than directional, positional, and resultative SVCs, all three of which are clearly switch function when V_1 is transitive.

This section has surveyed the various types of argument-sharing relations found in SVCs across languages, focusing on patterns typically found in Oceanic. In addition, I have discussed a number of common functions of SVCs, and described correlations between functional types and argument sharing types. Table 4.4 summarizes the argument-sharing and semantic relations discussed in this section for the Oceanic family. In addition to the SVCs listed there, other types of SVC that are common cross-linguistically are instrumental, benefactive, sequential/purposive, and other aspectual and modal functions not commonly found in Oceanic. These are illustrated in (4.70–4.76) above.

4.3.3 Contiguity, wordhood, and marking of categories

A major way in which different types of SVCs vary is in whether the verb stems are obligatorily contiguous, or whether an object or other constituent is allowed to intervene between them. What commonly distinguishes core- from nuclear-layer SVCs in VO languages is that

²⁰Recall that Baker (1989) requires all SVCs to share an object (internal argument). In order for SVCs such as those in (4.76) to fulfill this requirement, he posits that V_2 has an optional manner argument, which simultaneously fulfills the direct object role of V_1 .

Semantic function	Argument-sharing relation	Examples
Directional/positional (transitive V ₁)	Switch-function	(4.48), (4.54), (4.55), (4.56)
	Same-subject	(4.46)
Directional/positional (intransitive V ₁)	Same-subject	(4.53), (4.57)
Resultative	Switch-function	(4.84)
	Same-subject	(4.62)
Associated motion	Same-subject	(4.58), (4.59)
Adverbial	Ambient	(4.49), (4.50)
Imperfective aspect	Same-subject	(4.44), (4.64), (4.65), (4.66), (4.67)
Completive aspect/sequencing	Ambient	(4.68), (4.69)

Table 4.4: Common SVC types in Oceanic

the former allow an object NP to occur between the verb stems, while in the latter any object occurs after both verb stems. This is illustrated in (4.77) and (4.78) respectively. In (4.77), direct object *gilami* ‘slitdrum’ occurs directly after V_1 *so* ‘stab’ and before V_2 *tangi* ‘cry’. In contrast, in the nuclear-layer SVC in (4.78), direct object *na yai* ‘the firewood’ occurs after V_2 *goti* ‘break’.

(4.77) NUMBAMI

nu-so *gilami* *i-tangi*
 2SG-stab slitdrum 3SG-cry
 ‘Strike/sound the slitdrum’ (Bradshaw 1993:149)

(4.78) GELA

e *tabe* *goti-a* *na* *yai* *na* *mane*
 3SG:PAST hold break-3SG ART firewood ART man
 ‘The man held the firewood, thereby breaking it’ (Crowley 2002a:533)

Other constituents that may intervene between the verbs in certain SVCs include adverbs and PPs, as well as markers of tense, aspect, mood, or negation. In Cantonese resultative SVCs, for example, although a direct object occurs after both verbs, other elements, such as modals and negation can intervene between the verb roots. This is illustrated in (4.79), where the verb roots *daa*² ‘hit’ and *laan*⁶ ‘break’ are separated by potential *dak*¹ and negative *m*⁴. Note though that direct object *faai*³ *bo*¹*lei*⁴ ‘glass’ cannot intervene between the verbs.

(4.79) CANTONESE

- a. *keoi*⁵ *daa*² *dak*¹ *laan*⁶ *faai*³ *bo*¹*lei*⁴
 he hit POT break CL glass
 ‘He can break the glass’
- b. *keoi*⁵ *daa*² *m*⁴ *laan*⁶ *faai*³ *bo*¹*lei*⁴
 he hit NEG break CL glass
 ‘He cannot break the glass’ (Li 2002:55)

Contiguity of verbs is typically treated as a single parameter in the typology of SVCs (see, for example, Aikhenvald 2006b:37). In other words, SVCs are treated as either contiguous or non-contiguous. But as the examples above show, SVCs can behave differently with respect to different types of elements, allowing some to intervene, but not others. Importantly, these different types of intervening material are evidence of different syntactic properties of the constructions. For example, Matthews (2006:82) notes that all the types of elements that can intervene between verb roots in Cantonese resultative SVCs are prosodically light and appear to be clitics. In contrast, full noun phrases cannot occur between the two verbs. This suggests a certain syntactic relation between the two verb roots that precludes syntactic constituents from intervening, but allows morphological material or cliticization. SVCs that allow a full

NP object to intervene between the verbs, such as that in (4.77) above, clearly have a looser syntactic relation between the two verb roots than does the Cantonese resultative SVC. Some SVCs even allow adverbs, PPs, or other modifiers to intervene, and this points to an even looser bond between the verbs. Consider the directional SVC in (4.80), where adverb *nangnang* ‘quickly’ intervenes between the two verb roots.

(4.80) KAULONG

miuk pok nangnang mu
 2PAUC tell quickly 2:come
 ‘You three send word quickly’ (Ross 2002d:402)

Similarly, in Bali Vitu ambient SVCs, a PP can occur between V_1 and V_2 . This is illustrated in (4.81), where locative PP *na loma rumakaini* ‘inside that house’ intervenes between V_1 *monge* ‘sleep’ and V_2 *nage* ‘endure’.

(4.81) BALI-VITU

ka monge na lo-na rumaka-ini ki nage na dama
 SEQ:1 sleep PREP inside-3SG house-DEM SEQ:3 endure PREP daylight
 ‘I slept in that house until daylight’ (Ross 2002a:380)

The apparently loose syntactic bond between the two verbs in this SVC is not surprising, given its semantics. V_2 in this type of SVC serves to introduce a temporal modifier — an ‘until’ phrase — which is presumably an adjunct, or peripheral constituent. As such, it makes sense that other peripheral material would be allowed to occur before the constituent introduced by V_2 .

The main point to be taken from these examples is that contiguity cannot be treated as a categorical property; instead close attention must be paid to what type of material is able to intervene between verb roots in an SVC, and what this suggests about the syntactic positions that are available (or unavailable) between the verbs. In Chapter 6 I will carefully examine the types of morpho-syntactic elements that can intervene between verbs in different types of Koro SVCs, and will demonstrate what this reveals about the syntax of these SVCs.

Related to the parameter of contiguity in SVCs is that of wordhood. If the verb stems in an SVC are obligatorily contiguous, they may or may not form a single word. In some languages, nuclear SVCs can be identified as forming a single word because they undergo word-internal phonological processes. For example, in Kele sequential nuclear serialization, the V_1 of motion or location undergoes pre-stress phonological reduction, which is a word-internal process (Ross 2002e:128, 138). In other languages, whether the verb roots form a single word or separate words is what distinguishes nuclear serialization from verb compounding. In Paamese, for example, the two verb roots in a compound constitute a single phonological word, and undergo word-level phonological processes, such as stress assignment and final vowel loss. In contrast, nuclear SVCs in Paamese constitute two phonological words, and each verb stem undergoes word-level phonological processes separately. If the

two verb stems are treated as a single phonological word, the resulting string is ungrammatical, as shown in (4.82). In (4.82a), which is a nuclear-layer directional SVC, each of the verb roots *dupasu* ‘rise’ and *kisirilu* ‘go through’ forms its own phonological word. This is clear from the fact that each root loses its final vowel. In (4.82b), on the other hand, the two roots form a single phonological word, with the V_1 retaining its final vowel. As a result, this construction is ungrammatical.

(4.82) PAAMESE

a.	<i>eas</i>	<u><i>dupas</i></u>	<u><i>kisiril</i></u>	<i>va:</i>	<i>naim</i>
	easu	∅-dupasu	kisirilu	∅-vaa	naimo
	smoke	3SG:REAL-rise	go.through	3SG:REAL-go	inside
b.	* <i>eas</i>	<u><i>dupasu-kisiril</i></u>		<i>va:</i>	<i>naim</i>
	easu	∅-dupasu-kisirilu		∅-vaa	naimo
	smoke	3SG:REAL-rise-go.through		3SG:REAL-go	inside

‘The smoke filtered through inside’ (Crowley 2002b:84)

Aside from the question of phonological wordhood, there is the matter of single or concordant marking of verbal categories. If the verb roots in an SVC form a single phonological word, then all verbal categories will be marked just once for the whole SVC. In contrast, SVCs in which the verb roots retain their independent word status may take single or concordant marking. Although Paamese nuclear SVCs form separate phonological words, argument marking occurs just once, rather than being marked separately on each verb. This is illustrated in (4.83), where there is a single set of person, TAM and transitivity marking. The subject/TAM marker is prefixed to V_1 , while the transitive suffix attaches to V_2 , just as it would if the predicate were a simplex verb root.

(4.83) PAAMESE

<i>kai</i>	<u><i>mutau</i></u>	<u><i>ramoboŋon</i></u>	<i>tirausis</i>	<i>onen</i>
kaie	∅-mutau	ramoboŋo-ni	tirausise	one-ne
3SG	3SG:REAL-defecate	do.accidentally-TR	shorts	POSS-3SG

‘He accidentally shat his shorts’ (Crowley 2002b:87)

Now consider the example in (4.84), from Kairiru. In this type of SVC arguments are marked separately on each verb — V_1 *un* ‘hit’ takes a subject prefix and an object suffix, while V_2 *myat* ‘die’, which is intransitive, takes just a subject prefix.

(4.84) KAIRIRU

<i>Tom</i>	<i>woñau</i>	<u><i>o-un-i</i></u>	<u><i>a-myat</i></u>	<i>řuon</i>
Tom	dog	3SG-hit-3SG	3SG-die	COMPL

‘Tom killed the dog’ (Ross 2002c:212)

Due to this marking pattern, this SVC would be considered a core-layer construction.

It is often the case that some categories are marked on both verbs, while others are marked only once. If there is any double marking, it always applies to bound argument marking, as in the above example from Kairiru. Negation, in contrast, is usually marked only once per SVC, even in core-layer constructions. In Nêlêmwa, for example, transitivity is marked separately on each verb root, while negation is marked only once, and has scope over the whole SVC. This is illustrated in (4.85), where transitive suffix *-lî* attaches to each verb, but negator *kio* occurs only once, at the beginning of the clause.

(4.85) NÊLÊMWA

Kio i tâlá mwemwelî yoo-lî vhaa Nêlêmwa
 NEG 3SG hear know:TR be.good-TR talk Nêlêmwa
 ‘He doesn’t understand the Nêlêmwa language very well’ (Bril 2004b:172)

Aspect and mood marking sometimes pattern with argument marking and other times with negation. For example, as shown in (4.86), in Siar-Lak, completive particle *pas* only occurs once for the SVC, appearing after V_2 .

(4.86) SIAR-LAK

Ep sói i kawas tat pas matól
 ART:SG snake 3SG enter uncover COMPL 1TRI.EXCL
 ‘A snake came in and found us’ (Rowe 2005:69)

In Bislama, TAM marking likewise only occurs once per SVC, but here it must precede V_1 , as irrealis *bae* does in (4.87). Marking of TAM categories on V_2 is disallowed in Bislama SVCs even if it matches that on V_1 (Meyerhoff 2001:255).

(4.87) BISLAMA

wan big ston bae i ron i kam
 one big stone IRR AGR run AGR come
 ‘A huge stone will roll down’ (Meyerhoff 2001:255)

In contrast to this pattern, locational SVCs in Loniú (closely related to Koro) require irrealis to be marked on both V_1 and V_2 . This is illustrated in (4.88), where both V_1 *lomwi* ‘plant’ and V_2 *to* ‘stay’ take obligatory irrealis prefixes.

(4.88) LONIÚ

ow kolomwi yó kito ma’akoso Kalipap
 2DU IRR-NON.SG-plant 1SG IRR-1SG-stay beside Kalipap
 ‘Bury me beside Kalipap’ (Hamel 1993:114)

Namakir represents a mid-point between these two types of TAM marking in SVCs. As shown in (4.89), intentional future marker *pa* is optional with V_2 of an SVC, but is required on V_1 .

(4.89) NAMAKIR

<i>ni</i>	<i>ba</i>	<u><i>row</i></u>	<i>(pa)</i>	<u><i>wiliwiliw</i></u>	
1SG	INTENT	go	INTENT	quick	
‘I’ll go quickly’					(Sperlich 1993:97–98)

The implicational hierarchy of verbal category marking shown in (4.90) is suggested by Aikhenvald (2006b:44) and supported by the survey of Oceanic languages undertaken here. In this hierarchy, concordant marking of those categories on the right entails concordant marking of those on the left.

(4.90) arguments < tense/aspect/mood < negation

It is likely that more fine-grained distinctions could be made within the TAM category, and that further categories such as valency could be added to the hierarchy, but this requires further research. The main point is that marking of verbal categories in SVCs can be either single or concordant, and that this varies predictably across different categories. It is also important to note that different types of SVCs within a given language can have different marking patterns. Compare the associated motion example in (4.91) with the locative SVC in (4.88) above. Both examples are from Loniū, but only the locative construction requires concordant marking of reality status. In the associated motion example below, only V_1 *me* ‘come’ takes an irrealis prefix; V_2 *in* ‘drink’ is unmarked for reality status (or any other verbal categories).

(4.91) LONIŪ

<i>eli</i>	<i>iy</i>	<u><i>kime</i></u>	<u><i>in</i></u>	<i>an</i>	
IRR-2SG-call	3SG	IRR-3SG-come	drink	water	
‘Call him to come have a drink of water’					(Hamel 1993:117)

This single marking of verbal categories is one of the properties that identifies the SVC in (4.91) as a nuclear-layer SVC, while the concordant marking in (4.88), as well as the intervening object *yó* ‘me’, identify that as a core-layer construction.

A final point about marking of verbal categories: Aikhenvald (2006b:44) notes that SVCs with single marking of verbal categories tend to be more tightly-bound, both syntactically and semantically, than those with concordant marking. Her further observation that such constructions tend to exhibit more of the prototypical properties of SVCs than concordant-marking constructions suggests that single marking should itself be considered a prototypical property of SVCs. However, I see no *a priori* reason to assume this. Unless we wish to limit our definition of SVCs to head-adjoined structures, in which we would expect only single marking to occur, it seems that concordant marking of verbal categories alone should not

disqualify a construction from being a true SVC (cf. the discussion of semantic scope of verbal markers in §4.2.3 above). In the following chapters I will examine in detail the marking of verbal categories in Koro SVCs, and extrapolate various syntactic structures from these marking patterns. I conclude that certain constructions with double marking are indeed SVCs, while some of those with single marking are not.

4.3.4 Number and ordering of verb roots

We have so far almost exclusively discussed dyadic SVCs, which combine just two verb roots. There are, however, SVCs in many languages that involve up to four or more verb roots. In some languages it is very common to have a sequence of more than two verb roots (which I will refer to as a ‘poly-verbal’ SVC). In the majority of cases these can be analyzed as nested structures, with one SVC embedded within another. In the following example, a directional SVC *-eɪ -ya* ‘go away go’ is nested within an SVC with the V_2 *-deɪ* ‘reach’, which introduces a temporal adjunct.

(4.92) JABÊM

ɛɪ *[[g-eɪ* *ge-ya]* *ge-deɪ]* *ge-beɪ*
 3SG 3SG-go.away 3SG-go:3 3SG-reach 3SG-night
 ‘He ran away in the night’ (Ross 2002b:291)

Almost all poly-verbal SVCs in Oceanic are clearly nested in this way, the only major exception being directional SVCs. It is common to have more than two motion verbs in an SVC, without any apparent hierarchical relation between them. For example, in (4.93) there are five verb stems, none of which is obviously dependent on another.

(4.93) MUSSAU

ghe *mae* *sso* *velu* *sokola-aini=e* *sio*
 PAST come go.in drop go.ashore-TR=3SG.OBJ go.down
 ‘(The wave) came in and dropped it on the shore’ (Brownie and Brownie 2007:134)

On the surface, this construction exhibits no clear evidence of embedding; however, as shown below, more detailed syntactic analysis can often reveal hierarchical ordering within such superficially flat structures.

In some Oceanic languages, other types of poly-verbal SVCs also seem to be allowed without nesting. For example, Lewo nuclear SVCs allow up to six verb stems to occur in sequence, with no obvious hierarchical relation between them. This is illustrated in (4.94).

(4.94) LEWO

visa-luṗari-kokani-kare-ruru-li
 say-prohibit-lie-spoil-do.well-try
 ‘try to pretend to prohibit someone from doing something, really upsetting them in the process’ (Early 1993:78)

This type of construction is the exception in the Oceanic family, but in certain other language families, poly-verbal SVCs with an apparently flat structure appear to be more common. For example, (4.95) illustrates a typical SVC in Kalam, a non-Austronesian language of Papua New Guinea.

(4.95) KALAM

b ak am mon p-uk d ap la-k
 man that go wood hit-smash get come put-3SG-PAST

‘The man fetched some firewood’

(Pawley and Lane 1998:204)

Here six verb roots occur in sequence, with no obvious hierarchical relation between them. In fact four of the verb roots — *p* ‘hit’, *uk* ‘smash’, *d* ‘get’, and *la* ‘put’ — share the same object, *mon* ‘wood’. As (4.96) shows, Arawak language Tariana also allows lengthy strings of verbs in an SVC, in this case a sequence of five motion verbs.

(4.96) TARIANA

nu-diá nuka nu-yéna nú-sa nu-á-na te
 1SG-return arrive:1SG 1SG-go.over/pass 1SG-go.up 1SG-go-REM.PAST.VIS until
nese
 there

‘I managed to return passing over and up away (from here), up until that place’

(Aikhenvald 2006a:182)

A similar example from Thai is in (4.97).

(4.97) THAI

Malee wîŋ jǒn klàb trǒŋ khâam saphaan paj
 Malee run reverse return go.straight cross bridge go

‘Malee ran back straight, crossing the bridge, away from the speaker’

(Muansuwan 2001:236)

Although there are no obvious surface indicators of nesting in these SVCs, it is nonetheless likely that even in these languages, such SVCs have hierarchical structure. Muansuwan (2001), for example, argues that Thai SVCs such as that in (4.97), which have previously been analyzed as exhibiting a flat structure (Thepkanjana 1986), can in fact be shown to have hierarchical structure. He presents evidence from adverb placement and VP anaphora to reveal the internal constituent structure of such poly-verbal SVCs. The proposed structure of the SVC in (4.97) is given in (4.98), where each bracketed constituent is a VP.

(4.98) *Malee* [[[*wîŋ jǒn*] *klàb*] *trǒŋ*] [*khâam saphaan paj*]

Similarly, Pawley (2011:33–34) gives syntactic evidence that lengthy SVCs such as those in (4.95) (which he refers to as ‘narrative SVCs’) do in fact have internal hierarchical structure. Using evidence from placement and scope of arguments, adjuncts, and negation, he argues that poly-verbal SVCs in Kalam are comprised of nested dyadic SVCs (which he refers to as ‘compact SVCs’), which themselves are arranged in a hierarchical structure.

Another example is presented in (4.99) from Lao, a Tai-Kadai language spoken in south-east Asia.

(4.99) LAO

*caw*⁴ *lóong*² *mèè*⁴ *qaw*³ *paj*³ *hêt*¹ *kin*³ *beng*¹
 2SG try.out PART take go make eat look

‘You go ahead and take (them) and try cooking (them)!’ (Enfield 2008:83)

Again, there are six verb roots in this construction, and no surface indication of any hierarchical relations between them. However, through the application of various syntactic tests, a clear hierarchical structure emerges for what appears on the surface to be a flat string of verbs. As Enfield (2008:83) explains: “In example [(4.99)], a left-headed complement-taking adverbial *lóong*² ‘try out’ combines with a right-marking adverbial *beng*¹ ‘look’ in bracketing a complex verb phrase consisting of a ‘disposal’ construction expressing focus on manipulation of an object (with the combination *qaw*³ -*hêt*¹ ‘take (and) do/make’) incorporating *paj*³ ‘go’ as an inner directional particle, in a purposive clause chain with *kin*³ ‘eat’. The surface string of six contiguous verbs in [(4.99)] is highly structured, yet there is little if any surface indication of such structure in the language.”

Besides the number of verb roots allowed in an SVC, there are also patterns evident in the ordering of verb roots, even in so-called symmetrical SVCs. For example, Aikhenvald (2006b:21) notes that the order of verb roots in sequential action and resultative SVCs is usually temporally iconic, while the order in SVCs with grammatical functions follows grammatical rules of the language.²¹ A brief survey of Oceanic SVCs suggests that the first statement is accurate, but it is not clear whether the latter observation holds up.

Only a small number of SVC types in Oceanic have a clear temporal relation between the two verb roots. The main example of this is the associated motion construction, where the event of V₁ clearly precedes the event of V₂ (see (4.58–4.59) above). This is illustrated in (4.100), where the ‘coming’ event occurs prior to the ‘seeking’ event, and therefore the order of verb roots is temporally iconic.

(4.100) NUMBAMI

e *i-ma* *teteu* *i-ndomoni* *aiya*
 3SG 3SG-come village 3SG-seek 2SG

‘He came to the village and looked for you’ (Bradshaw 1993:146)

²¹Baker (1989:525–526) also observes the fixed order of SVCs in languages with different headedness, but he rejects an iconic explanation in favor of an account based on direction of case and theta role assignment.

In some directional and resultative constructions ordering could also be interpreted as iconic, although often there is no sequential temporal relation between the verbs in such constructions and instead the events are simultaneous. Consider the examples in (4.101) and (4.102). In (4.101) the events of V_1 *rovo* ‘run’ and V_2 *ziho* ‘go down’ are clearly simultaneous (if they can even be considered separate events), whereas in (4.102) they may be either simultaneous, or the event of V_1 *yip* ‘blow’ may be initiated slightly before the event of V_2 *halyak* ‘fly away’.

(4.101) VITU

Hita ta rovo ziho
 1PL.EXCL REAL run go.down

‘We ran down’

(van den Berg and Bachet 2006:177)

(4.102) MWOTLAP

ne-leñ mi-yip hal-yak na-kat
 ART-wind PERF-blow fly-away ART-cards

‘The wind blew the cards away’

(François 2006:232)

Although the fixed order of verbs in an SVC cannot always be accounted for by the iconicity principle, it is clear that the ordering of verbs in associated motion, directional, and resultative SVCs never goes against the temporal ordering of events, if there is any such temporal ordering.

In contrast, it does not appear that SVCs with grammatical functions in Oceanic languages necessarily follow grammatical ordering rules of individual languages, as Aikhenvald claims. SVCs with similar functions tend to exhibit the same ordering across different Oceanic languages, even though those languages may have different word orders (Bril 2004a:12). Constructions that clearly are not temporally ordered include aspectual constructions, modals, and adverbial modifiers. In both head-initial and head-final languages, imperfective and modal constructions tend to have the minor verb first, while adverbial constructions tend to have the minor verb in V_2 . These patterns in the Oceanic family suggest that the ordering of verb roots in grammatical SVCs either follows universal principals, or retains structures inherited from POc. Given the high degree of typological similarity within the Oceanic family (Lynch et al. 2002:Chapter 3), it is quite possible that the latter is the case, and that the apparent exceptions in Oceanic do not constitute strong counter-examples to Aikhenvald’s generalization. However, an additional issue with her proposal is that it assumes a clear-cut distinction between grammatical and non-grammatical SVCs, which does not hold up. For example, in Koro the associated motion SVC also has the grammatical function of deriving a telic predicate (see Chapter 5). Similarly, instrumental and benefactive SVCs typically involve a level of temporal iconicity — the ‘take’ verb in instrumentals precedes the main verb and the ‘give’ verb in benefactives follows it — but they often fulfill a purely grammatical valency-increasing function, without any remaining entailment of

temporal ordering of events in the synchronic construction. It is not clear how such SVCs are expected to behave according to Aikhenvald’s generalization.

The two parameters of number of verb roots and ordering interact with each other. Within a given language, certain SVCs can occur as V_1 or V_2 of another SVC, while the opposite hierarchical relation is not possible. For example, in Toqabaqita, asymmetrical SVCs can include another SVC in their unrestricted slot, but symmetrical SVCs cannot (Lichtenberk 2006:259). An example of nested SVCs in Toqabaqita is in (4.103). Here the symmetrical resultative SVC *qala muusi* ‘break by chewing’ fills the V_1 slot in an asymmetrical modifying SVC with V_2 *taqaa* ‘be bad’.

(4.103) TOQABAQITA

<i>taunamo</i>	<i>nau, qasufa</i>	<i>e</i>	[[<i>qala</i>	<i>muu-si</i>]	<i>taqaa</i>]	<i>qani-a</i>
mosquito.net	1SG	rat	3SG:NONFUT	bite	sever-TR	be.bad PREP-3OBJ

‘My mosquito net has been badly chewed up and broken by a rat’

(Lichtenberk 2006:259)

Such restrictions on SVC nesting suggest that the constituent formed by the ‘inner’ SVC is smaller (or more tightly bound) than the constituent formed by the ‘outer’ SVC. For example, in this Toqabaqita SVC, it may be the case that the two verbs in the resultative construction form a complex V head, while the modifier *taqaa* acts as a VP adjunct.

The basic generalizations we have seen with respect to number and ordering of verb roots in an SVC are as follows:

- most (if not all) SVCs with more than two verb roots can be analyzed as nested sequences of dyadic SVCs
- the order of verb roots within an SVC tends to be iconic where there is a temporal relation between events
- there are usually restrictions on hierarchical relations between different SVC types, and these can reveal something about the syntax of each type of construction.

Additionally, as authors such as Muansuwan (2001) and Enfield (2008) have shown, even those SVCs that are not obviously hierarchical on the surface may show hierarchical properties when sophisticated syntactic and semantic tests are applied. In short, it seems likely that the number of SVC types involving more than two verbs in a flat structure is very small, if they exist at all. When a sequence of more than two verbs is encountered, it should be probed very carefully for sub-constituents, and for restrictions on what types of sub-constituents are allowed.

4.4 Conclusion

There are a number of criteria that have been used in the functional and typological literature to identify SVCs in particular languages. These include surface morpho-syntactic properties, phonological and prosodic properties, and semantic or conceptual properties. Throughout this chapter I have attempted to draw together the most important of these surface properties, and to point to potential structural correlates. It has become clear throughout the

discussion that there are four main criteria for SVC-hood, each of which can manifest through a number of surface properties. Here I will briefly summarize each criterion, and recap the diagnostics used to assess whether a construction fulfills that criterion.

(i) SVCs consist of components that could each stand on their own as a main predicate. The intention of this criterion is to differentiate SVCs, which involve the combination of two finite main verbs, from constructions such as auxiliary verbs, raising and control verbs, adverbs, prepositions, directional affixes, aspectual particles, and so forth. Since all of these categories can develop diachronically from SVCs, it is not surprising that there is often a grey area between SVCs and non-SVCs. In order to differentiate between two potential analyses, the criterion of main verbhood has been used. However, as I argued extensively in §4.2.1, simply providing evidence that a certain form *can* occur as a main verb does not prove that it functions as a main verb *in an SVC*. Consequently, I argued for an approach where symmetry and semantic shift are the primary determinants of the morpho-syntactic status of a purported main verb in an SVC, as well as sticking strictly to the phonological identity criterion. A form should only be considered a main verb in an SVC if:

- it occurs as a main verb in mono-verbal clauses
- the SVC slot it occurs in is unrestricted, or is restricted to a recognized semantic or morpho-syntactic subclass of verbs
- the semantics of the serialized verb are the same as those of the main verb, or any semantic shift can be ascribed to structural characteristics of the SVC
- the phonological and morphological form of the serialized verb is identical to that of the main verb, or any differences are predictable from established morpho-phonological rules.

(ii) SVCs are monoclausal SVCs are assumed to be more tightly bound syntactically than similar constructions such as complement clauses, and raising or control construction. The two verbs are often described as forming a single predicate. The discussion in §4.2.2 concluded that there is no single definitive criterion that can establish monoclausality of an SVC. All proposed criteria are necessary, but not sufficient, conditions for monoclausality. A preponderance of these properties in a given construction, coupled with a demonstration that other multi-verb constructions in the language do not behave in the same way, would constitute good evidence of monoclausality. The properties that a monoclausal construction will exhibit are as follows:

- there is no overt coordinator or subordinator
- there is no pause between verbs
- *wh*-movement of an object is possible
- exocentric derivational morphology has scope over the whole construction.

Having all these properties does not guarantee that a construction is monoclausal. For instance, certain complement clause constructions in Koro fulfill all of these criteria, but are clearly bi-clausal. However, the criteria are still useful in that violating any of them is good evidence that the construction is not monoclausal, and therefore not a true SVC.

(iii) SVCs describe something conceptualized as a single event The concept of single eventhood is not well defined, making this a difficult criterion to apply. After surveying a number of possible linguistic diagnostics for single eventhood in §4.2.3, I argued that the most convincing tests for this property are based on the Macro-Event Property, and the semantic relation between the two verbs. As such, the following criteria can be used to identify a construction that represents a single event:

- temporal operators such as tense and temporal adverbs have scope over both verbs (in spite of any mismatch in formal marking)
- manner adverbs have scope over both verbs
- for verb combinations with a possible causal relationship, direct causation is entailed by the construction.

All of these diagnostics test whether the sub-events represented by the individual verbs in an SVC are separable, or whether instead they are inextricably bound into a single macro-event. This is intended to formalize the intuition that an SVC is equivalent to a single clause in a cognitive sense, not just syntactically.

(iv) The verbs in an SVC share at least one core argument It was demonstrated in §4.3.2 that different SVCs exhibit a wide variety of argument-sharing relations, including one type in which the verbs do not strictly share an argument (the so-called ‘ambient’ pattern). The question, then, is whether there is a principled reason to exclude one or more of these types of argument sharing from the category of true SVCs. If we were to take the criterion of argument sharing seriously, ambient constructions should be excluded, due to the fact that they do not in fact share any of their arguments. However, this is one of the most pervasive patterns of argument sharing in Oceanic SVCs, and such constructions share enough of the other prototypical SVC properties that they stand as very likely candidates for true SVCs. The thrust of the argument sharing criterion seems to be based once again on the tight syntactic bond between the verbs in an SVC. In other words, if the verbs in an SVC form a single complex predicate, then they cannot each introduce their own fully articulated set of arguments. With this assumption as a background, we can assimilate the ambient pattern into the accepted argument-sharing patterns. Instead of stating that the verbs must share an argument, it is necessary to specify that the verbs cannot each have fully independent argument structures. The ambient pattern fits into this generalization because V_2 in such a construction does not introduce another argument into the overall argument structure, but instead modifies V_1 (whether it takes the event argument of V_1 as its argument, or simply has no arguments will be discussed in Chapter 6).

In addition to these four defining criteria for SVCs, this chapter explored and exemplified a number of properties that exhibit variation across different types of SVCs, including semantic functions, contiguity of verb roots, wordhood, marking of verbal categories, and restrictions on the number and order of verbs in the SVC. These illustrate the variety of structures that fall within the category of ‘SVC’, demonstrating that even with a fairly restrictive definition, we still find a significant amount of variation within this type of construction.

Chapter 5

Overview of multi-verb constructions in Koro

5.1 Introduction

This chapter describes the morpho-syntax and semantics of multi-verb constructions in Koro. All of the constructions considered in this chapter appear to fulfill the typological criteria for SVCs. However, by applying the diagnostics developed in Chapter 4, I show that only the associated motion, change of state, and imperfective constructions are candidates for true SVCs; other superficially SVC-like constructions can be distinguished from SVCs on morpho-syntactic or semantic grounds. For example, the durative and sequencing constructions can be analyzed as apposed main clauses, while the instrumental and comparative constructions involve a minor ‘verb’ that does not exhibit verbal properties, but instead behaves as a preposition. Surprisingly, even the resultative and directional/allative constructions, which strongly resemble prototypical SVCs in other languages, turn out upon further examination to fail some of the tests for true SVC-hood.

The chapter is structured as follows. In §5.2 I introduce the various constructions in Koro that superficially resemble SVCs, and I examine their behavior in detail, separating those that behave like true SVCs from those that do not. This section covers each of the four main criteria established in Chapter 4 — main verbhood (§5.2.1), monoclausality (§5.2.2), single eventhood (§5.2.3), and argument sharing (§5.2.4). In §5.3 I then describe in more detail the semantic properties of the multi-verb constructions that pass all or almost all of the tests for true SVCs. §5.3.1 focuses on directional and allative constructions and §5.3.2 focuses on associated motion, change of state, and imperfective constructions. I give evidence that these three construction types are in fact variations on a single type of SVC, and that any semantic differences between them can be derived from properties of the different verbs occurring in the V_1 and V_2 slots. Finally, I briefly discuss the durative and sequencing constructions in §5.3.3, arguing that they do not represent true SVCs, but instead are simply multiple main clauses under a single intonation contour.

5.2 Identifying SVCs in Koro

There are several constructions in Koro that appear at first blush to be canonical SVCs. These constructions are summarized in Table 5.1, and exemplified in (5.1–5.10) below. The utterances in (5.1–5.2) are directional and allative constructions, respectively. These give information about the literal or fictive trajectory of an object or event. They involve a main lexical verb (the major verb), with its object if transitive, followed by either a prepositional or a non-prepositional path verb (the minor verb) which indicates the direction of motion of the subject or object, or introduces a goal argument.¹ Constructions in which the minor verb does not introduce a goal argument are labeled ‘directional’, while those in which it does are labeled ‘allative’. In each of these examples, the utterance in (a) has an intransitive V_1 while the utterance in (b) has a transitive V_1 .

(5.1) DIRECTIONAL

- a. *mwa uru* \emptyset *toh* *i* *me*
 COORD 3DU REAL wade REAL:3SG come
 ‘And those two waded over (toward deictic center)’ (2011-03-22-AH_AV-02_0152)
- b. *i k-i* *chap* *losou* *k-i* *me*
 3SG IRR-3SG carry bandicoot IRR-3SG come
 ‘He will bring the bandicoot (here)’ (2011-04-08-AH_AV-01b_0228)

(5.2) ALLATIVE

- a. *Chichindrikawa i* *mul* *i* *le* *wum*
 Chichindrikawa REAL:3SG return REAL:3SG go.to house
 ‘Chichindrikawa returned to the house’ (2011-03-08-AH_AV-01_0133)
- b. *You k-u* *ruwi* *pepa* *k-i* *me* *au*
 1SG:SBJ IRR-1SG put paper IRR-3SG come 2SG
 ‘I’ll give the paper to you’ (2011-03-11-AH_AV-02_0364)

(5.3) is an example of an associated motion construction. In this type of construction V_1 is a prepositional path verb and V_2 is a main lexical verb. There is a fixed temporal interpretation in this type of construction, with the activity of V_2 interpreted as following the motion of V_1 .

(5.3) ASSOCIATED MOTION

- yourun pa* *k-a* *la* *kah* *pamei*
 1PL.EXCL PRXMV IRR-NON.SG go.to:ANDAT find betelnut
 ‘We wanted to go and look for betelnut’ (v2012-08-02-CB-01_0029)

¹See Chapter 3 for more detail on the morpho-syntax and semantics of path verbs in Koro.

Construction	V ₁	V ₂	Function
Directional, allative	unrestricted	path verb	V ₂ modifies direction of V ₁ participants; allative adds a goal
Associated motion	prepositional path verb	unrestricted	V ₁ indicates path of motion that precedes the event of V ₂
Change of state	prepositional path verb	stative/process verb	indicates a change of state and entails final state fully reached
Imperfective	locative predicate or posture verb	unrestricted	event or state of V ₂ ongoing at topic time
Resultative	a few transitive verbs	a few unaccusative verbs	V ₂ is directly caused by the event of V ₁
Instrumental	unrestricted	<i>le</i> ‘go to’	V ₂ introduces instrument used to accomplish V ₁
Comparative	adjective or adverb	<i>me</i> ‘come’, <i>le</i> ‘go to’	V ₂ introduces standard of comparison
Durative	unrestricted	<i>la</i> ‘go’	event of V ₁ occurs over an extended period of time
Sequencing	unrestricted	<i>hepwi</i> ‘finished’	indicates temporal sequence of events (‘and then’)

Table 5.1: The properties of multi-verb constructions in Koro

The construction in (5.4) has identical surface form to the associated motion, but instead of denoting literal motion it describes a change of state — in this example an item becoming red.

(5.4) CHANGE OF STATE

i \emptyset *le* *ram*
3SG REAL go.to red

‘It turned red’

(Elicitation-2012-08-07-AD_0070)

In (5.5) is an example of an imperfective construction. Here the minor verb in the V_1 slot is a locative predicate that imparts continuous or habitual semantics to the event of the major verb.

(5.5) IMPERFECTIVE ASPECT

you \emptyset *ru* *tihir* *ndap*
1SG.SBJ REAL stay:SG weave basket

‘I was making a basket’

(Elicitation-2012-07-20-AD_BZ_0058)

The resultative in (5.6) involves a transitive V_1 and a stative or other unaccusative V_2 which denotes the direct result of the action of V_1 .

(5.6) RESULTATIVE

you \emptyset *re-i* *ra pu i* *mat*
1SG.SBJ REAL strike-SPEC.OBJ all pig REAL:3SG die

‘I hit all the pigs dead’

(Elicitation-2013-07-30-AD_CA_0076)

In the instrumental construction in (5.7) the minor verb *le* introduces an instrument with which the action of V_1 was performed.

(5.7) INSTRUMENTAL

i \emptyset *chen-i* *i* *le* *ki-n*
3SG REAL clear-SPEC.OBJ REAL:3SG go.to bum-3SG:POSS

‘She cut it with her bum’

(2011-03-08-AH_AV-01_0094)

Similarly, the minor verb *le* in the comparative construction illustrated in (5.8) introduces the standard of comparison for the property denoted by the major verb.

(5.8) COMPARATIVE

Max i *ngap* *ndawan* *le* *Marcus*
Max REAL:3SG run strong go.to Marcus

‘Max is running faster than Marcus’

(Elicitation-2012-08-07-AD_0123)

The construction in (5.9) is a durative, in which V₂ *la* ‘go’ indicates that the event of V₁ had a long duration.

(5.9) DURATIVE

uru ∅ *suwe* *i* *la* *i* *la* *i* *la*
 3DU REAL paddle REAL:3SG go REAL:3SG go REAL:3SG go
 ‘Those two paddled on and on and on’ (2012-07-14-AA-04_0005)

Finally, the sequencing construction in (5.10) involves minor verb *hepwi* ‘be finished’ in the V₂ slot, and is used to indicate the temporal sequence of events in narrative.

(5.10) SEQUENCING

mwa *you* ∅ *pwa* “*hiyan*, *a* *la* *k-i* *hepwi* *you*
 COORD 1SG.SBJ REAL say OK 2SG:IRR go IRR-3SG finished 1SG.SBJ
k-u *me*”
 IRR-1SG come
 ‘And I said, “OK, you go and afterwards I’ll come” ’ (v2012-08-01-AH-05_0086)

Each of these constructions fulfills the surface criteria for SVCs discussed in Chapter 4. They all consist of (at least) two verbs, which together are translated into English with a single predicate; they contain no overt marker of coordination or subordination; they have a single value for tense, aspect, and polarity; they share a core argument; and each sequence of verbs describes a single event. Moreover, they fulfill functions commonly served by SVCs in other languages.² For example, the directional and allative SVCs in (5.1–5.2) above fall under the directional/positional function identified by Lynch et al. (2002) as a major use of SVCs in Oceanic. In this type of SVC, V₂ specifies the path traveled by the subject or object of V₁. The associated motion SVC in (5.3) exemplifies the so-called ‘sequential’ function in Oceanic. Here V₁ is a path verb that introduces a motion event preceding the event described by V₂. The constructions in (5.4–5.5) and (5.9) also exemplify a common function of SVCs in Oceanic and other language families, namely aspectual modification via locative, posture, or motion verbs. The resultative in (5.6) again exemplifies one of the major types of SVC identified for Oceanic languages by Lynch et al. (2002). Here V₂ *mat* ‘die’ represents the result of the action of V₁ *rei* ‘strike’. Instrumental and comparative functions such as those in (5.7–5.8) are also commonly served by SVCs cross-linguistically (although the form of the instrumental is somewhat anomalous, since these much more commonly involve V₁ ‘take’ or ‘hold’). And finally, the completive or temporal sequencing function of (5.10) is very commonly found in Oceanic languages, as illustrated in Chapter 4.

To summarize, all of the examples presented in (5.1–5.10) appear to fulfill the typological criteria for SVCs, and in addition they all have semantic functions commonly associated with SVCs. Despite this, they are not all true SVCs, as I will demonstrate below. Using

²See §4.3.2 for discussion of the common functions of SVCs cross-linguistically.

Main verbhood	
I.	Both V_1 and V_2 can occur as a main verb in a mono-verbal clause
II.	Both V_1 and V_2 are unrestricted, or restricted to a recognized morpho-syntactic or semantic subclass of verbs
III.	The semantics of the verbs does not change when serialized
IV.	The morpho-phonology of the verbs does not change when serialized

Table 5.2: Diagnostics for main verbhood in SVCs

the defining criteria established in Chapter 4, in the following sections I give evidence that the associated motion, change of state, and imperfective aspect constructions are true SVCs, while the resultative, instrumental, comparative, durative, and sequencing constructions are not. Although the directional and allative constructions initially appear to be prototypical examples of SVCs, subtle semantic analysis reveals that they fail the test of single eventhood, and can therefore not be counted as true SVCs. For a summary of the findings of this section, see Table 5.9 on page 194. Each subsection below focuses on one of the four main criteria for SVCs discussed in the previous chapter (see Table 4.1 on page 100 of that chapter for a summary of the main criteria and the diagnostics associated with them).

5.2.1 Main verbhood

As discussed in Chapter 4, one of the most important criteria for identifying SVCs in a language is that of main verbhood. A true SVC consists of two (or more) verbs that can each occur as the sole verb in a finite main clause. This is superficially true of each of the constructions in (5.1–5.10) above. All of these constructions consist of two morphemes that are phonologically identical to main verbs in the language. However, as I will argue in this section, there is evidence that in some of these constructions the minor verb is not in fact identical to its main verb counterpart. Throughout this section I refer to the diagnostics for

³Refer to Table 5.2 to find what diagnostic each number refers to.

⁴Although the minor verbs in the directional and allative appear to have different entailments than their main verb counterparts, I will show in §5.2.3 that this is in fact due to the scope and function of TAM marking in the SVC, and does not indicate that the serialized path verbs are different morphemes than the main path verbs.

⁵Some elements that appear in the minor verb slot of the imperfective are demonstrably non-verbal (e.g., they cannot take TAM marking or pre-verbal negation); however, despite being non-verbal the sole function of these morphemes (other than in an SVC) is as the predicate in a main clause. I therefore count these as fulfilling the criteria for main verbhood.

Diagnostics: ³	I	II	III	IV
Directional, allative	✓	✓	✓ ⁴	✓
Associated motion	✓	✓	✓	✓
Change of state	✓	×	✓	✓
Imperfective	✓ ⁵	✓	✓	✓
Resultative	✓	×	×	✓
Instrumental	✓	×	×	×
Comparative	×	×	×	×
Durative	✓	×	✓	✓
Sequencing	✓	×	✓	✓

Table 5.3: Results for main verbhood in Koro multi-verb constructions

main verbhood developed in the previous chapter. These are summarized in Table 5.2, and Table 5.3 presents the results for each multi-verb construction in relation to these criteria.

Almost all of the multi-verb constructions in Koro are asymmetrical, in that one of the verb slots is highly restricted. For example, in the directional and allative constructions the minor verb slot is restricted to the class of path verbs, while in the associated motion, change of state, and comparative constructions the minor verb slot is restricted to a subset of this class, namely the prepositional path verbs. The imperfective construction similarly allows only locative predicates to occur in the V_1 slot. Each of these constructions restricts the minor verb slot to a sub-class of verbs that is identifiable by its unique morpho-syntactic and semantic behavior (discussed extensively in Chapter 3).

In contrast to these constructions, the instrumental, durative, and sequencing constructions allow only a single verb in the V_2 slot. In the case of the instrumental, that verb is prepositional path verb *le* ‘go to’. None of the other path verbs can occur as the minor verb in the instrumental. This is demonstrated in (5.11a), which shows that venitive *me* is ungrammatical as V_2 in an instrumental construction, even when the instrumental object is first or second person (which would trigger use of *me* rather than *le* in a mono-verbal predicate). Instead, *le* is used as an instrumental with all persons, as in (5.11b).

(5.11) a. **you* *k-u* *re-i* *mweh* *me* *au*
 1SG.SBJ IRR-1SG strike-SPEC.OBJ dog come 2SG

b. *you* *k-u* *re-i* *mweh* *le* *au*
 1SG IRR-1SG strike-SPEC.OBJ dog go.to 2SG

‘I will hit the dog with you’ (context: speaker is talking to a magical stick)

(Elicitation-2012-07-30-AD_0120–121)

The durative construction is likewise restricted to just a single path of motion verb, intransitive *la* ‘go’, and the sequencing construction also admits only a single verb, *hepwī* ‘be finished’. The fact that, as shown in (5.11) above, the minor verb slot is so severely restricted casts doubt on the status of these constructions as true SVCs. It suggests instead that the so-called minor verb in these constructions is a separate morpheme from the homophonous main verb, and that it therefore may have distinct morpho-syntactic and semantic properties. For the instrumental construction, other evidence confirms this suspicion. For example, the fact that the minor verb in the instrumental is not sensitive to the usual deictic contrasts found in main clauses is evidence that it has grammaticalized and lost its deictic properties. In contrast, in the comparative construction, which is otherwise isomorphic with the instrumental, the form of V_2 does change depending on the person of its object (the standard of comparison). This is illustrated in (5.12), where the first person standard of comparison, which surfaces syntactically as the object of V_2 , triggers venitive *me* to occur in place of allative *le*. (As discussed in Chapter 3, first and second person goals trigger use of path verb *me*.) Compare this with (5.8) above, where the standard is third person and *le* occurs instead of *me*.

(5.12) *Max* *i* *ru* *ngap* *ndawan* *me* *jua*
 Max REAL:3SG stay:SG run strong come 1SG

‘Max was running faster than me’

(Elicitation-2012-07-30-AD_0177)

This behavior contrasts with that of the minor verb in the instrumental, which does not change form depending on the person of the object, as shown in (5.11). However, although it does retain the deictic properties of V_2 , and therefore appears more SVC-like than the instrumental, the comparative cannot be considered a true SVC either. Crucially, V_1 in this construction is not a verb, but is rather an adjective or adverb. Although each of the comparative examples presented so far contains two verbs, the actual comparative construction comprises an adjective, adverb, or noun phrase (adjective *ndawan* ‘strong’ in the above examples) followed by a path verb. Consider the examples in (5.13–5.14).

(5.13) *you* *ndawan* *me* *au*
 1SG.SBJ strong come 2SG

‘I am stronger than you’

(Elicitation-2012-07-30-AD_0188)

(5.14) *Max* *i* [*pwesan* *cholan*] *le* *Marcus*
 Max 3SG cheek lots go.to Marcus

‘Max is cheekier than Marcus’

(Elicitation-2012-08-07-AD_0131)

- (5.16) *i k-i-ni meseng-ani wum, wum k-i-ni*
 3SG PERF-3SG-PERF construct-SPEC.OBJ house house PERF-3SG-PERF
hepwi
 finished
 ‘He has already built the house, the house is finished’
 (Elicitation-2013-07-31-AD_CA_0009)

- (5.17) *lotu i hepwi ra me mwa...*
 church REAL:3SG finished all come COORD
 ‘(When) church finished they all came and...’ (v2012-08-01-AH-05_0069)

- (5.18) *lengeri you ketimou mwa ngosaha-∅ i hepwi*
 like 1SG.SBJ alone COORD breath-1SG.POSS REAL:3SG finished
 ‘I am just by myself and I am out of breath’ (2011-03-11-AH_AV-01_0142)

The primary function of this construction is to indicate the sequence of events in narratives. It can usually be translated with ‘and then’ or ‘after’ in English, as in (5.19).

- (5.19) *i ∅ hu le Kewin i hepwi, i ∅ hu tehene*
 3SG REAL sing go.to Kewin REAL:3SG finished 3SG REAL sing thus
ke i le Chou
 DAT 3SG.OBL go.to Chou
 ‘After she sang out to Kewin, she sang just like that (the same song) to Chou’
 (v2012-07-31-AD_BZ-05_0078–79)

Unlike what might be expected of a verb meaning ‘be finished’, as V_2 in an SVC *hepwi* does not entail that an event is fully completed or that an object is fully affected. In fact, it can be used with a stative predicate, such as *ru* ‘stay’ in (5.20). Stative predicates are incompatible with a completive meaning, and this example is therefore evidence against a completive interpretation for *hepwi*.

- (5.20) *e you ∅ ru i hepwi mwa you ∅*
 COORD 1SG.SBJ REAL stay:SG REAL:3SG finished COORD 1SG.SBJ REAL
la i mul i me wum
 walk REAL:3SG return REAL:3SG come house
 ‘And I stayed, and afterwards I walked back home’ (v2012-08-01-AH-05_0142)

This unexpected semantics suggests that the morpheme *hepwi* when used in this construction is a different morpheme from main verb *hepwi*. However, as with the durative above, *hepwi* also has a sequencing function as a main verb. Consider the usage in (5.21).

- (5.21) *o mi pwan, o mi pwan tapwah la, o mi pwan,*
 2PL.SBJ sit down 2PL.SBJ sit down some first 2PL.SBJ sit down
mwa, k-i hepwi, to k-a la liye
 COORD IRR-3SG finished 1PL.INCL.SBJ IRR-NON.SG walk also
 ‘You all sit down, you all sit down for a bit first, you all sit down, and after that we will keep walking’
 (v2012-07-21-AD_BZ-02_0036–39)

Here *hepwi* clearly functions as a main verb, since it forms a complete intonational unit with its preceding TAM marker *ki* and it is preceded by clausal coordinator *mwa*. Nonetheless, its subject is the event of the preceding clause, and it fulfills the same sequencing function as in (5.20). It is plausible, therefore, that the sequencing construction is a true SVC, since the minor verb appears to be identical in function to its main verb counterpart. (Once again though, I ultimately conclude this is not a true SVC.)

Like the instrumental, comparative, durative, and sequencing constructions, the resultative in Koro is restricted, allowing only certain verbs to occur. Unlike the other constructions, however, the resultative restricts both verb slots. In fact, only four acceptable verb combinations have been found so far: *ra ... mat* ‘strike ... die’, *tah ... mat* ‘beat ... die’, *ndruchingi ... put* ‘break (tr) ... snap (itr)’, and *tuwe ... meris* ‘boil ... be cooked’. The first was illustrated in (5.6) above, and the latter three are exemplified in (5.22–5.24).

(5.22) *you ta tay-i pu i mat pwi*
 1SG.SBJ NEG beat-SPEC.OBJ pig REAL:3SG die NEG
 ‘I didn’t kill the pig’ (Elicitation-2012-08-10-BZ_0147)

(5.23) *you ∅ ndruchingi parakei i put*
 1SG.SBJ REAL break stick REAL:3SG snap
 ‘I broke the stick’ (Elicitation-2012-08-10-BZ_0155)

(5.24) *you ∅ tuwe-ni ni i meris*
 1SG.SBJ REAL boilsPEC.OBJ fish REAL:3SG cooked
 ‘I boiled the fish (till it was cooked)’ (Elicitation-2012-08-10-BZ_0161)

Other verb combinations cannot occur in this construction, even where resultative semantics is highly plausible. For example, speakers reject the combinations *tihiri ... mat* ‘cut ... die’, *tolomwani ... mat* ‘sink (tr) ... die’, *tacharei ... los* ‘push ... fall’, and *takeye ... salai* ‘throw ... break (itr)’. Since such a restricted range of collocations are allowed, it is likely that the resultative is not in fact a productive syntactic construction, but rather represents a small number of idioms, each of which is listed in the lexicon. Despite the restricted nature of the construction, however, its semantics make it a good candidate for a true SVC. It is possible that the resultative idioms in Koro represent fossilized exemplars of a once productive resultative SVC. It is premature then to discount this construction completely, and I will consider its syntactic and semantic properties in the following sections.

I argued above that although the durative and sequencing constructions are highly restricted, the semantics of the minor verbs in each construction match that of the main verb counterpart, and therefore they may still be considered true SVCs. In contrast, the semantics of the minor verb in instrumental and comparative constructions differs markedly from its semantics as a main verb. The instrumental meaning, in particular, is not transparently related to the meaning of the minor verb *le* ‘go to’. The comparative meaning is plausibly a metaphorical extension of the prepositional verb meanings ‘go to’ and ‘come to’, but there is undoubtedly additional semantics that does not come entirely from the meaning of the prepositional path verbs. Unlike with the durative and sequencing constructions, there are no examples of *le* or *me* used as main verbs with a comparative meaning.

The fact that the comparative construction imparts additional semantics is reinforced by the fact that certain utterances are ambiguous between an allative and a comparative meaning. Consider the example in (5.25). This is ambiguous between an allative interpretation in which Marcus is the goal of the throwing event and a comparative interpretation where Marcus is the standard of comparison for the adverbial *ndawan*.

- (5.25) *pat e, Max i takeye-ni ∅ ndawan le*
 stone PROX Max REAL:3SG throw-SPEC.OBJ 3INAN.OBJ strong go.to
Marcus
 Marcus
 ‘As for this stone, Max threw it hard to Marcus’ or ‘As for this stone, Max threw it
 harder than Marcus’ (Elicitation-2012-08-10-BZ_0155)

The example in (5.8) above likewise has two possible interpretations: one in which Marcus is the goal of motion and one in which he is the standard of comparison. This ambiguity suggests the existence of two separate syntactic constructions.

TAM morphology provides morpho-syntactic evidence that the comparative and allative are in fact syntactically distinct. Patterns of TAM marking indicate that the minor slot in allative and directional constructions is verbal, while in instrumental and comparative constructions it is non-verbal. In both allative and directional SVCs there is concordant marking of reality status and perfect aspect. In other words, these categories are marked on both V_1 and V_2 , as illustrated in (5.26), where irrealis *ki* occurs before V_1 *chap* ‘carry’ and V_2 *me* ‘come’.

- (5.26) *i k-i chap losou k-i me mwa a*
 3SG IRR-3SG carry bandicoot IRR-3SG come COORD 2SG:IRR
porota-wi ∅ a chuha-i ∅
 grasp-SPEC.OBJ 3INAN.OBJ 2SG:IRR wrap-SPEC.OBJ 3INAN.OBJ
 ‘He will bring the bandicoot and you take it and wrap it up’
 (2011-04-08-AH_AV-01b_0228)

In contrast, reality status and perfect aspect cannot be marked on V_2 in a comparative construction. As shown in (5.27–5.28), V_2 must be unmarked for TAM, even if V_1 is a verbal predicate with TAM marking. In each example, TAM marking on V_2 renders the utterance ungrammatical.

- (5.27) *you ∅ hengongorou tehene Max a i k-i ngap ndawan*
 1SG.SBJ REAL think thus Max PROSP 3SG IRR-3SG run strong
 (**k-i*) *le Marcus*
 IRR-3SG go.to Marcus
 ‘I think that Max will run faster than Marcus’ (Elicitation-2012-08-07-AD_0124)
- (5.28) *waka-n k-i=nda aluwen (*k-i-ni) me jua*
 lower.leg-3SG.POSS PERF-3SG-go:PERF long PERF-3SG-PERF come 1SG
 ‘He is already taller than me’ (Elicitation-2012-07-30-AD_0163,65)

Similarly, V_2 in an instrumental construction cannot take TAM marking, as shown in (5.29).⁸

- (5.29) a. **you* *k-u-ni* *re-i* *mweh* *k-i-nda* *parakei*
 1SG.SBJ PERF-1SG-PERF strike-SPEC.OBJ dog PERF-3SG-go:PERF stick
- b. *you* *k-u-ni* *re-i* *mweh* *le* *parakei*
 1SG.SBJ PERF-1SG-PERF strike-SPEC.OBJ dog go.to stick
 ‘I have hit the dog with a stick’ (Elicitation-2012-07-30-AD_0138–39)

The fact that V_2 takes TAM marking in the directional and allative constructions, but not in the instrumental or comparative, confirms that these represent two different syntactic structures. Additionally, it suggests that V_2 in the former constructions retains its verbal status, while in the latter constructions it does not.

If V_2 in instrumentals and comparatives is not a verb, this raises the question of what status it does have in these constructions. The most likely possibility, based on its semantics and its syntactic function of introducing an object, is that V_2 is a preposition. It is difficult in Koro to characterize the behavior of prepositions, since there exist very few morphemes that are clearly prepositions. The unambiguous members of this word class are *piri*, which is a general preposition meaning ‘of; for; from’, comitative *hewe*, simulative *tehene~tehena*, and possessive/benefactive *ta*. Even within this group of core prepositions though, each member has additional uses: *piri* is also a complementizer that introduces purposive complements; *hewe* functions as a conjunction in noun phrases; and *tehene* functions both as a complementizer and as an exophoric demonstrative adverb (‘like this’ or ‘like that’).⁹

Despite the small size and heterogeneity of the class of prepositions, certain generalizations can be made about their behavior. In brief, prepositions introduce an oblique noun phrase, and prepositional objects cannot be fronted, with or without pied-piping of the preposition. The first of these properties was discussed and exemplified in §3.2.1 of Chapter 3. The second is illustrated in the benefactive and comitative examples in (5.30–5.31). In the versions in (a), which are grammatical, the questioned PP occurs *in situ*. Fronting of a *wh*-constituent in Koro is allowed in most contexts (with the exception of islands), but as the (b) examples show, neither prepositional object *se* ‘who’ nor full PP *hewe se* ‘with whom’ can be fronted.

⁸Unlike for the comparative, judgements about the grammaticality of TAM marking on V_2 in instrumental constructions are somewhat variable. Whereas TAM marking on V_2 in comparatives is rejected outright, irrealis marking on instrumental *le* is deemed marginally acceptable by some consultants. This suggests that the comparative may be further along the path of grammaticalization than the instrumental, having therefore lost more of its verbal features.

⁹Two other morphemes — *he* and *ke* — could also be analyzed as prepositions, although their behavior is not well understood. They appear to be case-marking morphemes that occur optionally with goal objects, but more research is needed to confirm this. There may also be a little-used locative preposition *lo* ‘inside’, but this requires further investigation. The spatial relation ‘inside’ is usually signified with *londia-*, an inalienable noun that refers to the inside of a container and takes a possessive suffix that indexes the possessor or location. All other locative relations are likewise indicated with a directly possessed relational noun.

- (5.30) a. *au* \emptyset *tihir-i* *ndap* *a* *ta* *se?*
 2SG REAL weave-SPEC.OBJ bag DIST POSS who
 (Elicitation-2012-07-22-AD_BZ_CA_0112)
- b. **se_i* *au* \emptyset *tihir-i* *ndap* *a* *atan_i?*
 who 2SG REAL weave-SPEC.OBJ bag DIST 3SG.POSS
 ‘Who did you weave that bag for?’ (Elicitation-2012-07-26-AD_BZ_0002)
- (5.31) a. *au* \emptyset *ru* *tile mwalih* *hewe* *se* *munuwe?*
 2SG REAL stay:SG tell story COMIT who prev.day
- b. *[*hewe se*]_{*i*} *au* \emptyset *ru* *tile mwalih* —_{*i*} *munuwe?*
 COMIT who 2SG REAL stay tell story prev.day
 ‘Who were you telling stories with yesterday?’
 (Elicitation-2012-07-22-AD_BZ_CA_0134–35)

The instrumental and comparative constructions behave similarly to prepositions in some respects, but not in others. When the object of instrumental or comparative *le* or *me* is pronominal, it has the same form as a prepositional object. Most importantly, as illustrated in (5.32), a third person inanimate object is realized as *i*, rather than the null direct object pronoun. Here instrumental *le* takes oblique pronoun *i* as its object.

- (5.32) *teru* *k-a* *chap* *kei*, *teru* *k-a* *re-i*
 1DU.INCL IRR-NON.SG carry tree 1DU.INCL IRR-NON.SG strike-SPEC.OBJ
i *le* *i*
 3SG go.to 3OBL
 ‘Let’s get some sticks and let’s hit him with them’ (2011-03-31-AH_AV-02_0114)

However, it is important to note that pronominal arguments of *le* and *me* also have the same form as prepositional objects when they are used as path verbs in a mono-verbal clause (see Chapter 3 for examples). The form of pronominal object arguments therefore does not help to identify the word class to which instrumental and comparative morphemes belong, since both prepositions and prepositional path verbs share this behavior.

In terms of syntactic behavior, the instrumental and comparative morphemes are unlike prepositions. In contrast to other prepositional objects, the object of *le* or *me* can be fronted, as long as a resumptive pronoun occurs. This is illustrated with *wh*-fronting of the objects *che pat* ‘which stone’ and *se* ‘who’ in (5.33–5.34).

- (5.33) [*che pat*]_{*i*} *au* \emptyset *so-i* *mweh* *le* *i_i?*
 which stone 2SG REAL spear-SPEC.OBJ dog go.to 3OBL
 ‘Which stone did you strike the dog with?’ (Elicitation-2012-07-31-AD_BZ_0002)
- (5.34) *se_i* *Rose* *aluwen* *le* *i_i?*
 who Rose tall go.to 3OBL
 ‘Who is Rose taller than?’ (Elicitation-2012-07-30-AD_0171)

In addition to exhibiting verbal morpho-syntactic properties, V_1 in the associated motion construction has the same semantics as its main verb counterpart. In (5.36), for example, the minor verb entails literal motion away from the deictic center, just as the verb *la* does as a mono-verbal predicate. The semantics of the minor verb in the imperfective construction is less obviously identical to its main verb usage, but I will argue in §5.3.2.3 that both uses do in fact have the same semantics. Particularly important is the inherent imperfectivity of locative predicates, and the fact that their spatial and temporal deictic properties are fully retained in their minor verb usage. On the other hand, the change of state construction, although morpho-syntactically similar to the associated motion construction, does not entail literal motion. Instead the minor verb indicates that a change of state occurred, and that the state denoted by the major verb was fully reached. For instance, the construction in (5.38), which is negated, is felicitous in a situation where the food was not fully cooked, although it may have been somewhat cooked.

Although the meaning of the minor verb in a change of state construction could be viewed as a metaphorical extension of its literal motion semantics, the difference in meaning between the minor verbs in an associated motion and a change of state construction also leads to different syntactic behavior, suggesting that they may in fact represent different constructions. Specifically, the associated motion construction allows for omission of V_2 in response to a question, whereas the change of state construction does not. In order to understand this difference and its import, it is necessary to briefly survey the behavior of ellipsis in Koro. In general, VP ellipsis cannot occur; the smallest constituent that can be elided is a full TP or AspP. For example, as (5.39) shows, a VP cannot be elided to leave just the aspect and reality status morphemes *pi ki*.

- (5.39) **Max pi k-i [chara pamei]_i e Marcus pi k-i*
 Max PRXMV IRR-3SG remove betelnut COORD Marcus PRXMV IRR-3SG
 ______i *liye*
 also

Intended: ‘Max wants to collect betelnut and Marcus wants to too’

(Elicitation-2012-07-26-AD_BZ_0075)

Instead, either the VP must be repeated, or the full AspP must be elided. This is demonstrated in (5.40), where both (a) and (b) are grammatical.

- (5.40) a. *Max pi k-i chara pamei e Marcus pi k-i*
 Max PRXMV IRR-3SG remove betelnut COORD Marcus PRXMV IRR-3SG
chara \emptyset *liye*
 remove 3INAN.OBJ also

‘Max wants to collect betelnut and Marcus wants to collect it too’

- b. *Max [pi k-i chara pamei]_i e Marcus ______i liye*
 Max PRXMV IRR-3SG remove betelnut COORD Marcus ______i also

‘Max wants to collect betelnut and Marcus does too’

(Elicitation-2012-07-26-AD_BZ_0076)

The fact that proximative aspect and irrealis markers cannot occur without a following overt VP shows that VP ellipsis does not occur in Koro. However, where pragmatics permits, a VP may be omitted. This is illustrated with the exchange in (5.41). Here speaker A uses an associated motion construction with V_1 *kanda* ‘have gone’ and V_2 *har* ‘step on’, and speaker B responds with just V_1 .

- (5.41) A: *Shirley uru Christine k-a=nda har meni?*
 Shirley 3DU Christine PERF-NON.SG=go:PERF step.on clam.sp
 ‘Have Shirley and Christine gone to find clams (with their feet)?’
 (Elicitation-2012-08-10-BZ_0021)

B: *ehe, uru k-a=nda*
 yes 3DU PERF-NON.SG=go:PERF
 ‘Yes, they’ve gone’
 (Elicitation-2012-08-10-BZ_0024)

Superficially this appears to be a case of VP ellipsis, since the VP constituent *har meni* ‘find clams’ has been omitted from the answer. However, since VP ellipsis is not licensed under any other circumstances, I argue that this is simply a pragmatically driven omission of contextually recoverable information, and that the utterance in B is not derived from that in A by any syntactic process. Importantly, the resulting utterance in B is a fully formed grammatical clause that is not syntactically reliant on any preceding material. Specifically, it is an intransitive clause with a path of motion verb. Contrast this with the exchange in (5.42).

- (5.42) A: *i k-i=nda perer, ne mwasau?*
 3SG PERF-3SG=go:PERF white or not.yet
 ‘Has it turned white yet, or not?’
 (Elicitation-2012-08-10-BZ_0026)

B: *#ehe, i k-i=nda*
 yes 3SG PERF-3SG=go:PERF
 Intended: ‘Yes, it has’
 (Elicitation-2012-08-10-BZ_0029)

The change of state construction in A is isomorphic with the associated motion construction above, and yet the response in B is unacceptable here. If the omission in (5.41) above were in fact VP ellipsis, the unacceptability of the response in (5.42) would be inexplicable. In contrast, if, as argued here, the response in (5.41) is simply pragmatically motivated omission, then the unacceptability of the response in (5.42) makes sense. In short, it is ruled out because it does not form a grammatical utterance with the intended meaning. Although both constructions appear to have the same verb in the V_1 slot, the fact that this verb cannot occur on its own in answer to a question for the change of state construction suggests that it is in fact a different morpheme than that which occurs in the associated motion construction.

However, although the minor verb in this construction may not be the same as the minor verb in the associated motion construction, there is evidence that it is a main verb nonetheless. The semantics of reaching a state can also be found in the use of *le*, *la*, and *me* as main verbs. For example, in (5.43) the verb *le* is a main verb which takes the noun *ni* ‘fish’ as its complement. The verb here denotes the change in form of the girl’s legs into a fish’s tail.

- (5.43) *koloki-n liye i le ni*
 tail-3SG.POSS also REAL:3SG go.to fish
 ‘Her tail also turned into (that of) a fish’ (2011-04-23-AA-02_0089)

This is the same semantics as is found in the change of state construction with *le* as the minor verb, suggesting that the same morpheme occurs in both constructions, and that the change of state construction therefore does involve two main verbs.

Aside from their morpho-syntactic behavior and semantics, another piece of evidence suggesting that the minor verbs in the allative, directional, associated motion, change of state, and imperfective constructions are the same morphemes as their main verb counterparts is that they exhibit exactly the same phonological form and suppletive allomorphy in SVCs as they do in mono-verbal clauses. As described in Chapter 3, path verbs *le* and *la* both share the suppletive allomorph =*nda* in perfect aspect, and the locative verbs *tu* and *ti* undergo consonant mutation in irrealis aspect, or with a third person singular realis subject. Each of these verbs exhibits the same morpho-phonological behavior when it occurs as the minor verb in an SVC. The example in (5.36) above shows that the verb ‘go’ in an associated motion construction takes the suppletive form =*nda* when it occurs in perfect aspect. The same is true in the allative (5.44) and directional (5.45) constructions, and in the change of state construction, as in (5.42) above.

- (5.44) *mwa kilok atan a, k-u-ni tawi ∅*
 COORD clock 3SG.POSS DIST PERF-1SG-PERF take 3INAN.OBJ
k-i-nda kopwe-n mwa...
 PERF-3SG-go:PERF hand-3SG.POSS COORD
 ‘And that watch of his, I had already given it to him (lit: put it in his hand) and...’
 (v2012-07-31-AH-03_0113)

- (5.45) *mbrokop k-i-nda pwan, i k-i-ni yir*
 hermit.crab PERF-3SG-go:PERF ground 3SG PERF-3SG-PERF crawl
k-i-nda
 PERF-3SG-go:PERF
 ‘Hermit crab had already gone to the sea floor, he had already crawled off’
 (2012-07-14-AA-04_0011)

Likewise, minor verb *tu* in the imperfective construction in (5.46) undergoes initial consonant lenition in realis aspect with a singular subject, just as it would in a mono-verbal clause.

- (5.46) *i ∅ ru jih mwa piso-n kamal a i*
 3SG REAL stay:SG dig COORD brother-3SG.POSS male DIST REAL:3SG
me
 come
 ‘It was digging, and that brother of hers came’ (v2012-07-31-AD_BZ-05_0109)

These morpho-phonological patterns lend further support to the proposal that the minor verb in the allative, directional, associated motion, change of state, and imperfective constructions

is the same morpheme as its main verb counterpart, and therefore that these are candidates for true SVCs.

Finally, let us consider the resultative, which as noted above is highly restricted. As with the other constructions examined here, each of the verbs in a resultative construction can occur as the main predicate in a mono-verbal clause. This is demonstrated in (5.47–5.53) for the verbs *ra* ‘strike’, *tah* ‘beat; kill’, *mat* ‘die’, *ndruchingi* ‘break’, *put* ‘snap’, *tuwe* ‘boil’, and *meris* ‘be cooked’, each of which is underlined in its main verb use.

(5.47) *i pi k-i ra pihin*
 3SG PRXMV IRR-3SG strike woman
 ‘He wanted to hit the woman’ (Elicitation-2012-07-20-AD_BZ_0097)

(5.48) *i ∅ me mwa i ta tah-i i pwi*
 3SG REAL come COORD 3SG NEG beat-SPEC.OBJ 3SG NEG
 ‘He (a dog) came, but he didn’t kill it (a bandicoot)’ (2011-04-08-AH_AV-01a_0161)

(5.49) *chinal i mat*
 devil REAL:3SG die
 ‘The devil died’ (v2012-07-31-AD_BZ-05_0124)

(5.50) *you ∅ ndruchingi parakei au re-i i le i*
 1SG.SBJ REAL break stick 2SG strike-SPEC.OBJ 3SG go.to 3OBL
 ‘I broke the stick you hit him with’ (Elicitation-2012-07-30-AD_0132)

(5.51) *ka-m i put*
 leg-2SG.POSS REAL:3SG snap
 ‘Your leg broke’ (Elicitation-2013-07-18-AD_0039)

(5.52) *ni e, a tuwe-ni ∅ ana teru*
 fish PROX 2SG:IRR boil-SPEC.OBJ 3INAN.OBJ POSS:FOOD 1DU.INCL
 ‘Here is the fish; cook it for us’ (2012-06-28-AA-01_0079–80)

(5.53) *i ∅ meris*
 3SG REAL cooked
 ‘It’s cooked’ (Elicitation-2013-07-29-AD_CA_0096)

In addition, just like in the directional and allative SVCs, both verbs in the resultative take TAM marking, indicating that they are functioning as verbs in the construction. For instance, in (5.54), both V_1 *tayi* ‘beat’ and V_2 *mat* ‘die’ take perfect aspect marking.

(5.54) *u k-a-ni tay-i ra pu k-i-ni mat*
 3PL.SBJ PERF-NON.SG-PERF beat-SPEC.OBJ all pig PERF-3SG-PERF die
 ‘They have killed all the pigs’ (Elicitation-2013-07-29-AD_CA_0099)

Monoclausality	
I.	No overt coordinator or subordinator
II.	No pause between V_1 and V_2
III.	<i>wh</i> -movement of an object is possible
IV.	Exocentric derivational morphology has scope over the whole construction

Table 5.4: Diagnostics for monoclausality in SVCs

Finally, the semantics of the resultative is compositional — each verb retains its main verb semantics in the SVC, and there is no additional semantics imparted by the construction (other than that of direct causation, which can be attributed to syntactic structure).¹⁰ However, the highly restricted lexical nature of the resultative calls its status as a true SVC into question. I will show in the following sections that the resultative exhibits atypical syntactic behavior, and that it therefore can no longer be considered a true SVC, although it likely represents the fossilized remnants of a once-productive construction.

In sum, the evidence suggests that allative, directional, associated motion, change of state, imperfective, durative, and sequencing constructions consist of two main verbs, each of which could occur as the main predicate in a mono-verbal clause. In contrast, the instrumental and comparative constructions do not consist of two main verbs — the morphemes in the restricted slot are most likely recently grammaticalized prepositions, which could be described as heterosemous with the prepositional path verbs *le* and *me* (Lichtenberk 1991). The resultative, in contrast, does appear to involve two main verbs, but both verb slots are highly restricted, which suggests that this construction consists of a number of fixed idioms, rather than being syntactically productive. These findings are summarized in Table 5.3 at the beginning of this section.

5.2.2 Monoclausality

In §4.2.2 I outlined the diagnostics that have been applied in different languages to demonstrate that SVCs are monoclausal, and these are summarized in Table 5.4. They include lack of an overt coordinator or subordinator, lack of a pause between the verbs, ability to extract objects, and single marking of derivational categories such as nominalization and relativization. In this section I show that the putative SVCs in Koro pass the various tests for monoclausality, with the exception of the resultative, which does not allow extraction

¹⁰But cf. the discussion of semantic bleaching in resultatives in §4.2.1.2.

¹¹Refer to Table 5.4 to find what diagnostic each number refers to.

Diagnostics: ¹¹	I	II	III	IV
Directional, allative	✓	✓	✓	✓
Associated motion	✓	✓	✓	N/A
Change of state	✓	✓	N/A	N/A
Imperfective	✓	✓	✓	N/A
Resultative	✓	✓	×	×
Durative	✓	✓	N/A	N/A
Sequencing	✓	✓	N/A	N/A

Table 5.5: Results for monoclausality in Koro multi-verb constructions

and cannot be nominalized.¹² This further confirms the suspicion that the resultative is no longer a productive construction, since it cannot undergo this productive syntactic process. The findings of this section are summarized in Table 5.5.

As can be seen from the examples in (5.1–5.10) above, there is no overt marker of subordination or coordination in any of the putative SVCs. In some cases a coordinator can be inserted, but this changes the syntactic behavior of the construction. For example, inserting a coordinator in a negated SVC requires negation to be marked separately on each verb. In the resultative construction in (5.55), preverbal negator *ta* occurs only before V_1 , but has scope over the whole construction. If coordinator *mwa* is inserted, as in (5.55b), a single negator can no longer take scope over the two verbs. Instead, *ta* would be required before each verb, and *pwi* would be required after each object.

- (5.55) a. *you ta tay-i pu i mat pwi*
 1SG.SBJ NEG beat-SPEC.OBJ pig REAL:3SG die NEG
 (Elicitation-2012-08-10-BZ_0147)
- b. **you ta ∅ re-i pu a mwa i mat*
 1SG.SBJ NEG REAL strike-SPEC.OBJ pig DIST COORD REAL:3SG die
pwi
 NEG
 ‘I didn’t kill the pig’ (Elicitation-2012-08-10-BZ_0153)

¹²Although in §5.2.4 I conclude that the sequencing and durative constructions probably represent a sequence of syntactically independent clauses, rather than a single clause.

Similarly, inserting coordinator *mwa* changes the person marking on V_2 in a resultative. When the resultative has no overt coordinator, as in (5.56), V_2 takes default third person singular marking, regardless of the person or number of the shared argument. Here the shared argument *ra pu* ‘all the pigs’ is plural, but V_2 *mat* ‘die’ is marked with singular *i*.

- (5.56) *you* \emptyset *re-i* *ra pu i* *mat*
 1SG.SBJ REAL strike-SPEC.OBJ all pig REAL:3SG die
 ‘I killed all the pigs’ (Elicitation-2012-08-10-BZ_0148)

In contrast, when the coordinator is added, as in (5.57), third person singular marking on V_2 is no longer grammatical with a non-singular argument.

- (5.57) **you* \emptyset *re-i* *ra pu mwa i* *mat*
 1SG.SBJ REAL strike-SPEC.OBJ all pig COORD REAL:3SG die
 (Elicitation-2012-08-10-BZ_0151)

It is therefore clear that constructions that include an overt coordinator differ structurally from those without a coordinator. This difference is supported by prosodic evidence. Where there is no overt coordinator there is typically no pause between the verbs; all of the constructions in (5.1–5.10) have an intonation contour like that of a mono-verbal clause. However, once a coordinator is introduced, a pause is allowed (although not required) between the clauses.

As noted in Chapter 4, *wh*-extraction has often been used as a test for the structure of SVCs. The pertinent observation is that fronting of an object out of a coordinate structure is disallowed, whereas extraction out of SVCs tends to be grammatical, suggesting that SVCs do not involve coordination. Koro conforms to this generalization. As expected, extraction out of a coordinate structure is disallowed in Koro. (5.58–5.59) are examples of VP coordination with general coordinator *e*. As illustrated, neither the object of the first verb nor the object of the second can be fronted to form a *wh* question.

- (5.58) *[*che kain ni*]_i *au ru tasuwe-ni* ______i *e tuwe mah?*
 which kind fish 2SG stay:SG smoke-SPEC.OBJ COORD boil yam
 Intended: ‘Which kind of fish were you smoking and boiling yams?’
 (Elicitation-2012-07-30-AD_0103)

- (5.59) **chah*_i *au* \emptyset *ru tasuwe ni e tuwe* ______i *munuwe?*
 what 2SG REAL stay:SG smoke fish COORD cook prev.day
 Intended: ‘What did you smoke fish and cook yesterday?’
 (Elicitation-2012-07-30-AD_0101)

In contrast, SVCs in Koro do not act as islands for *wh*-extraction. For example, the object of V_1 in the directional SVC in (5.60) can readily be fronted.

- (5.60) [*che pat*]_i *i takeye-ni* ______i *i yau?*
 which stone 3SG throw-SPEC.OBJ REAL:3SG leave
 ‘Which stone did s/he throw away?’ (Elicitation-2012-08-06-AD_BZ_0218)

As (5.61) shows, the goal object of V_2 in an allative SVC may also be extracted. (The extracted object leaves a resumptive pronoun, like all extracted obliques in Koro.)

- (5.61) [*che mbruchon*]_i *au* \emptyset *suwe* *i* *le* *i*_i?
 which island 2SG REAL paddle REAL:3SG go.to 3SG.OBL
 ‘Which island did you paddle to?’ (Elicitation-2012-07-31-AD_BZ_0159)

Similarly, the object in an associated motion SVC can freely be extracted. In the *wh*-question in (5.62), for example, the object of V_2 *ch eh numbrun at* ‘which boy’ is fronted, while in (5.63) the object *numbrun at* ‘boy’ is relativized, leaving a resumptive pronoun after V_2 .¹³

- (5.62) [*ch eh numbrun at*]_i *i* \emptyset *me* *kah* ______i?
 which boy 3SG REAL come find
 ‘Which boy did s/he come and look for?’ (Elicitation-2012-07-27-AD_BZ_0094)

- (5.63) *you* \emptyset *lisi numbrun at*_i *au* \emptyset *me* *kah* *i*_i
 1SG.SBJ REAL see boy 2SG REAL come find 3SG
 ‘I saw the boy you came and looked for’ (Elicitation-2012-07-27-AD_BZ_0095)

Imperfective SVCs also allow extraction of the object, as illustrated in (5.64), where object *ndap e* ‘this bag’ is topicalized.

- (5.64) [*ndap e*]_i *you* \emptyset *ru* *kah* ______i *munuwe*
 bag PROX 1SG.SBJ REAL stay:SG find prev.day
 ‘This bag I was looking for yesterday’ (Elicitation-2012-08-06-AD_BZ_0045)

In contrast to these SVCs, the resultative construction does not freely allow object extraction.

- (5.65) **munuwe you* \emptyset *wan pu*_i *au* \emptyset *tay-i* *i*
 prev.day 1SG.SBJ REAL eat:1SG pig 2SG REAL beat-SPEC.OBJ REAL:3SG
mat
 die
 Intended: ‘Yesterday I ate the pig that you killed’
 (Elicitation-2013-07-30-AD_CA_0073)

This is one way in which the resultative appears less SVC-like than other multi-verb constructions in the language.

Nominalization of SVCs provides further evidence of their monoclausality. As (5.66–5.67) show, only V_1 undergoes nominalization when a directional SVC occurs in argument position, while V_2 is marked for realis. The SVC *suwe ... me* ‘paddle ... come’ occurs as the subject of non-verbal predicate *ngandahan* ‘difficult’ in (5.66) and as the object of *lengi* ‘like’ in (5.67). In both cases V_1 *suwe* takes the nominalizing morphology and V_2 *me* occurs in its base form with realis marker *i*.

¹³All relativized constructions in Koro require the occurrence of a resumptive pronoun.

(5.66) [su~suwe *i* me] *ngandahan*
 REDUP:NMLZR~paddle REAL:3SG come hard
 ‘Paddling here is hard’ (Elicitation-2012-08-06-AD_BZ_0238)

(5.67) *you* \emptyset *lengi* [suwe-iya *ndwal i* me]
 1SG.SBJ REAL like paddle-NMZLR.TR canoe REAL:3SG come
 ‘I like paddling a canoe here’ (Elicitation-2012-08-06-AD_BZ_0240)

Because of independent restrictions on the path and locative verbs, the associated motion and imperfective constructions cannot undergo nominalization. Instead, V_1 occurs in irrealis, as shown in (5.68).

(5.68) [*k-a* me tile *mwalih*] *ngandahan*
 IRR-NON.SG come tell story hard
 ‘Coming to tell stories is hard’ (Elicitation-2012-07-27-AD_BZ_0123)

Although there is no nominalizer in this construction, the fact that irrealis marking on V_1 allows the whole construction to occur in argument position indicates that, like in the nominalized examples in (5.66–6.8) above, the two verbs form a single domain for nominalization. In contrast, the resultative does not act as a single constituent under nominalization. As (5.69–5.70) show, attempting to nominalize the resultative by applying nominal morphology to just V_1 yields an ungrammatical utterance.

(5.69) **you* \emptyset *lengi* [tah-iya *pu i* mat]
 1SG.SBJ REAL like beat-NMZLR.TR pig REAL:3SG die
 Intended: ‘I like killing pigs’ (Elicitation-2013-08-09-AD_CA_0056)

(5.70) **you* \emptyset *lengi* [tuwe-iya *ndrangos i* meris]
 1SG.SBJ REAL like boil-NMZLR.TR rice REAL:3SG cooked
 Intended: ‘I like cooking rice’ (Elicitation-2013-08-09-AD_CA_0059)

This is further evidence that the structure of resultatives differs from that of the other constructions.¹⁴ Most importantly, it shows that the verbs in a resultative do not bear as tight a syntactic relation to each other as they do in a directional. This is a crucial difference, because directionals and resultatives otherwise appear isomorphic with each other.

As demonstrated in this section, all of the putative SVCs in Koro pass the tests for monoclausality, with the exception of the resultative, which behaves unpredictably with regard to extraction and cannot be nominalized. But as discussed in §4.2.2, the syntactic and intonational properties analyzed here are necessary, but not sufficient, conditions for monoclausality. This is because complement clause constructions, which are clearly biclausal, also pass these tests — they lack overt subordinating morphology and do not admit a pause between verbs; they allow extraction; and only the matrix verb takes nominalizing morphology. As such, we must consider the criterion of single eventhood in order to fully differentiate SVCs from complement clause constructions in Koro.

¹⁴I do not have data on the nominalization of change of state, durative, or sequencing constructions, and it is possible that these also behave differently from the other SVCs.

Single eventhood	
I.	Temporal operators have scope over both verbs
II.	Only a single manner modifier can occur
III.	If any causative relation is entailed, it is direct causation

Table 5.6: Diagnostics for single eventhood in SVCs

5.2.3 Single eventhood

We have so far examined several of the morpho-syntactic properties of multi-verb constructions in Koro. In addition to these criteria, SVCs are typically characterized as expressing a single event — either a macro-event comprised of two or more sub-events, or a single simple event. Recall from §4.2.3 that according to Bohnemeyer et al. (2007) a construction which describes a single event possesses the ‘macro-event property’ (MEP). As discussed in that section, diagnostics for the MEP include the semantic scope of TAM categories, negation, temporal adverbs, and manner adverbs, and the semantic relation between the two verbs. Constructions with the MEP must share a single value for all temporal operators, and can have only one manner modification. In addition, I argued that constructions that express a direct causal relation between two sub-events possess the MEP, while those that express indirect causation do not. The criteria for single eventhood are listed in Table 5.6. In the following sections I will discuss each of the criteria for the MEP as they relate to the putative SVCs in Koro. The evidence shows that each of those construction types is best analyzed as representing a single event, and this supports their analysis as SVCs. These results are summarized in Table 5.7.

Before examining the event structure of SVCs, let us briefly revisit some constructions in Koro that lack the MEP, in order to contrast their behavior with that of SVCs. Such constructions allow different TAM and polarity marking on each verb, and allow separate modification of each verb with temporal and manner adverbs. For example, in the reported speech construction in (5.71) the matrix verb *popahar* ‘inform’ is modified by temporal adverb *munuwe* ‘day before’, while the subordinate verb *me* ‘come’ is modified by *mwah* ‘next day’. The resulting interpretation is that the informing event happened yesterday, while the coming event was predicted to happen the following day. In line with the temporal interpretation, the two verbs take separate TAM marking — unmarked realis on the main verb and irrealis *ki* on the subordinate verb.

¹⁵Refer to Table 5.6 to find what diagnostic each number refers to.

Diagnostics: ¹⁵	I	II	III
Directional, allative	×	✓	✓
Associated motion	✓	✓	N/A
Change of state	✓	✓	N/A
Imperfective	✓	✓	N/A
Resultative	✓	✓	✓
Complement clause	×	×	N/A
Depictive secondary predicate	N/A	×	N/A

Table 5.7: Results for single eventhood in Koro multi-verb constructions

- (5.71) *munuwe Rex i popahar jua ha i k-i me mwah*
 prev.day Rex REAL:3SG inform 1SG PROSP 3SG IRR-3SG come next.day
 ‘Yesterday Rex told me that he would come the following day’
 (Elicitation-2012-07-12-AD_BZ_0127)

A similar construction is illustrated in (5.72). In this example, like that above, the main verb *tut* ‘forget’ takes unmarked realis, while subordinate verb *tuwe* ‘boil’ takes irrealis *ki*. Again, the interpretation is that the forgetting event has already happened, while the boiling event was intended to happen at a later time.

- (5.72) *munuwe kalo-∅ i tut lengeri mwah ha nano*
 prev.day throat-1SG.POSS REAL:3SG forget like next.day PROSP mother
k-i tuwe karahat
 IRR-3SG boil mud.crab
 ‘Yesterday I forgot that the next day mother was going to boil some crab’
 (Elicitation-2013-07-30-AD_CA_0119)

In both of these examples, the event of the first (main) verb is entailed, while that of the second (subordinate) verb is not. Polarity can also differ on each verb. For example, in (5.73), main verb *lisi* ‘see’ has positive polarity, while subordinate verb *tuwe* ‘boil’ is negated. This entails that the seeing event happened and the boiling event did not happen (see §2.7.3 for further discussion of negation in subordinate clause constructions).

- (5.73) *you* \emptyset *lisi* *i* *ta* *tuwe* *ndrangos* *pwi*
 1SG REAL see 3SG NEG boil rice NEG
 ‘I saw her not boiling rice ~ that she wasn’t boiling rice’
 (Elicitation-2012-07-12-AD_BZ_0074)

As will be demonstrated below, an individual verb in an SVC cannot be negated separately.

Another type of construction that lacks the MEP is the depictive construction illustrated in (5.74). This is formed by nominalizing the modifying subordinate verb (here *chopol* ‘jump’) and attaching proclitic *mwa* ‘with’.

- (5.74) *u* *tu* *ngap* *mwa* *cho~chopol* *hewen*
 3PL stay run with REDUP:NMLZR~jump together
 ‘They were running and jumping at the same time’
 (Elicitation-2013-07-29-AD_CA_0039)

In this construction, each verb can take a separate manner adverb, indicating that the verbs represent separate events. For example, in (5.75), main verb *ngap* ‘run’ takes manner adverb *muniyani* ‘easy’, while nominalized verb *chochopol* ‘jumping’ takes manner adverb *meriyen* ‘quickly’. Each of these adverbs takes scope over only the adjacent verb, so that the running event is understood to be slow, whereas the jumping is understood to be fast.

- (5.75) *u* *tu* *ngap* *muniyani* *mwa* *cho~chopol* *meriyen*
 3PL stay run easy with REDUP:NMLZR~jump quickly
 ‘They were running slowly while jumping quickly’
 (Elicitation-2013-07-29-AD_CA_0041)

The fact that each verb can be modified separately provides evidence that the depictive construction lacks the MEP.

In contrast to these complement clause and depictive constructions, the putative SVCs in Koro do possess the MEP. Although the overt marking of TAM categories differs between the different SVCs, the scope of these categories is the whole construction. In other words, reality status, perfect aspect, and negation cannot take scope over just one verb. Likewise, these constructions do not allow independent temporal or manner modification of each verb. These properties, which are illustrated in the remainder of this section, provide evidence that the verbs in Koro multi-verb constructions combine to represent a single event.

In directional and allative constructions, both V_1 and V_2 take overt reality status or perfect aspect marking. This was illustrated for irrealis marking in (5.1b) and (5.2b) above, and is shown for perfect aspect in (5.76).

- (5.76) *a-ni* *takeye-ni* *pat* *k-i-ni* *yau?*
 2SG-PERF throw-SPEC.OBJ stone PERF-3SG-PERF leave
 ‘Have you thrown the stone away?’
 (Elicitation-2012-08-06-AD_BZ_0265)

As expected of SVCs, the marking of TAM is generally concordant. In other words, the reality status or aspect marking on V_2 matches that on V_1 . This is demonstrated in (5.77–5.78) for the directional construction. (5.77) shows that V_2 cannot take irrealis marking if

V₁ is unmarked (realis), despite the fact that a semantically plausible reading of this TAM combination is possible — namely that the subject threw the clothes, intending for them to travel away. Similarly, (5.78) shows that V₂ cannot be realis if V₁ is in perfect aspect.

- (5.77) **i* \emptyset rakeye-ni *chuchu* *k-i* yau
 3SG REAL throw-SPEC.OBJ clothes IRR-3SG leave
 Intended: ‘She threw the clothes away’ (Elicitation-2012-08-06-AD_BZ_0268)

- (5.78) **a-ni* takeye-ni *pat* *i* yau?
 2SG-PERF throw-SPEC.OBJ stone 3SG leave
 Intended: ‘Have you thrown the stone away?’ (Elicitation-2012-08-06-AD_BZ_0266)

Unlike in the directional and allative SVCs, only V₁ in an associated motion SVC takes reality status or perfect aspect marking. However, despite only formally marking V₁, these categories have scope over the whole SVC. This is illustrated for perfect aspect in (5.79) and for realis in (5.80).

- (5.79) *i* *k-i-ni* me tile *mwalih* (#*mwa* *i* *ta* *tile* \emptyset
 3SG PERF-3SG-PERF come tell story COORD 3SG NEG tell 3INAN.OBJ
mwasau)
 NOT.YET
 ‘He has come and told stories (#but he hasn’t told any yet)’
 (Elicitation-2012-07-27-AD_BZ_0146)

- (5.80) *munuwe* *you* \emptyset le chim *ndrangos* (#*mwa* *you* *ta* *chim*
 prev.day 1SG.SBJ REAL go.to buy rice COORD 1SG.SBJ NEG buy
 \emptyset *pwi*)
 3INAN.OBJ NEG
 ‘Yesterday I went and bought rice (#but I didn’t buy any)’
 (Elicitation-2012-07-27-AD_BZ_0045)

The utterance in (5.79) indicates that both the ‘coming’ event and the ‘telling stories’ event have occurred. It cannot be used to describe a situation where the subject has already arrived, but has not begun to tell stories yet. As such, the additional clause *mwa i ta tile mwasau* ‘but he hasn’t told any yet’ is infelicitous. (5.80) likewise entails that both the ‘going’ and the ‘rice-buying’ events were realized. These examples demonstrate that although the associated motion construction often has a purposive implicature, it differs from a canonical purposive, which would not entail that the purposive event occurred. (See §5.3.2.1 for more detail about the semantics of the associated motion construction.)

Like the associated motion, the imperfective construction is marked for TAM only on V₁. As (5.81) shows, marking of TAM on V₂ in an imperfective SVC is ungrammatical.

- (5.81) *mwah a me, a u k-a ru* (**k-i*)
 next.day 2SG:IRR come PROSP 3PL.SBJ IRR-NON.SG stay:IRR IRR-3SG
ndan
 dance
 ‘Tomorrow when you come they will be dancing’
 (Elicitation-2012-08-06-AD_BZ_0071,74)

As with the associated motion, TAM on V_1 has scope over both verbs in an imperfective construction.

Unlike TAM, negation is marked singly in all Koro SVCs. As shown in (5.82), when a directional SVC is negated, V_1 takes preverbal negator *ta*, while V_2 is unmarked, and clause-final negator *mwasau* occurs at the end of the whole construction.

- (5.82) *i ta tapeyap chunou i me mwasau*
 3SG NEG send cargo REAL:3SG come NOT.YET
 ‘He hasn’t sent the cargo here yet’ (Elicitation-2012-08-06-AD_BZ_0206)

Despite only being marked on V_1 , negation, like TAM, has scope over both verbs in an SVC. The utterance in (5.82) entails both that the cargo has not yet arrived, and that it has not yet been sent. Similarly, preverbal negator *ta* in the associated motion construction in (5.83) occurs only before V_1 , but this utterance entails that the subject has neither arrived, nor worked on the house yet, and (5.84) entails that the subject has not yet left to go dancing. In both cases, negator *ta* formally marks V_1 , but scopes over both V_1 and V_2 .

- (5.83) *i ta me mesenge wum mwasau*
 3SG NEG come work.on house NOT.YET
 ‘He hasn’t come to work on the house yet’ (Elicitation-2013-08-01-AD_CA_0004)
- (5.84) *i ta la ndan mwasau*
 3SG NEG go.to:ANDAT dance NOT.YET
 ‘He hasn’t gone to dance yet’ (Elicitation-2013-08-01-AD_CA_0005)

It is not possible in an associated motion SVC for negation to have scope over only one of the verbs. The above examples show that negation before V_1 always scopes over both verbs, and (5.85) illustrates that preverbal negator *ta* is ungrammatical immediately before V_2 .

- (5.85) **you* \emptyset *le ta so kit pwi*
 1SG REAL go.to NEG spear octopus NEG
 Intended: ‘I went but didn’t spear octopus’ (Elicitation-2012-07-27-AD_BZ_0073)

In order to express a meaning in which only V_2 is in the scope of negation, a purposive construction must be used. As shown in (5.86), this involves a path verb followed by preposition *piri* ‘of, for’ introducing a nominalized VP, in this case *kahiya au* ‘looking for you’. Since the negated purposive constituent is nominal, preverbal negator *ta*, which only occurs with verbal predicates, does not occur. Instead negation is encoded only by clause-final *pwi*. This utterance entails that the ‘coming’ event occurred, but negates the looking event.

- (5.86) *you* \emptyset *me* *piri* *kah-iya* *au* *pwi*
 1SG REAL come OF/FOR find-NMLZR:TR 2SG NEG
 ‘I came (but) not to look for you’ (Elicitation-2012-07-27-AD_BZ_0081)

In directional and allative constructions negation at first appears to behave differently. Consider the examples in (5.87–5.88).

- (5.87) *i* \emptyset *tapeyap* *chunou* *ta* *me* *mwasau*
 3SG REAL send cargo NEG come not.yet
 ‘He hasn’t sent the cargo here yet’ or ‘He has sent the cargo but it hasn’t arrived yet’
 (Elicitation-2012-08-10-BZ_0032)

- (5.88) *i* \emptyset *kal* *ta* *la* *mbruchon* *mwasau*
 3SG REAL swim NEG go.to:ANDAT island not.yet
 ‘She hasn’t swum to the island yet’ (she is swimming, but has not yet reached the island)
 (Elicitation-2012-08-10-BZ_0047)

In each of these examples, preverbal negator *ta* occurs before V_2 , rather than V_1 . The constructions otherwise appear identical to the regular directional and allative constructions, but if we look closer there is evidence that the examples in (5.87–5.88) differ syntactically from the examples examined so far. One clue is that object extraction from such clauses becomes questionable. As illustrated in (5.89–5.90), when negation occurs on V_2 , fronting of an object is no longer acceptable.

- (5.89) *?i* *ta* *londia* *chunou_i* *i* \emptyset *tapeya-ni* \emptyset_i *ta*
 3SG LOC.COP inside cargo 3SG REAL send-SPEC.OBJ 3INAN.OBJ NEG
me *mwasau*
 come not.yet
 ‘It’s inside the cargo that he hasn’t sent yet’ (Elicitation-2012-08-10-BZ_0055)

- (5.90) *?[che mbruchon]_i* *i* \emptyset *kal* *ta* *la* *i_i* *mwasau?*
 which island 3SG REAL swim NEG go.to:ANDAT 3SG.OBL not.yet
 ‘Which island hasn’t she swum to yet?’ (Elicitation-2012-08-10-BZ_0050)

In contrast, when negation occurs on V_1 , object extraction is fully grammatical, as in (5.91).

- (5.91) *i* *ta* *londia* *chunou_i* *i* *ta* *tapeya-ni* \emptyset_i
 3SG LOC.COP inside cargo 3SG NEG send-SPEC.OBJ 3INAN.OBJ
i *me* *mwasau*
 REAL:3SG come not.yet
 ‘It’s inside the cargo that he hasn’t sent yet’ (Elicitation-2012-08-10-BZ_0053)

This difference in the acceptability of object extraction shows that the construction with a negated V_2 has a different structure than that of the putative allative and directional SVCs. The fact that the structure with negation on V_2 does not permit object extraction suggests that this construction has a coordinate structure, which would act as an island for extraction.

Interestingly, object extraction is also blocked when there is overt person marking on V_2 , suggesting that such constructions are also some kind of coordination. As will be discussed in §5.2.4 below, the allative construction takes default third person singular agreement on V_2 , regardless of the actual person and number features of the shared argument. However, as the example in (5.92) shows, V_2 sometimes exhibits marking that does agree in person and number with the shared argument. In this example V_2 agrees in person and number with the shared second person singular subject, yielding the suppletive form of the verb ‘go’ *anda*.

- (5.92) *a-ni* *suwe* *a=nda* *mbruchon?*
 2SG:PERF-PERF paddle 2SG:PERF-go.to island
 ‘Have you already paddled to the island?’ (Elicitation-2012-07-31-AD_BZ_0159)

However, evidence from island constraints shows that this construction, like the construction with negation on V_2 , does not have the same structure as the true allative construction. As (5.93) shows, fronting of the goal object of V_2 is highly questionable, in contrast to the behavior of the allative construction in (5.61) above.

- (5.93) *?che* *mbruchon* *a-ni* *suwe* *a=nda* *i?*
 which island 2SG:PERF-PERF paddle 2SG:PERF-go.to 3OBL
 Intended: ‘Which island have you already paddled to?’
 (Elicitation-2012-08-06-AD_BZ_0164)

These facts combined suggest the existence of a separate construction that is superficially almost identical to the directional and allative constructions under consideration here, but which is underlyingly coordinated. This putative construction is represented by the examples in (5.87–5.88) and (5.92) above. In this coordinated construction, the second verb exhibits true agreement with person and number features of the ‘shared’ argument, and can take preverbal negator *ta*. I assume that it has a coordinate structure due to the island effects noted above.

This is reminiscent of a phenomenon in African languages that has been discussed under the label ‘covert coordination’ (Sebba 1987, Baker 1989, Déchaine 1993, Collins 1997, Stewart 2001). Covert coordination in these languages resembles true SVCs on the surface, but differs from them in a number of important ways. For instance, while SVCs have a shared object and do not exhibit island effects, covert coordination is obligatorily same-subject, and does not allow object extraction. A variety of structures have been proposed for covert coordination, including coordination of V-bar (Baker 1989), I-bar (Collins 1997), or EP (Stewart 2001), or adjunction of VoiceP (Baker and Stewart 2002). Despite the superficial similarity, the coordinated structure just discussed in Koro does not appear to have the same structure as covert coordination, because it does not exhibit the same properties. Most importantly, the Koro construction is not limited to same subject argument sharing. In contrast, as shown above, it allows same subject or switch function relations. The same subject restriction in Edo and related languages is explained by the fact that coordination occurs at some node below the subject position. Since the Koro construction allows switch-function sharing in addition to same subject, I propose that coordination in this construction occurs higher

than the subject position (i.e., it is coordination of TP), and that the lack of an overt subject preceding the second verb is simply a case of pro-drop. In fact, pro-drop is relatively common in Koro when the subject is highly salient and an overt T or negation head occurs. The pattern in (5.87–5.88) and (5.92) above, therefore, can be analyzed as TP coordination with pro-drop in the second clause.

There is another, more problematic exception to the strict sharing of TAM and polarity values in multi-verb constructions; namely, in the directional an allative, V_2 can take perfect marking if V_1 is realis. This is illustrated in (5.94), where V_1 *takeyeni* ‘throw’ is realis, and V_2 is the suppletive perfect form of the verb ‘go’, *kinda*. This utterance entails that the theme *ndap* ‘bag’ reached the beach.

- (5.94) *you* \emptyset *takeye-ni* *ndap* *k-i=nda* *pohaleng*
 1SG.SBJ REAL throw-SPEC.OBJ bag PERF-3SG-go beach
 ‘I threw the bag onto the beach’ (Elicitation-2012-08-04-AD_CA_0092)

Unlike the examples above, this construction allows object extraction, as shown in (5.95). This suggests that it is not a coordinated structure, and instead has a similar syntax to the allatives that exhibit concordant TAM marking.

- (5.95) [*che mbruchon*]_i *au* \emptyset *suwe* *k-i=nda* *i_i?*
 which island 2SG REAL paddle PERF-3SG-go 3SG.OBL
 ‘Which island did you paddle to (and arrive at)?’
 (Elicitation-2012-08-06-AD_BZ_0161)

Since one of the criteria for identifying constructions with the MEP is that they have a single TAM value for the whole construction, this mismatched marking in the directional and allative presents a potential problem for the hypothesis that the construction expresses a single event. However, as I argued in §4.2.3, the question is really one of semantic scope, not morpho-syntactic marking. According to the arguments laid out in that section, the single eventhood criterion can still be fulfilled as long as there is a single TAM value for the whole construction, even if the morphological marking on V_2 differs from that on V_1 . It is necessary, therefore, to look more closely at the entailments of both the concordantly-marked and the mismatched constructions. These entailments, which will be discussed in §5.3.1 below, suggest that the directional and allative constructions are not true SVCs.

Like for TAM and negation, SVCs in Koro can only take a single temporal or manner modifier. For example, as shown in (5.96), the associated motion SVC can take a temporal modifier in clause-initial or clause-final position. In either of these positions it has scope over both verbs. In this example, both (5.96a) and (5.96b) entail that the coming and the dancing occurred the day before. As (5.96c) shows, it is ungrammatical for each verb to be separately located in time with its own temporal modifier.

- (5.96) a. *munuwe* *Max* *i* *me* *ndan*
 prev.day Max REAL:3SG come dance
 ‘Yesterday Max came and danced’ (Elicitation-2012-07-27-AD_BZ_0155)

- b. *Max i me ndan munuwe*
 Max REAL:3SG come dance prev.day
 ‘Max came and danced yesterday’ (Elicitation-2012-07-27-AD_BZ_0153)
- c. **munuwe Max i me ndan rangeh*
 prev.day Max REAL:3SG come dance now
 Intended: ‘Yesterday Max came to dance ~ and danced today’
 (Elicitation-2012-07-27-AD_BZ_0154)

Similarly, allative (5.97) and directional (5.98) SVCs take just a single temporal adverb, which has scope over the whole construction.

- (5.97) *mwah i k-i suwe k-i le taun*
 next.day 3SG IRR-3SG paddle IRR-3SG go.to town
 ‘Tomorrow he will paddle to town’ (Elicitation-2013-07-23-AD_0088)
- (5.98) *mwah to k-a sorong-ani kendis k-i*
 next.day 1PL.INCL.SBJ IRR-NON.SG remove-SPEC.OBJ tarpaulin IRR-3SG
yau
 leave
 ‘Tomorrow we will take away the tarpaulin’ (V2012-08-01-AH-05_0235)

In these examples the events of both V_1 and V_2 are predicted to occur the next day — these events cannot be separately located in time.

Similarly, only a single manner adverb can occur in Koro SVCs. Manner adverbs in Koro occur to the right of the VP. In the directional construction, a manner adverb can occur after either V_1 or V_2 , as shown in (5.99).

- (5.99) a. *i ∅ suwe ndawan i me*
 3SG REAL paddle strong REAL:3SG come
- b. *i ∅ suwe i me ndawan*
 3SG REAL paddle REAL:3SG come strong
 ‘He paddled here quickly’ (Elicitation-2012-08-08-BZ_0079–80)

In this construction the adverbs can modify V_1 , V_2 or both verbs. In (5.99) above, for example, both the paddling and the coming are understood to be fast (or strong). In (5.100), the adverb *tehene* ‘like this’ can be understood as specifying either the manner of paddling (V_1) or the path taken (V_2), regardless of which surface position it occurs in.

- (5.100) a. *i ∅ suwe tehene i me*
 3SG REAL paddle thus REAL:3SG come
- b. *i ∅ suwe i me tehene*
 3SG REAL paddle REAL:3SG come thus
 ‘He paddled here like this ~ this way’ (Elicitation-2012-08-08-BZ_0083–84)

which the modifier *ndawan* ‘strong’ is inappropriate. This is supported by the fact that the verb *tah* ‘beat’ can also be used on its own to describe a killing event (in which case the two possible meanings — ‘strike’ or ‘kill’ are disambiguated through context). This is shown in (5.105), where the verb *tayi* is used by itself to describe the killing event.

- (5.105) *e* *tehene* *louna-n* *a* *k-i* *mang,* *kara* *u*
 COORD thus leaf-3SG.POSS DIST IRR-3SG wither PROX 3PL.SBJ
k-a-ni *tay-i* *jua*
 PERF-NON.SG-PERF beat-SPEC.OBJ 1SG
 ‘And if that leaf is withered, that means they have killed me’
 (2012-06-28-AA-01_0166-67)

In multi-verb constructions, depictive modifiers behave similarly to manner adverbs, although in contrast to simple manner adverbs, their scope is dependent on surface position. This is illustrated in (5.106). When the depictive modifier occurs after V_2 , as in (5.106a), it has scope only over V_2 . In this example only the dancing event occurs while the subject is laughing. In (5.106b), on the other hand, where the depictive modifier occurs clause-initially, it has scope over both V_1 and V_2 . The laughing is therefore understood to co-occur with both the coming event and the dancing event.

- (5.106) a. *i* \emptyset *me* *ndan* *mwa* *helisa-n*
 3SG REAL come dance with laughter-3SG.POSS
 ‘He came and danced while laughing’ (Elicitation-2013-08-09-AD_CA_0158)
- b. *mwa* *helisa-n,* *i* \emptyset *me* *ndan*
 with laughter-3SG.POSS 3SG REAL come dance
 ‘Laughing, he came and danced’ (Elicitation-2013-08-09-AD_CA_0159)

The fact that none of the putative SVCs allows both verbs to be independently modified, be it with a TAM marker, temporal adverb, a manner adverb, or a depictive predicate, lends support to the analysis of these constructions as possessing the MEP. In other words, the scope of temporal operators and other adverbials supports the analysis of these constructions as each representing a single event, as is required of true SVCs.

Finally, let us consider the semantic relation between the verbs in Koro SVCs. I argued in §4.2.3 that if a given construction is comprised of two sub-events that are merged into a single macro-event, then there must be a tight semantic relation between the two sub-events. One such possible relation is that of direct causation. If there is a relation of causation between the two verbs in a construction, only a relation of direct causation is allowed if the construction describes a single event — a relation of indirect causation entails that there are two separate events represented. In the Koro directional and allative SVCs the motion verb in the V_2 slot can often be understood as being caused by the event of V_1 . For example, in (5.107) the motion of V_2 *le* ‘go to’ is directly caused by the throwing event of V_1 *rakeyeni*.

- (5.107) *i* \emptyset *rakeye-ni* *parakei* *i* *le* *ndas*
 3SG REAL throw-SPEC.OBJ stick REAL:3SG go.to sea
 ‘He threw the stick into the sea’ (2011-04-08-AH_AV-01a_0074)

It is not possible to separate the throwing event from the motion event in this example. It could not, for instance, be used to describe a situation in which the subject threw the stick and it later rolled into the sea of its own accord. In order to do so, a coordinated clause construction would be used. For instance, the coordinated construction in (5.108) could be used to describe a situation in which the pig was hit, and then died later from an unrelated cause.

- (5.108) *you* \emptyset *re-i* *pu a mwa i* \emptyset *mat*
 1SG.SBJ REAL strike-SPEC.OBJ pig DIST COORD 3SG REAL die
 ‘I hit the pig and it died’ (Elicitation-2012-08-10-BZ_0152)

Although associated motion, change of state, and imperfective SVCs do not have semantics of causation, there is nonetheless semantic evidence that each of these constructions, like the directional and allative, also represents a single event. I will not present this evidence here, but rather will discuss the semantics of these constructions in depth in §5.3.2.1–§5.3.2.3 below. The evidence presented there will provide further support for the analysis of these constructions as describing a single event.

In summary, all of the constructions introduced above can be analyzed as representing a single event (or as having the MEP). This is evidenced by the fact that temporal operators — including reality status, perfect aspect, and temporal adverbs — have scope over both verbs, and that the verbs cannot each be modified by a different manner adverb. In addition, the relation of direct causation in directional, allative, and resultative SVCs confirms that they denote a single event.

5.2.4 Argument sharing

As discussed in previous chapters, obligatory argument sharing is a defining characteristic of SVCs cross-linguistically. A number of argument-sharing patterns have been observed across languages, the primary types being same subject, switch function, and ambient. In terms of semantic/syntactic argument sharing, all of these types are found in Koro (all of these constructions are morphologically ambient, a fact that will be discussed shortly). For example, the intransitive directional and allative constructions in (5.1a) and (5.2a) and the associated motion construction in (5.3) above all exhibit same subject argument sharing, where the subject of V_1 is also the subject of V_2 . On the other hand, the transitive directional and allative constructions in (5.1b) and (5.2b), and the resultative construction in (5.6), have switch function argument sharing, where the object of V_1 is the subject of V_2 . These patterns are further exemplified in examples (5.109–5.114). The directional and allative in (5.109–5.110), which have intransitive V_1 *suwe* ‘paddle’, exhibit same subject argument sharing, where the agent of the paddling event is also the undergoer of the motion event.

- (5.109) *mwa you* \emptyset *suwe* *i* *mul* *a*
 COORD 1SG.SBJ REAL paddle REAL:3SG return DIST
 ‘And I paddled back’ (v2012-08-02-CB-01_0068)

- (5.110) *mwah i k-i suwe k-i le taun*
 next.day 3SG IRR-3SG paddle IRR-3SG go.to town
 ‘Tomorrow he will paddle to town’ (Elicitation-2013-07-23-AD_0088)

The associated motion construction in (5.111) is likewise same subject, with the subject of motion verb *la* ‘go’ also acting as the subject of V_2 *ndan* ‘dance’.

- (5.111) *ra ∅ la ndan*
 all REAL go.to:ANDAT dance
 ‘They all went and danced’ (2011-03-11-AH_AV-01_0120)

In contrast, directional and allative constructions with a transitive V_1 , such as *ruwi* in (5.112) and (5.113) are obligatorily switch function.

- (5.112) *a ruwi ∅ k-i me*
 2SG:IRR put 3INAN.OBJ IRR-3SG come
 ‘Put it over here’ (Elicitation-2013-08-01-AD_CA_0109)

- (5.113) *a you k-u ruwi pepa k-i me au*
 PROSP 1SG.SBJ IRR-1SG put paper IRR-3SG come 2SG
 ‘I’ll give you a document’ (2011-03-11-AH_AV-02_0364)

Likewise the resultative construction in (5.114) is switch function — the object of V_1 *tayi* ‘strike’ is the subject of V_2 *mat* ‘die’.

- (5.114) *u k-a-ni tay-i ra pu k-i-ni mat*
 3PL.SBJ PERF-NON.SG-PERF strike-SPEC.OBJ all pig PERF-3SG-PERF die
 ‘They have already killed all the pigs’ (Elicitation-2013-07-29-AD_CA_0099)

In addition to the same subject and switch function relations shown above, certain directional and allative constructions could also be analyzed as involving ambient argument sharing. For example, in (5.115) there is no literal movement of the V_1 subject; instead the V_2 constituent *ki le pilang* indicates the (fictive) path of the looking event described by V_1 . In other words, V_2 in this construction can be understood as taking the event of V_1 as its subject, as is characteristic of ambient constructions.

- (5.115) *pa nah k-i le pilang kara atan a, kara ndi*
 PRXMV watch IRR-3SG go.to garden DIST 3SG.POSS DIST DIST really
mbrur kepi
 banana only
 ‘If you looked at that garden of hers, it was just full of bananas’
 (v2012-08-02-CB-04_0121)

An even more convincing case of ambient argument sharing is provided by the durative and sequencing constructions. In these constructions it is not possible to interpret V_2 as having one of the arguments of V_1 as its subject. For example, in the sequencing construction in

(5.116), V_1 *sapwi* ‘wipe’ has two core arguments and an instrumental argument. However, V_2 *hepwi* ‘be finished’ does not take any of these referents as its subject, but instead modifies the event described by V_1 . In other words, it is not the speaker, the person wiped, or the towel that is finished, but rather the event of the speaker wiping the boy with a towel. The construction is therefore unambiguously ambient in its semantic/syntactic argument sharing.

- (5.116) *tawol tih, you* \emptyset *me* *sapw-i* *i* *le* *i* *hepwi...*
 towel one 1SG.SBJ REAL come stroke-SPEC.OBJ 3SG go.to 3OBL finished
 ‘(I got) a towel, I wiped him with it, and then...’ (v2012-08-01-AH-05_0128)

The durative construction in (5.117) likewise has a transitive V_1 , but neither the subject nor the object of V_1 can be interpreted as the subject of V_2 *la* ‘go’. There is no motion undergone by either of these referents — instead V_2 indicates that the event of V_1 had extended duration.

- (5.117) *i* \emptyset *ri* *ra* *ndemi* *i* *la* *i* *la* *i* *la*
 3SG REAL stay:SG strike drum REAL:3SG go REAL:3SG go REAL:3SG go
 ‘He was beating the drums on and on and on’ (2011-03-11-AH_AV-01_0104)

In some directional and allative constructions, such as (5.118), both the agent and theme of V_1 undergo the motion denoted by the minor verb.

- (5.118) *a* *you* *k-u* *pahau* *au* *k-i* *le* *sawal*
 PROSP 1SG.SBJ IRR-1SG row 2SG IRR-3SG go.to side
 ‘I’ll row you to the other side’ (Elicitation-2013-07-31-AD_CA_0172)

In such cases it seems that the syntactic argument sharing relation is ambiguous, allowing the shared argument to be the subject (agent) of the major verb, the object (theme) of the major verb, or both (what is referred to as cumulative or inclusory argument sharing). However, using the verb *mul* ‘return’ in the minor verb slot can resolve this ambiguity (this diagnostic is used by Aissen (2009) in her analysis of Tzotzil depictive constructions). Like English ‘return’, the verb *mul* carries a presupposition that its theme has at some previous time been present at the goal location. As shown in (5.119), when *mul* occurs as the minor verb in a directional SVC, this presupposition applies to the theme, not the agent, of the major verb. In other words, the utterance in (5.119) is only felicitous if Mary has been to the goal location before. If the subject, but not the object, of the major verb has previously been to the goal location, the utterance in (5.119) is infelicitous.

- (5.119) *you* *k-u* *suwe-ni* *Mary* *k-i* *mul*
 1SG.SBJ IRR-1SG paddle-SPEC.OBJ Mary IRR-3SG return
 ‘I will paddle Mary back (to a place where she has been before)’
 (Elicitation-2013-07-29-AD_CA_0122)

This suggests that the shared argument in such SVCs is always the theme of V_1 , since this is the argument to which the presuppositions of the minor verb apply. The entailment that the subject of the major verb also underwent motion to the goal location is due to real

	Same subject	Switch function	Ambient
Directional, allative	✓	✓	✓
Associated motion	✓	×	×
Change of state	✓	×	×
Imperfective	✓	×	×
Resultative	×	✓	×
Durative	×	×	✓
Sequencing	×	×	✓

Table 5.8: Syntactic/semantic argument sharing in Koro multi-verb constructions

world properties of the event denoted by the major verb *suweni* ‘paddle’, rather than being attributable to syntactic properties of the construction.

Patterns of semantic and syntactic argument sharing in change of state and imperfective constructions are more difficult to discern. On the surface they appear to be same subject, as shown in (5.120–5.121).

- (5.120) *lou kei i le mwondrai i ∅ pwosau mwa i ∅*
 leaf tree REAL:3SG go.to sun 3SG REAL dry COORD 3SG REAL
le perer
 go.to white
 ‘The leaves go in the sun and they dry and then they turn white’
 (Elicitation-2011-03-31-AH_AV_0081)

- (5.121) *kombala-∅ i le-tu ram*
 hair-1SG.POSS REAL:3SG PROX-stay red
 ‘My hair is turning red’
 (Elicitation-2012-08-07-AD_0072)

It is not clear, however, whether V_1 in fact introduces an argument at all in these constructions, or whether it instead behaves more like a raising verb. For now I assume that these constructions are same subject and I defer to Chapter 6 the investigation of their possible status as auxiliary or raising verb constructions.

The patterns of argument sharing discussed in this section are summarized in Table 5.8. In terms of semantic/syntactic argument sharing, multi-verb constructions in Koro are either

same subject, switch function, or ambient. Despite this, any overt morphological marking on V_2 is obligatorily third person singular, as can be observed in (5.118) above. The mismatch between semantic argument sharing and morphological marking will be discussed in detail in §6.3 of the following chapter.

5.3 Semantics of multi-verb constructions in Koro

Having examined the morpho-syntactic properties of the putative SVCs in (5.1–5.10) above, in this section I describe and analyze in greater detail the semantics of the constructions that are candidates for true SVCs. The findings from §5.2 are summarized in Table 5.9. It is evident from this table that only the associated motion, change of state, and imperfective constructions can be considered true SVCs, since they fulfill all four of the main criteria for SVC-hood developed in Chapter 4. The semantics of these constructions (which I argue in fact constitute a single construction) will be discussed in §5.3.2. The resultative construction, in contrast, fails certain tests for monoclausality, and also appears to consist of just a few lexicalized idioms, rather than being a productive construction. The instrumental and comparative fail the tests for main verbhood, because V_2 does not function as a verb in these constructions — it disallows TAM marking and its semantics differs significantly from that of its main verb counterpart. As for the durative and sequencing constructions, I will argue in §5.3.3 below that there is no reason to treat them as SVCs; instead they appear to be simply sequences of apposed clauses. Lastly, the results in Table 5.9 reveal that the directional and allative constructions cannot be considered true SVCs. As will be discussed below, the entailments of V_2 in these constructions appear to differ from those of their main verb counterparts — namely, in the multi-verb constructions they do not entail that the target state was reached (they are atelic). This could be explained either by positing separate lexical entries for the verbs occurring as V_2 in these constructions (whereby they would fail the main verbhood test) or by positing that the TAM marking on V_1 does not take scope over the whole SVC (whereby they would fail the single eventhood test). As was shown in §5.2.3, there are certain contexts in which TAM marking on V_2 can differ from that on V_1 , and this constitutes evidence that the second treatment is correct — in other words, if TAM marking on V_2 can differ from that on V_1 , then the construction does not denote a single event. However, since the directional and allative construction so closely resemble prototypical SVCs in numerous other serializing languages, and since they fulfill all other criteria for SVCs, it is worth examining their semantics and syntax in detail, and I will do so in §5.3.1 below and in §6.3 of the following chapter.

¹⁶Although the change of state, durative, and sequencing constructions have one slot that is restricted to a single verb root, I have given evidence that these verbs are nonetheless the same as their main verb counterparts, and therefore these constructions still fulfill the criterion of main verbhood. In contrast, the resultative is highly restricted overall, and also exhibits some not entirely compositional semantics.

¹⁷Although the durative and sequencing constructions do not explicitly fail any of the tests for monoclausality, I argue below that they are in fact apposed clauses.

Construction	Main verbhood ¹⁶	Mono-clausality ¹⁷	Single eventhood	Semantic argument sharing
Directional, allative	✓	✓	×	same subject, switch function
Associated motion	✓	✓	✓	same subject
Change of state	✓	✓	✓	same subject
Imperfective	✓	✓	✓	same subject
Resultative	×	×	✓	switch function
Instrumental	×	✓	✓	N/A
Comparative	×	✓	✓	N/A
Durative	✓	×	✓	ambient
Sequencing	✓	×	✓	ambient

Table 5.9: Criteria for SVCs as applied to multi-verb constructions in Koro

5.3.1 Directional and allative

Recall from the discussion above that the directional construction consists of an open slot in V_1 followed by a path of motion verb in V_2 . V_1 can be transitive, in which case the object occurs between the two verbs and functions as the shared argument. Reality status marking occurs on both verbs, and person agreement on V_2 is obligatorily third person singular. The directional and allative constructions are differentiated from each other by the presence or absence of a goal argument after V_2 — the directional has no goal argument, whereas the allative has a prepositional path verb in the V_2 slot, followed by an overt goal argument.

As illustrated in the numerous examples presented so far, the directional and allative constructions are used to add a literal or fictive path of motion to an event, and/or to introduce a goal argument. In (5.122), for example, minor verb *me* ‘come’ indicates that the object of V_1 *nderum* ‘your child’ will undergo movement towards the deictic center. The same minor verb in (5.123) introduces goal argument *kor* ‘village’, and simultaneously indicates that the goal includes the deictic center. In (5.124), on the other hand, minor verb *le* ‘go to’ does not have a deictic function, but simply serves to license the goal argument *mandra koso wum* ‘beside the house’.

(5.122) *a le piri nderu-m k-i me!*
 2SG:IRR go.to take.person child-2SG.POSS IRR-3SG come
 ‘Go and bring your child here’ (2011-04-23-AA-02_0461)

(5.123) *to k-a la k-a le sirih-i ∅*
 1PL.INCL.SBJ IRR-NON.SG go IRR-NON.SG go.to carry-SPEC.OBJ 3INAN.OBJ
k-i me kor
 IRR-3SG come village
 ‘We will go, we’ll go and carry it (sago) to the village’ (2012-07-09-BC-01_0066)

(5.124) *o k-a la koh-ani ∅ k-i le*
 2PL.SBJ IRR-NON.SG go.to:ANDAT hide-SPEC.OBJ 3INAN.OBJ IRR-3SG go.to
mandra koso wum!
 next.to side house
 ‘Go and hide them next to the house!’ (2011-03-11-AH_AV-02_0100)

Also included in this category are constructions in which V_2 is a locative predicate, rather than a path verb. Like with path verbs, such constructions can occur with or without a following locative argument. This is shown in (5.125–5.126). In (5.125) minor verb *ru* ‘stay’ does not take a following location argument, while in (5.126) it takes the location argument *palapai* ‘drying rack’.

(5.125) *you ∅ hekoh-ani ∅ i ru, inap ndi*
 1SG.SBJ REAL hide-SPEC.OBJ 3INAN.OBJ REAL:3SG stay:SG until very
yourun ∅ me kor
 1PL.EXCL REAL come village
 ‘I hid it there until we got to the village’ (v2012-07-31-AH-03_0095)

- (5.126) *o* \emptyset *tawi* *jua* *i* *ru* *palapai*
 2PL.SBJ REAL take 1SG REAL:3SG stay:SG drying.rack
 ‘You put me on the drying rack’ (2011-04-23-AA-02_0180)

These locative constructions are grouped together with the directional and allative not only because they exhibit the same morpho-syntactic properties, but also because they fulfill similar semantic functions. The directional and allative constructions give information about the path of the shared argument, and this path of motion is understood to be a result of the event of V_1 . Similarly, the locative construction gives information about the location of the shared argument, and being in this location is understood to be a result of the event of V_1 . The intransitive examples such as that in (5.125) are included in the category of directionals, while the transitive version is grouped with the allatives, since it likewise fulfills an applicative function.¹⁸

The major verb slot in an asymmetrical SVC is by definition ‘unrestricted’; nonetheless, there are certain semantic restrictions on the verbs that can occur as the major verb in an allative or directional SVC. The most common major verbs in this type of SVC are activity verbs of motion or caused motion. In (5.127–5.128), for example, intransitive manner of motion verbs *woh* ‘fly’ and *yir* ‘crawl’ occur as the major verb. (5.127) is an allative construction, in which minor verb *le* ‘go to’ introduces the goal *mahun* ‘far’ (which despite its English translation acts as a nominal constituent in Koro). (5.128), on the other hand, is a directional SVC, with minor verb *=nda* ‘go’ lacking an overt goal argument.

- (5.127) *au* *mbrwa* *woh* *k-i* *le* *mahun!*
 2SG PROHIB fly IRR-3SG go.to far
 ‘You, don’t fly far away!’ (2011-03-09-AH_AV-01_0087)

- (5.128) *i* *k-i-ni* *yir* *k-i=nda*
 3SG PERF-3SG-PERF crawl PERF-3SG=go:PERF
 ‘He had already crawled away’ (2012-07-14-AA-04_0011)

(5.129–5.130) illustrate the use of a transitive verb of caused motion as the major verb. In (5.129) transitive verb *rakeyeni* ‘throw’ occurs as the major verb, and minor verb *le* licenses goal argument *ndran*. In contrast, (5.130) is a directional SVC, with transitive *tawi* ‘take’ as the major verb, and non-prepositional venitive path verb *me* as the minor verb.

- (5.129) *you* *k-u* *rakeye-ni* \emptyset *k-i* *le* *ndran,*
 1SG.SBJ IRR-1SG throw-SPEC.OBJ 3INAN.OBJ IRR-3SG go.to water
mwa *jua?*
 COORD 1SG
 ‘If I throw it into the water, then what will I do?’ (v2012-07-31-AH-03_0050)

¹⁸Because this subtype of SVC is less well understood than the constructions with path of motion minor verbs, I will not discuss it specifically, here or in Chapter 6. In the absence of evidence to the contrary, it is assumed that the two constructions have the same morpho-syntactic and semantic properties.

- (5.130) *kila, a-ni* *tawi* \emptyset *k-i-ni* *me mwa*
 OK 2SG:PERF-PERF take 3INAN.OBJ PERF-3SG-PERF come COORD
a sa mahun
 2SG:IRR stand far

‘OK, you have brought it here, now stand over there!’(2011-04-08-AH_AV-01b_0036)

Also very common is the use of a non-prepositional path verb as the major verb. In (5.131), for example, non-prepositional path verb *mul* ‘return’ occurs as the major verb in an allative SVC with minor verb *le* ‘go to’.

- (5.131) *u* \emptyset *mul* *i* *le* *he pu a*
 3PL.SBJ REAL return REAL:3SG go.to DAT pig DIST

‘They went back to the pig’ (2011-03-11-AH_AV-01_0184)

As discussed in §3.3.2, non-prepositional path verbs do not license a goal object, and therefore any goal of such a verb must be introduced by one of the prepositional path verbs.

Other common major verbs in the directional and allative SVCs are verbs of speech, such as *pwa* ‘say’ and *wong* ‘talk’. In such SVCs the path entailed by the minor verb is fictive, meaning that the motion is metaphorical rather than literal. This is exemplified in (5.132), where the addressee *i* is licensed by minor verb *le*. Major verb *pwai* ‘say’ does not license an addressee argument by itself.

- (5.132) *i pa k-i re-i au, mwa a pwa-i*
 3SG PRXMV IRR-3SG strike-SPEC.OBJ 2SG COORD 2SG:IRR say-SPEC.OBJ
k-i le i tehena
 IRR-3SG go.to 3SG thus

‘If he tries to hit you, say that to him (tell him that his mother is a fish)’
 (2011-04-23-AA-02_0226)

Similar fictive motion with major verb *nah* ‘see, watch’ was illustrated in (5.115) above. Another use of the allative that does not involve literal motion is the use in (5.133), where the goal introduced by the minor verb is a resulting state, rather than a literal goal. Here the constituent introduced by minor verb *le* is adjective *ndohin* ‘small’. This is the state that results from the cutting event of major verb *tihiri*.

- (5.133) *a tihir-i* \emptyset *k-i le ndohin*
 2SG:IRR cut-SPEC.OBJ 3INAN.OBJ IRR-3SG go.to small

‘Cut it into small pieces’ (Elicitation-2013-07-29-AD_CA_0165)

Both allative and directional SVCs also allow certain non-motion verbs to occur as the main verb. In examples (5.127–5.129) above, the main verbs *woh* ‘fly’, *yir* ‘crawl’, and *rakeyeni* ‘throw’ all have directed motion as part of their inherent semantics. In contrast, the verbs *soi* ‘spear’ and *ndreleyani* ‘rub’ in (5.134–5.135) below do not entail directed motion. Nonetheless they can occur as the major verb in an allative or directional construction. In this case the minor verb in the SVC imparts the semantics of directed motion.

(5.134) *i* \emptyset *so-i* *wewei* *me* *pwan*
 3SG REAL spear-SPEC.OBJ mango come down
 ‘He speared the mango down’ (Elicitation-2013-07-18-AD_0078)

(5.135) *i* \emptyset *ndreleyani* *bal* *e* *i* *le* *ngo-n*
 3SG REAL rub ball PROX REAL:3SG go.to nose-3SG.POSS
 ‘He rubbed the ball on its nose’ (2011-04-08-AH_AV-01a_0032)

Despite the fact that the major verb in these examples is not a manner of motion verb, the semantic relation between the two events is still one of direct causation. In other words, in (5.134) the action of spearing directly causes the mangoes to come down, while in (5.135) the rubbing event is what causes the ball to be on the dogs nose.

It is clear from the above examples that most verbs which can be interpreted as being associated with any kind of directed motion — either literal or fictive — can occur as the major verb in an allative or directional SVC. In contrast, stative verbs are not found in this construction, and certain activity predicates are also rejected by speakers. For example, the utterance in (5.136) with activity predicate *tuwah pamei* ‘chew betelnut’ as the major verb phrase, is deemed ungrammatical.

(5.136) **i* \emptyset *tuwah* *pamei* *i* *me*
 3SG REAL chew betelnut REAL:3SG come
 (Elicitation-2012-08-06-AD_BZ_0184)

The explanation for this restriction is probably semantic. Because the semantics of the construction is resultative, the major verb must denote an event that can cause directed motion (either literal or fictive). In the utterance in (5.136), the required interpretation would be that the subject’s chewing of betelnut somehow caused the betelnut to move closer to the deictic center. This is not a plausible interpretation, and the utterance is therefore rejected on semantic grounds.

As noted in §5.2.3 above, the directional and allative constructions typically exhibit concordant TAM marking, but can also occur with a realis V_1 and a perfect V_2 . Since a mismatch in TAM values disqualifies a construction from an SVC analysis, it is important to closely examine the scope of TAM categories in the directional and allative constructions, to determine whether or not the morphological marking reflects semantic scope. When V_1 in an allative or directional construction occurs in realis, this entails that the event of V_1 occurred, just as it does in a monoverbal clause. Surprisingly though, realis marking on V_2 carries no such entailment; although there is an implicature that V_2 occurred, this implicature is defeasible. There are two ways in which this can be demonstrated. Firstly, when both V_1 and V_2 are realis, as in (5.137), a clause can be added that explicitly denies the occurrence of the V_2 event. This example, which has realis on both V_1 and V_2 , entails that the chasing event occurred, and carries an implicature that the leaving event occurred too. However, if the occurrence of the V_2 event is explicitly denied, as in this example, the utterance is still grammatical, providing evidence that V_2 is not entailed in this construction.

- (5.137) *i* \emptyset *chen-i* *rutun* *i* *yau* (*tapwa* *u* *ta*
 3SG REAL clear-SPEC.OBJ 3PL REAL:3SG leave but 3PL.SBJ NEG
jau *pwɨ*)
 leave NEG

‘He chased them away (but they didn’t leave)’ (Elicitation-2012-08-10-BZ_0064)

Secondly, when the construction occurs in imperfective aspect, V_2 takes realis marking, but is understood to not be complete. This is illustrated in (5.138–5.139). In each of these examples V_1 is marked with imperfective aspect, and the event of V_1 is therefore interpreted as ongoing. As such, the motion event of V_2 cannot be complete, despite its realis marking. In (5.139), for instance, the subject cannot have reached town, because the driving event of V_1 is still underway.

- (5.138) *u* *ti* *kal* *i* *me*
 3PL.SBJ stay swim REAL:3SG come

‘They were swimming over here’ (Elicitation-2012-08-10-BZ_0109)

- (5.139) *u* *mwa* *ta* *ngap* *i* *le* *taun*
 3PL.SBJ still LOC.COP run REAL:3SG go.to town

‘They are still driving to town’ (literally: running)

(Elicitation-2013-07-31-AD_CA_0072)

Compare this with the entailments of the resultative, which cannot occur in imperfective aspect. Because the realis marking on V_2 in a resultative entails that the event or state of V_2 is complete, whereas the imperfective marking on V_1 entails that the V_2 state has not been reached, the incompatibility of these entailments leads to ungrammaticality, as shown in (5.140).

- (5.140) **u* *mwa* *ta* *tuwe-ni* *ra* *karahat* *i* *meris*
 3PL.SBJ still LOC.COP boil-SPEC.OBJ all mud.crab REAL:3SG cooked

Intended: ‘They are still cooking the crab’ (Elicitation-2013-07-29-AD_CA_0115)

It is plausible that the difference in entailments between the directional and resultative constructions could be due to a difference in the semantics of the respective verbs. However, this hypothesis can be ruled out by examining their behavior in monoverbal clauses. The construction in (5.141) is not a directional SVC; instead it is comprised of two main clauses. (An SVC analysis is ruled out by the presence of overt subject pronoun *u* before V_2 .) The combination of imperfective marking in the first clause and realis marking in the second clause is infelicitous with the intended reading that the motion is still underway. This is because the realis marking on *me* ‘come’ entails that the coming event is complete, whereas the imperfective marking on *kal* ‘swim’ entails that the motion is still ongoing at the reference time.

- (5.141) #*u* \emptyset *ti* *kal*, *u* \emptyset *me*
 3PL.SBJ REAL stay swim 3PL.SBJ REAL come

Intended: ‘They were swimming over here’ (Elicitation-2012-08-10-BZ_0110)

5.3.2 Associated motion, change of state, and imperfective

In this section the semantic properties of the associated motion, change of state, and imperfective constructions are described and analyzed. The three constructions share most of their morpho-syntactic properties, including having a highly restricted V_1 slot, having single marking of TAM categories, and allowing no constituents to intervene between the two verbs. This strongly suggests that they may be variations on a single construction, but they seem to have very different semantic functions. Based on a detailed analysis of the semantics of each construction type I argue here that, despite the apparently quite disparate functions of these constructions, they are all in fact instances of a single construction. This construction involves a metaphorical extension of the goal and location semantics of the morphemes in the minor verb slot.

5.3.2.1 Associated motion

The associated motion construction involves one of the deictic path verbs, *le* ‘go to’, *la* ‘go to, away from origo’ or *me* ‘come’ as V_1 , followed by a main lexical verb as V_2 . This construction is illustrated in (5.143–5.145), which show the use of minor verb *le*, *la* and *me*, respectively.

- (5.143) *you* \emptyset *le* *tuli* *ndwal* *mwa* *you* \emptyset *le*
 1SG:SBJ REAL go.to tow canoe COORD 1SG:SBJ REAL go.to
hul *ni*
 fish.with.hook fish
 ‘I went and got the canoe and I went and fished’ (Elicitation-2012-07-30-AD_0088)

- (5.144) *yourun* *pa* *k-a* *la* *kah* *pamei*
 1PL.EXCL PRXMV IRR-NON.SG go.to:ANDAT find betelnut
 ‘We wanted to go and look for betelnut’ (v2012-08-02-CB-01_0029)

- (5.145) *mwah* *you* *k-u* *me* *so* *ni*
 next.day 1SG.SBJ IRR-1SG come spear fish
 ‘Tomorrow I will come and spear fish’ (Elicitation-2012-07-27-AD_BZ_0004)

As shown in these examples, the SVC has a sequential meaning, where the motion of V_1 precedes the event of V_2 . In addition, the construction typically has a purposive implicature, as illustrated in (5.146). Here the event of V_2 *kah* ‘search for’ is the explicit purpose of the ‘going’ expressed in V_1 .

- (5.146) *ha* *you* *k-u* *la* *kah* *pira* *teru*
 PROSP 1SG.SBJ IRR-1SG go.to:ANDAT find belly 1DU.INCL
 ‘I’ll go to find food for us’ (2011-03-09-AH_AV-01_0097)

Despite this common implicature, however, the associated motion SVC does not have a purposive entailment, as no intention on the part of the subject is required.¹⁹ This is clear

¹⁹The construction may well be on the way to becoming a purposive though — grammaticalization of allatives into purposives is well-attested cross-linguistically (Heine and Kuteva 2002:39).

because the SVC may have a non-agentive subject or the event of V_2 may simply be unintended by the subject. In (5.147), for example, the subject is an inanimate object that is about to roll off the table. Similarly, the utterance in (5.148) is felicitous whether or not the subject intended to meet Rex.

(5.147) *i k-i me los me pwan*
 3SG IRR-3SG come fall come down
 ‘It’s going to come and fall down’ (Elicitation-2012-07-27-AD_BZ_0034)

(5.148) *you ∅ le chonge Rex*
 1SG:SBJ REAL go.to meet Rex
 ‘I went and met~ran into Rex’ (Elicitation-2012-07-30-AD_0082)

As shown in the above examples, any of the three prepositional path verbs can occur as V_1 in an associated motion SVC. In contrast, neither of the non-prepositional path verbs can occur in this slot. This is illustrated in (5.149), which is ungrammatical because the non-prepositional path verb *mul* ‘return’ occurs as V_1 .

(5.149) **mwah you k-u mul so ni*
 next.day 1SG.SBJ IRR-1SG return spear fish
 Intended: ‘Tomorrow I will come back and spear fish’
 (Elicitation-2012-07-27-AD_BZ_0008)

The event of V_2 in the associated motion construction is interpreted as following the motion of V_1 . This sequential entailment is strict; the events cannot be understood as simultaneous or overlapping. (As discussed in Chapter 4, similar SVCs in other Oceanic languages have been labeled ‘sequential’ or ‘consecutive’.) The utterance in (5.150), for example, describes a situation in which the subject first came and then danced. It cannot be used if the venitive motion and the dancing were simultaneous.

(5.150) *i ∅ me ndan*
 3SG REAL come dance
 ‘He came and (then) danced’
 *‘He came dancing’ (Elicitation-2012-07-27-AD_BZ_0152)

In order to indicate simultaneous motion, the depictive construction must be used, which involves a nominal secondary predicate adjoined to the main predicate. The predicative element in such a depictive construction is a noun or nominalized verb. This is illustrated in (5.151), where V_2 *suwe* ‘paddle’ is nominalized with a reduplicative prefix.²⁰ The paddling in this construction is interpreted as simultaneous with the motion. Similarly, in (5.152) noun *helis* ‘laughter’ with prefix *mwa-* ‘with’ modifies the motion verb *la* ‘walk’. This is likewise interpreted as simultaneous.

²⁰Unlike in most other Oceanic languages, reduplication does not apply to verbs as an inflectional or endocentric derivational process in Koro (Ross (1988:331), Lynch et al. (2002:44)); it only has the exocentric function of deriving a deverbal noun.

(5.151) *you* \emptyset *me* *su~suwe*
 1SG:SBJ REAL come REDUP:NMLZR~paddle
 ‘I came paddling’ (Elicitation-2012-07-16-BZ_0105)

(5.152) *u* \emptyset *la* *mwa helis*
 3PL.SBJ REAL walk with laughter
 ‘They walked along laughing’ (Elicitation-2012-07-16-BZ_0089)

Another relevant semantic property of the associated motion construction is that perfect aspect, realis, and negation scope over both V_1 and V_2 , as illustrated in (5.79), (5.80), (5.83), and (5.84) above. I show here that both the scopal properties of TAM categories and the strict sequential interpretation can be accounted for by analyzing the construction as a 2-state predicate in which the lexical contents of the two verbs merge into a single complex lexical content (represented in (5.160) below), and V_2 acts as the metaphorical goal of V_1 .

As discussed in §2.3, Klein (1994) differentiates between 0-state, 1-state, and 2-state predicates. 0-state predicates are gnomic statements or individual-level states; 1-state predicates are other atelic predicates, such as stage-level states and activities; and 2-state predicates are telic predicates, such as accomplishments and achievements. As suggested by the name, 2-state predicates encode two states in their lexical content — a source state (SS) and a target state (TS). (Refer to §2.3 for further explanation and exemplification.) Given the assumption that the associated motion construction represents a single event (see §5.2.3), this leads to the question of how the lexical contents of the two verbs in an associated motion construction are treated in terms of source state and target state.

The two constructions in Koro that can most clearly reveal the behavior of source state and target state in a given predicate are perfect aspect, and non-iterative imperfective aspect (i.e. continuous or progressive). Unfortunately, the associated motion SVC cannot occur in imperfective aspect, except with a habitual interpretation. This is due to the fact that prepositional path verbs cannot occur in non-iterative imperfective aspect, as discussed in §3.3.1. It is therefore necessary to look at the behavior of perfect aspect in order to diagnose the aspectual semantics of the associated motion SVC.

Recall from §2.3 and §2.5.3 that perfect aspect marker *k-...-ni* in Koro indicates that the situation time precedes the topic time. Recall further that in Koro 2-state predicates, the source state functions as the situation time. The general temporal structure of perfect aspect is schematized in (5.153).

(5.153) {——} _{TSit} [] _{TT}

As can be inferred from this diagram, although it specifies the temporal relation between TT and the source state of a 2-state predicate, perfect aspect is inherently ambiguous about the relationship between TT and the target state. Perfect aspect simply indicates that TT is after the source state; it remains agnostic as to whether TT is within or after the target state. This is illustrated in (5.154), for which the source state is mother not being in town and the target state is mother being in town. The construction is ambiguous between an interpretation in which the subject is still located in town at the topic time (TT within TS),

and one in which she is no longer in town (TT after TS). The two possible interpretations are diagrammed in (a) and (b) below.

- (5.154) *nano k-i-nda kor manda*
 mother PERF-3SG-go:PERF village main
 ‘Mother has gone to town’ (Elicitation-2012-08-08_BZ)
- a. {——}SS++[++]TT++TS (She is still in town)
 b. {——}SS++++++TS []TT (She is no longer in town)

The behavior of the associated motion SVC under the scope of perfect aspect elucidates the event structure of the construction because it helps to identify what parts of the lexical contents of the two verbs function as source state and target state. As shown in (5.79) above, perfect aspect entails that the motion event of V_1 is complete. In addition it appears to entail that the event of V_2 is complete (as indicated by the infelicity of the added statement in that example). However, taking into account more examples shows that the event of V_2 need not be complete, but must at least have been initiated. With a predicate such as *hul ni* ‘fish (with a hook)’ or *mesenge wum* ‘work on a house’, for example, the associated motion SVC is ambiguous between a reading in which the event of V_2 is complete, and one in which it is merely underway. This is illustrated in (5.155–5.156), where the fishing event and the working on a house event respectively can be understood as either ongoing or completed at the topic time.

- (5.155) *i k-i-ni me hul ni*
 3SG PERF-3SG-PERF come fish.with.hook fish
 ‘He has come and fished ~ he has come and is fishing’
 (Elicitation-2013-07-31-AD_CA_0001)
- (5.156) *i k-i-ni me mesenge wum*
 3SG PERF-3SG-PERF come work.on house
 ‘He has come and worked on the house ~ he has come and is working on the house’
 (Elicitation-2013-07-31-AD_CA_0008)

This is in contrast to the interpretation that would arise if these VPs were marked for perfect aspect as the main verb in a simplex clause. For example, in (5.157) the predicate *hul ni* ‘fish with a hook’ occurs in a simplex clause marked by perfect *kini*, and this indicates that the fishing event is complete. It cannot be used if the fishing event is still underway (in such a context an imperfective construction would be used). The predicate *mesenge wum* ‘work on a house’ in (5.158) has the same entailment.

- (5.157) *i k-i-ni hul ni*
 3SG PERF-3SG-PERF fish.with.hook fish
 ‘He has fished’
 *‘He is/has been fishing’ (Elicitation-2013-07-31-AD_CA_0002)

- (5.158) *i k-i-ni mesenge wum*
 3SG PERF-3SG-PERF work.on house
 ‘He has worked on the house’
 *‘He is/has been working on the house’ (Elicitation-2013-07-31-AD_CA_0010)

Although there is ambiguity in examples (5.155–5.156) above as to whether the event of V_2 is complete or not, there is no ambiguity about whether the event has begun — an associated motion construction in perfect aspect is simply infelicitous if the event of V_2 is not yet underway. This is reiterated in (5.159). Since the associated motion SVC in perfect aspect entails that the event of V_2 (here, the dancing) has begun, it is infelicitous to follow it with the clause *ta kepi i ta ndan mwasau* ‘but s/he hasn’t danced yet’. The same restriction was also shown in (5.79).

- (5.159) *i k-i-ni me ndan (#ta kepi i ta ndan mwasau)*
 3SG PERF-3SG-PERF come dance but 3SG NEG dance NOT.YET
 ‘S/he has come and danced (#but s/he hasn’t danced yet)’
 (Elicitation-2013-07-31-AD_CA_0005)

To summarize, an associated motion construction in perfect aspect entails that the motion event of V_1 is complete at TT, and that the event of V_2 is either complete or underway at TT. These entailments can be accounted for by treating the associated motion SVC as a complex predicate with a fused aspectual structure, in which the lexical content of V_2 is treated as part of the target state. The resulting complex lexical content retains the source and target states of the path verb (as well as its punctual nature — see §3.3.1), and identifies the lexical content of V_2 with the target state of V_1 , so that the target state of the overall construction includes their combined properties (see §5.3.2.4 for more detail). This analysis is diagrammed in (5.160). (There is no established way to represent punctuality in Klein’s system; I use pipe here.)

- (5.160) {——}SS | {+++++}TS
 SS = SS of V_1
 TS = TS of V_1 + LC of V_2

Since in the Koro perfect, the situation time is equated with the source state, this analysis predicts that an associated motion SVC in perfect aspect will entail that the topic time is after the source state. As such, it will be ambiguous between a reading in which the topic time is in the target state (that is, the event of V_2 is ongoing), and one in which the topic time is after the target state (that is, the event of V_2 is finished). This is illustrated in (5.161), where the diagram in (a) represents a reading in which the event of V_2 is still underway, and the (b) diagram represents an interpretation in which the event of V_2 has ended.

- (5.161) a. {——}SS | {+++[++]TT+++}TS
 b. {——}SS | {+++++}TS []TT

As shown in (5.155–5.156) above, this very ambiguity is found in the associated motion construction in perfect aspect, supporting this analysis. The details of this proposal are fleshed out further in §5.3.2.4 below.

5.3.2.2 Change of state

As illustrated in the above section, a wide variety of verb classes can occur as the major verb in an associated motion construction, including transitive, unergative, and unaccusative predicates. When a stative verb occurs in this construction, however, the interpretation is very different. As shown in (5.4) above, when such a verb immediately follows a prepositional path verb, the construction no longer entails literal motion of the subject, but instead indicates a change of state. This is what I refer to as the ‘change of state’ construction. In addition to expressing change of state, it indicates that the target state was fully reached.

There is a class of stative–process verbs in Koro that are inherently ambiguous between a stative (0-state or 1-state) interpretation and a change of state (2-state) interpretation. When such verbs occur unmarked in a mono-verbal clause, the aspectual interpretation of the predicate is ambiguous. For example, the verb *ngandah* can be interpreted as either a stative (1-state) verb ‘be hot’, or a change of state (2-state) verb ‘become hot’. When it occurs in imperfective aspect, therefore, the interpretation can be either that the process of state change is ongoing, or that the state itself is ongoing. These two interpretations are exemplified in (5.162–5.163), respectively.

(5.162) *ndran mwa ta ngandah*
 fresh.water still LOC.COP hot
 ‘The water is still heating up’ (Elicitation-2013-07-25-AD_0001)

(5.163) *ndran le-tu ngandah*
 fresh.water PROX-stay hot
 ‘The water is hot’ (Elicitation-2013-07-23-AD_0241)

In unmarked realis, the interpretation of state–process verbs is likewise ambiguous. This is illustrated for the verb *hach* ‘(become) full’ in (5.164)

(5.164) *i ∅ hach le mara-n*
 3SG REAL full go.to opening-3SG
 ‘It’s full to the brim ~ It got filled up to the brim’ (Elicitation-2013-07-23-AD_0247)

The change of state construction resolves this inherent ambiguity. When *le* ‘go to’ or *me* ‘come’ precedes the stative-process verb, as in (5.165–5.166), the interpretation can only be that a change of state occurred — there is no possible stative interpretation.²¹

(5.165) *i ∅ me hach*
 3SG REAL come full
 ‘It filled up’ (2011-03-09-AH_AV-01_0045)

(5.166) *nderu uru ∅ me manda*
 child 3DU REAL come big
 ‘Their children grew up’ (2011-03-31-AH_AV-01_0228)

²¹The choice of minor verb is based on a metaphorical extension of the spatial deictic properties of the path verbs. Using *me* situates the final state as proximal to the current deictic center, in a literal or metaphorical sense.

The construction additionally indicates that the full target state was reached. This is illustrated in (5.167–5.168) with the state–process verb *meris* ‘cooked’. In both of these examples the interpretation is that the food was fully cooked (to the point of being overcooked, depending on the food). In (5.168) the completive meaning is made explicit as it is contrasted with the regular entailment of the unmarked verb in the first clause. In other words, the meaning of *i meris kepi* is that the food was somewhat cooked, while *i le meris* indicates that the food was completely cooked.

- (5.167) *you* \emptyset *tuwe-ni* *ni* *le* *meris*
 1SG.SBJ REAL cook-SPEC.OBJ fish go.to cooked
 ‘I overcooked the fish (cooked it until it was fully cooked)’
 (Elicitation-2012-08-10-BZ_0163)

- (5.168) *i* \emptyset *meris kepi*, *i* *ta* *le* *meris* *pwi*
 3SG REAL cooked only 3SG NEG go.to cooked NEG
 ‘It’s cooked just right, it didn’t get over-cooked’
 (Elicitation-2013-07-30-AD_CA_0065)

The ‘completive’ semantics of the change of state construction is also demonstrated by the fact that it is incompatible with the quantifier/adverb *tapwah* ‘some’, which indicates partial achievement of a target state. This modifier can occur with state–process verbs in a monoverbal clause, but is disallowed in the change of state construction. This is illustrated in (5.169), which shows that *tapwah* is only accepted when state–process verb *rombu* ‘(become) wet’ does not occur in the change of state construction.

- (5.169) a. *i* \emptyset *rombu tapwah*
 3SG REAL wet some
 ‘It got a bit wet’ (Elicitation-2013-07-30-AD_CA_0042)
- b. **i* \emptyset *le* *rombu* *tapwah*
 3SG REAL go.to wet some (Elicitation-2013-07-30-AD_CA_0043)

This confirms that the change of state construction is incompatible with semantics of partial achievement of the state, and instead is obligatorily interpreted as describing a complete change of state event.

This semantic interpretation is predictable if the stative–process verb is obligatorily interpreted as a stative verb in this construction. If the major verb is stative, then the same lexical-aspectual analysis presented for the associated motion construction will also predict the observed semantics of the change of state construction. Such an analysis is presented in (5.170).

- (5.170) {———}SS | {+++++++}TS
 SS = SS of V₁
 TS = TS of V₁ + LC of (stative) V₂

Just like in the associated motion construction, the source state of the whole construction is the source state of V_1 , while the target state combines the target state of V_1 with the lexical content of V_2 , which in this construction is obligatorily interpreted as a 1-state (stative) verb. If a 2-state (process) reading of V_2 were allowed, there would be no explanation as to why the change of state construction must have a fully-reached state interpretation. This is because the lexical content of V_2 (which is coextensive with the target state of this complex construction) would include two states — a source state where the change is in process, and a target state where the change is complete. The construction would then be ambiguous between a reading in which the change was still underway, and a reading in which the change was complete.

There is also independent evidence that V_2 is indeed a stative predicate in this construction. Consider the comparative construction illustrated in (5.8) above. The property element of a comparative construction must be a stative predicate rather than a dynamic one. For example, adjectives, which are stative, are the prototypical properties in a comparative construction. As shown in (5.171), the change of state construction can fill the property slot in a comparative, but a bare state–process verb cannot.

- (5.171) a. *i* \emptyset *le* *ngandah* *me* *jua*
 3SG REAL go.to hot come 1SG
 ‘He got hotter than me’ (Elicitation-2012-08-07-AD_0135)
- b. **i* \emptyset *ngandah* *me* *jua*
 3SG REAL hot come 1SG (Elicitation-2012-08-07-AD_0137)

This suggests that the major verb in the change of state construction is indeed stative, as represented in (5.170) above.

Although the associated motion and change of state constructions can be analyzed as having identical event structures, and although they appear to allow the same verbs to occur in the minor slot, the source and target states of V_1 in each construction differ. Whereas the associated motion construction entails literal motion, the change of state construction does not. This suggests that there may be some semantic contribution of the construction itself, which allows for a metaphorical interpretation of the motion verbs in this context. However, as discussed in §5.2.1 above, the verbs *le* and *me* also have such a metaphorical usage as main verbs. When followed by a noun phrase, as in (5.172), the prepositional path verbs can denote a change of state instead of a literal change in location. In this example the verb *le* is the sole verb, and it encodes the subjects’ change of state into fish; there is no entailment of literal motion in space.

- (5.172) *uru* \emptyset *le* *ni* *moruwah*
 3DU REAL go.to fish two
 ‘They turned into two fish’ (2011-04-23-AA-02_0095)

The change of state meaning of the minor verb is therefore not restricted to the multi-verb construction, but also comes about in mono-verbal clauses. The source state of this metaphorical path verb is ‘the subject does not have the property denoted by the complement’ (being fish in (5.172)) and the target state is ‘the subject has the property denoted

Time \ Space	Proximal	Distal	Unspecified
Proximal	<i>le-V~la-V</i>	<i>V-rah</i>	
Distal			locative & posture Vs
Unspecified			<i>ta</i>

Table 5.10: Deictic properties of locative predicates in Koro

by the complement'.²² It is easy to see, therefore, how the lexical content of V_2 and the target state of V_1 in this construction can merge, to create a unified event structure for the complex predicate. The target state of V_1 is 'having the property denoted by V_2 ', and V_2 specifies the property. This analysis allows a unified treatment of the associated motion and change of state constructions, and shows how their apparently distinct semantics arise from the lexical semantics of the verbs in the V_1 and V_2 slots.

5.3.2.3 Imperfective aspect

Like the associated motion and change of state constructions discussed in the previous sections, the imperfective construction in Koro involves a restricted V_1 slot and an open V_2 slot. Unlike those constructions though, the minor verb slot hosts a locative predicate or posture verb, instead of a path verb. Nonetheless, I will provide evidence that it is another sub-type of the same construction. The imperfective construction shares morpho-syntactic properties with the associated motion and change of state constructions: the two verbs are obligatorily contiguous, and aspect and mood marking occurs only before V_1 . However, the semantics of the constructions are quite different — in particular, the imperfective construction, unlike the associated motion, does not have a consecutive entailment. I argue here that, like for the associated motion construction, the aspectual interpretation of the imperfective is directly attributable to the semantics of the V_1 , and therefore that it is not necessary to invoke a semantic contribution for the construction itself.

The imperfective aspect construction involves a main lexical verb occurring directly after a locative or existential predicative element. (The deictic properties of these locative predicates are summarized in Table 5.10 and Chapter 3 includes a thorough discussion of the behavior of these predicates when they occur in mono-verbal clauses.) The predicative elements that can occur in the minor verb slot include the bare verbs *tu* (5.173) and *ti* (5.174), the prefixed proximal forms of these verbs *letu* (5.175) and *leti* (5.176), and the locative copula *ta* (5.177). Only the distal form of the verbs with suffix *-rah* does not occur as a

²²In the case of *me* the target state also includes 'the subject is metaphorically closer to the deictic center'.

Form ²³	Morpho-syntax	Deixis (temporal; spatial)	Aspectual function
<i>le-V~la-V</i>	non-verbal	proximal; proximal	present continuous, proximal
V	verbal	distal; unspecified	non-present continuous; non-present habitual
<i>ta</i>	non-verbal copula	unspecified; unspecified	continuous; habitual; gnomic; ability modal

Table 5.11: Modal–aspectual functions of Koro locative constructions

minor verb in the imperfective SVC.

(5.173) *ra mweh tu ngap*
 all dog stay run
 ‘All the dogs were running’ (Elicitation-2012-07-23-BZ_0006)

(5.174) *u Amerika ti chong rutun*
 3PL.DET America stay hunt.in.bush 3PL
 ‘The Americans were hunting for them (the Japanese) in the bush’
 (Elicitation-2012-07-27-AD_BZ_0068)

(5.175) *you le-tu ndan mwa you le-tu tuwah*
 1SG:SBJ PROX-stay dance COORD 1SG:SBJ PROX-stay chew.betelnut
hewen
 together
 ‘I am dancing and chewing betelnut at the same time’
 (Elicitation-2013-07-26-AD_CA_BW_0036)

(5.176) *you mwa le-ti kah i tahit ye*
 1SG:SBJ still PROX-stay find 3SG FRUST PROX
 ‘I am still searching for him in vain’ (v2012-08-01-AH-05_0071)

(5.177) *i ta henonou helow-a mwahakai*
 3SG LOC.COP learn drive-NMLZR:TR car
 ‘He is learning to drive a car’ (Elicitation-2012-06-29-AV_0109)

²³In this table, V represents any of the locative or postural verbs.

The general properties of locative predicates in Koro, and their modal–aspectual uses, are summarized in Table 5.11. In elicitation, posture verbs *mi* ‘sit’, *sa* ‘stand’, and *ye* ‘lie’ are also accepted as minor verbs in this construction, but these occur only very rarely in the naturally occurring discourse in my corpus. In such cases the postural verb serves double duty — it encodes imperfective aspect, and simultaneously indicates the posture of the subject of the verb while they are engaged in the ongoing action. This is illustrated in (5.178), in which minor verb *lemi* indicates that the subject was sitting, and (5.179) where V₁ *sa* indicates that the subject was standing. In both examples, the minor verb also imparts semantics of continuous aspect.

(5.178) *you le-mi suwe ndwal*
 1SG.SBJ PROX-sit paddle canoe
 ‘I’m sitting paddling the canoe’ (Elicitation-2012-08-04-AD_CA_0006)

(5.179) *taim i Ø me you mwa Ø sa tuwe ni*
 time 3SG REAL come 1SG.SBJ still REAL stand boil fish
 ‘When s/he came I was still standing cooking fish’ (Elicitation-2012-08-10-BZ_0167)

The fact that posture verbs in the imperfective construction retain their posture semantics is strong evidence that they are true main verbs in this construction, and therefore this is good evidence that the construction is in fact a true SVC.

There appear to be few restrictions on the semantics or argument structure of the major verb in the imperfective. As noted in Chapter 3, path of motion verbs *la* ‘go’, *me* ‘come’, *jau* ‘leave’, and *mul* ‘return’ cannot occur in the imperfective construction, but otherwise, verbs of all Aktionsarten are allowed. This is illustrated in the following examples, which include an activity predicate (5.180), a semelfactive predicate (5.181), and a stative predicate (5.182).

(5.180) *munuwe you Ø ru namw-i niu*
 prev.day 1SG.SBJ REAL stay:SG scrape-SPEC.OBJ coconut
 ‘Yesterday I was scraping coconut’ (Elicitation-2013-07-18-AD_0001)

(5.181) *u ta tah epi*
 3PL.SBJ LOC.COP beat sago
 ‘They are beating sago’ (Elicitation-2011-03-09-AH_AV_0055)

(5.182) *au ta lengi nda~ndan?*
 2SG LOC.COP like REDUP:NMLZR~dance
 ‘Do you like dancing?’ (Elicitation-2012-08-10-BZ_0206)

Aside from the prepositional path verbs, which as noted cannot occur in the imperfective, it is difficult to construct a predicate in Koro that is clearly telic, and it is therefore difficult to construct an example in which an obligatorily telic predicate (an accomplishment) occurs in the imperfective construction. However, predicates with a strong telic implicature can freely occur in imperfective, as demonstrated in (5.183).

- (5.183) *you le-tu kal le mbruchon*
 1SG.SBJ PROX-stay swim go.to island
 ‘I am swimming to the island’ (Elicitation-2012-08-04-AD_CA_0098)

Achievement predicates, such as *mat* ‘die’ in (5.184) are disallowed in this construction because they are punctual.

- (5.184) **lepe tasou ta mat*
 old.man LOC.COP die
 Intended: ‘The old man is dying’ (Elicitation-2013-07-26-AD_CA_BW_0003)

Imperfective is a broad aspectual category that encompasses a range of more specific meanings. The precise type of imperfective meaning expressed by this construction depends primarily on which locative predicate occurs in the minor verb slot, but there is functional overlap between the different types of locative predicates. As illustrated in (5.185–5.188), locative copula *ta*, proximal predicate *letu*, and locative verb *ru* can all have a continuous reading, which indicates that TT is fully included in TSit. (I use the term ‘continuous’, following Comrie (1976:25) and Bybee et al. (1994:127), to subsume progressive and stative uses of imperfective, to the exclusion of habitual.)

- (5.185) *i ta jan karahat*
 3SG.SBJ LOC.COP eat mud.crab
 ‘He is eating crab’ (Elicitation-2012-07-17-AD_BZ_0063)

- (5.186) *you le-tu suwe ndwal*
 1SG:SBJ PROX-stay paddle canoe
 ‘I’m paddling the canoe’ (Elicitation-2012-07-11-AD_BZ-0116)

- (5.187) *i ∅ ru tuwe karahat*
 3SG REAL stay:SG boil mud.crab
 ‘He was boiling crab’ (Elicitation-2012-07-20-AD_BZ_0081)

- (5.188) *mwah a me, a you k-u ru singe*
 next.day 2SG:IRR come PROSP 1SG:SBJ IRR-1SG stay:IRR/SG wash
chuchu
 covering
 ‘Tomorrow when you come I’ll be washing clothes’
 (Elicitation-2012-08-06-AD_BZ_0075)

In its continuous function each locative predicate retains the spatial and temporal deictic entailments that it has as a main predicate (see §3.4 for a discussion of these entailments). For example, the form *letu* in (5.186) above entails that the event is occurring at the utterance time in close proximity to the speaker, just as it would when used as a simple locative predicate. Non-present (past or future) continuous aspect is most often marked with the temporally distal form of one of the locative verbs (unaffixed *tu* or *ti*), as in (5.187–5.188)

above. But there are also instances of copula *ta* in this function. In (5.189), for example, the beating event occurred at a time prior to the utterance time, but *ta* rather than *ru* is used to mark imperfective aspect.

- (5.189) *to ta tah ndemi pohanum e you*
 1PL.INCL.SBJ LOC.COP beat slit.drum front.yard COORD 1SG.SBJ
tana-∅ wum atua pwi
 know-1SG.POSS house 1SG.POSS NEG
 ‘We were beating the drums in front of the house and I didn’t know (what was going on in) my house’
 (2011-03-11-AH_AV-01_0226)

Past and future habitual can likewise be expressed with either copula *ta*, as in (5.190), or unaffixed *tu* or *ti*, as in (5.191).

- (5.190) *you mwa ndohin tino i ta tile mwalih me*
 1SG.SBJ still small mother:1SG.POSS 3SG LOC.COP tell story come
jua lukumwan tih tehene tih
 1SG night one thus one
 ‘When I was little my mother would tell me stories night after night’
 (Elicitation-2012-08-04-AD_CA_0059)

- (5.191) *ha you k-u ru numwi marasin atua rang*
 PROSP 1SG.SBJ IRR-1SG stay:IRR/SG swallow medicine 1SG.POSS day
mamonein
 every
 ‘I’m going to take my medicine every day’ (Elicitation-2012-07-12-AD_BZ_0161)

In contrast, the *le-~la-* prefixed verbs, which are spatially and temporally proximal, do not occur with a habitual meaning. First person present habitual, which might be expected to use a *le-~la-* form (which is spatially and temporally proximal), is expressed instead with *ta*, as in (5.192).

- (5.192) *you ta suwe ndwal*
 1SG.SBJ LOC.COP paddle canoe
 ‘I paddle canoes’ (Elicitation-2012-07-11-AD_BZ_0115)

The temporal flexibility of clauses with *ta* — which can express past, present, or future continuous or habitual aspect — supports the analysis of *ta* proposed in Chapter 3, namely that *ta* is unspecified for any temporal or spatial deictic properties, and is simply a deictically neutral locative copula. Likewise, the inability of *le-~la-* forms to have a present habitual use supports the hypothesis that they have spatially proximal semantics, and are not simply sensitive to person deixis. If, for instance, *le-* were specified for first person reference, we would expect it to be used for first person habitual reference. In contrast, if it is specified for spatial proximity, it is not surprising that it cannot be used for habitual events, which would potentially be undertaken by the subject in various spatial locations.

In line with its unmarked nature, only *ta* is used as a gnomic, with generic subjects. None of the other imperfective constructions can express a gnomic meaning. The gnomic use of *ta* is illustrated in (5.193).

- (5.193) *pelimat ta jan mbrwakei*
 flying.fox LOC.COP eat fruit
 ‘Flying foxes eat fruit’ (Elicitation-2012-07-17-AD_BZ_0213)

Due to the lack of definiteness marking in this example, and the vagueness of *ta*, this statement could have either a gnomic or a present continuous reading. The vagueness can be resolved by adding morpheme *i* between the subject and the copula, as in (5.194). This forces a reading in which the subject noun phrase *pelimat* is specific and referential, and therefore a gnomic interpretation is no longer felicitous.

- (5.194) *pelimat i ta jan mbrwakei*
 flying.fox 3SG LOC.COP eat fruit
 ‘The flying fox is eating fruit’ (Elicitation-2012-07-17-AD_BZ_0214)

In addition to its purely aspectual use, copula *ta* sometimes has the function of an ability modal. This is demonstrated in (5.195), where *ta* encodes the general ability of the subject to perform the action of V_2 .²⁴

- (5.195) *You ta kal le mahun*
 1SG.SBJ LOC.COP swim go.to far
 ‘I can swim far’ (Elicitation-2011-03-22-AH_AV-01_0096)

When a general ability is negated though, locative verb *ti* must be used instead. This is illustrated in (5.196), from a traditional narrative. In this example, the character speaking has just asked his wife Chichindrikawa (who is in fact a devil) to climb a betelnut tree as a test. As he explains, he did not think she could climb it, but she proved him wrong. Notice that the negative polarity clause uses *ti* to encode ability, while the positive polarity clause uses *ta*.

- (5.196) “*O Chichindrikawa, you pwa tehene au ta ti nak*
 INTERJ Chichindrikawa 1SG.SBJ say thus 2SG NEG stay climb
pamei pwi. Pwi, au ta nak Ø.”
 betelnut NEG NEG 2SG LOC.COP climb 3INAN.OBJ
 ‘Oh, Chichindrikawa, I thought you couldn’t climb betelnut at all. But no, you can climb it.’ (2011-03-08-AH_AV-01_0085-0086)

²⁴This combination of functions is reminiscent of Tok Pisin *save*, which in addition to its purely lexical meaning of ‘know’ also has semantics of ability and can be used to mark habitual activities. However, this lexical item is much closer to Koro *tana-*, which shares all three of the functions of *save*. Koro *ta*, in contrast, cannot be used as a lexical verb meaning ‘know’, and has a much wider range of imperfective uses than *tana-* and Tok Pisin *save*.

This asymmetry is due to the fact that copula *ta* cannot be negated. Positive polarity appears to be part of its inherent semantics, and it is therefore incompatible with negation, either in the imperfective construction, or as a main predicate. In contrast, the locative verbs can be negated when they occur in mono-verbal clauses, and therefore they are also compatible with negation in the imperfective.

It is clear from the above discussion that the range of modal–aspectual meanings that each locative predicate can encode in the imperfective construction coincides with the degree of deictic specificity it has as a main predicate. Copula *ta*, which is deictically neutral, has the widest range of aspectual uses, while affixed and unaffixed locative verbs *tu* and *ti*, which are spatially and/or temporally restricted in their main predicate use, exhibit corresponding restrictions in their aspectual use. So far then, there is no reason to attribute any semantics to the imperfective construction itself — all temporal and spatial entailments are explained by properties of the locative predicate in the minor verb slot. In a generative framework this is a desirable outcome, since all semantic properties of a construction are assumed to be determined by the semantics of the lexical items combined with the syntax of the construction.²⁵ In §5.3.2.1 and §5.3.2.2 above I showed that this is the case for the associated motion and change of state constructions, in which the two verbs form a single macro-event, the entailments of which are predicted by the lexical semantics of each verb. Specifically, I argued that V_2 in these constructions acts as a literal and/or metaphorical goal of V_1 , and that this explains properties of the construction such as the obligatory sequential semantics, without assuming any semantic contribution from the construction itself.

But what about the event structure of the imperfective construction? What explains the fact that in this construction, which is syntactically isomorphic with the associated motion construction, the events of the two verbs do not have a sequential interpretation, but instead have a simultaneous interpretation? In fact, while the associated motion construction is clearly comprised of two sub-events — one expressed by the motion verb and another by the major verb — it is not at all clear that the imperfective even involves two events. Instead, the construction seems to fulfill the canonical function of an imperfective aspect marker. In Klein’s terminology, it indicates that the topic time is located within the situation time. In other words, it indicates that at the time being referred to, the event or state was ongoing. This entailment is clear when the topic time is overtly specified, as in (5.197). Here, the topic time is explicitly identified with the clause *yourun me* ‘(when) we came’. The imperfective construction indicates that at the time when the speaker arrived, the washing event had already begun and had not yet ended. The temporal structure of this utterance is diagrammed below.

- (5.197) *yourun* \emptyset *me,* *au* \emptyset *ru* *singe* *chatau*
 1PL.EXCL REAL come 2SG REAL stay:SG wash laplap
 ‘When we came you were washing your clothes’
 {———[—]TT———}TSit (Elicitation-2011-03-21-AH_AV_0104)

²⁵This is in contrast to an approach such as that of Construction Grammar, where the construction is a pairing of form and meaning with potentially its own phonological, morphological, syntactic, semantic, and pragmatic properties (see, inter alia, Fillmore 1988, Fillmore et al. 1988, Goldberg 1995, Kay and Fillmore 1999).

Further evidence that this construction fulfills a canonical imperfective function is provided by the fact that it is compatible with temporal adverb *mwa* ‘still’, as in (5.198). This adverb indicates that the situation time is not only ongoing, but has continued from a previous salient point in time. It only occurs with imperfective or stative verbal predicates and non-verbal predicates, which are inherently stative (see §3.4 for more detail). In other contexts *mwa* is disallowed, as evidenced by the ungrammaticality of (5.199), which is not marked for imperfective aspect.

(5.198) *u mwa ta tuwe-ni ni*
 3PL.SBJ still LOC.COP boil-SPEC.OBJ fish
 ‘They are still cooking the fish’ (Elicitation-2012-07-14-AD_BZ_CA_0038)

(5.199) **ha you mwa k-u tuwe ni*
 PROSP 1SG.SBJ still IRR-1SG boil fish
 Intended: ‘I will still cook fish’ (Elicitation-2012-07-14-AD_BZ_CA_0055)

These facts indicate that the imperfective construction encodes canonical imperfective semantics, and as such it does not constitute two events at any level. The minor verb does not introduce an event argument; instead it modifies the event of the major verb.²⁶ Like with the associated motion construction, however, the semantics of the imperfective construction can be attributed directly to the semantics of the morphemes in the minor verb slot, combined with the syntax of the construction. This analysis is detailed in the following section.

5.3.2.4 Discussion

In §5.3.2.1–5.3.2.3 above the lexical aspect of the associated motion, change of state, and imperfective constructions were described and exemplified. In this section I elaborate on exactly how the complex event structures described above are derived. The default aspectual interpretation of each type of construction is schematized in (5.200) (repeated from (5.161)) and (5.201). This is the temporal interpretation given to the construction when no overt TAM marking is present (and the construction is therefore simply realis).

(5.200) Default interpretation of ASSOCIATED MOTION/CHANGE OF STATE SVC
 $\{\text{---}[\text{---}]_{\text{SS}} \mid \{++\}_{\text{TT}++++}\}_{\text{TS}}$
 SS = SS of V_1
 TS = TS of V_1 + LC of V_2

(5.201) Default interpretation of IMPERFECTIVE SVC
 $\{\text{---}[\text{---}]_{\text{TT}---}\}_{\text{TSit}}$
 TSit = TSit of V_1 + TSit of V_2

Notice first of all that the associated motion and change of state constructions have a default perfective interpretation (TT includes the transition from SS to TS), while the imperfective

²⁶This is in line with analyses such as that of Katz (2003), who argues that stative verbs do not introduce an event argument.

has, not surprisingly, an imperfective interpretation (TT is included in TSit). Given the assumption that these constructions are sub-types of a single construction, one question that immediately arises is how these two very different temporal interpretations come about. I suggested above that all differences are directly attributable to the semantics of the verbs that occur in the V_1 slot of each of these constructions. So how can this major aspectual difference be derived?

As discussed in Chapter 3, path verbs have a default perfective interpretation, while locative predicates have a default imperfective interpretation. This is schematized in (5.202–5.203).

(5.202) Default interpretation of PREPOSITIONAL PATH VERBS

{—[—]_{SS} | {++]_{TT}++++}_{TS}
 SS = subject not in goal location
 TS = subject in goal location

(5.203) Default interpretation of LOCATIVE PREDICATES

{—[—]_{TT}—}_{TSit}
 TSit = subject in location

Comparing these diagrams to those in (5.200–5.201) above reveals that the default interpretation of each SVC has the same temporal structure as that of its V_1 . That is, both the associated motion construction and the prepositional path verbs have a default perfective interpretation, and both the imperfective construction and the locative predicates have a default imperfective interpretation. My proposal is that this comes about because the lexical content of V_2 is treated as the metaphorical goal or location of V_1 .

Consider first the mono-verbal telic path predicate in (5.204).

(5.204) *kehis au ∅ me kor?*
 when 2SG REAL come village
 ‘When did you come to the village?’ (Elicitation-2011-03-22-AH_AV_0040)

Here the topic time (the ‘when’ being inquired about) includes the moment when the addressee went from not being in the village (the source state) to being in the village (the target state). In addition, the use of *me* indicates that the village is closer to the deictic center than the source location. In other words, the target state of this predicate is defined by the subject being closer to the deictic center and being situated at the goal location. Compare this with the associated motion construction in (5.205). (The context for this utterance is that the subject, a she-devil, has been tricked into trying to catch a giant clam by putting her head inside its shell. The clam has closed its shell and cut off her head, and her body now rises to the surface of the sea and floats there.)

(5.205) *e koro i me pit*
 COORD PROX REAL:3SG come float
 ‘And this (her body) came (up) and floated’ (2011-04-03-BC-04_0401)

Here the topic time includes the transition from the body not being on the surface and not floating to the body being on the surface and floating. In other words, the target state of this predicate includes the subject being closer to the deictic center and being engaged in the activity of floating. One way of analyzing this is to say that the activity of floating is a metaphorical location, and that the target state is partly characterized by the subject's being located within that activity. In this sense, the event of V_2 in this construction can be analyzed as having the same function as the spatial goal *kor* in the simple motion construction in (5.204). This is schematized in (5.206–5.207).

(5.206) *au me kor*

{—[—]}_{SS} | {++}TT++++}TS

SS = addressee further from deictic center and not situated in the village

TS = addressee closer to the deictic center and situated in the village

(5.207) *koro i me pit*

{—[—]}_{SS} | {++}TT++++}TS

SS = subject further from deictic center and not engaged in the activity of floating

TS = subject closer to the deictic center and engaged in the activity of floating

The same parallel can be drawn between the locative argument of a mono-verbal locative predicate and V_2 of the imperfective construction, although the connection is somewhat more metaphorical. Take the second clause in (5.208), which includes locative predicate *ri palan* ‘be on its head’.

(5.208) [*e mweh atan i chopol*] *mwa* [*pweku i*
COORD dog 3SG.POSS REAL:3SG jump COORD pot REAL:3SG
ri pala-n]
stay:SG head-3SG.POSS

‘And his dog jumped (out of the window) while the jar was on its head’

(2011-03-22-AH_AV-02_0067)

Here the topic time (the moment when the dog jumped) is contained within the time that the subject (a jar) is located on the dog's head. Another way of saying this is that the situation time, which is characterized by the jar being on the dog's head, extends before and after the topic time. Now consider the example in (5.209).

(5.209) [*i ri metir ndara pele a*] *mwa* [*rokrok atan kapwa i*
3SG stay:SG sleep top bed DIST COORD frog 3SG.POSS maybe 3SG
 \emptyset *chopol*]
REAL jump

‘He was sleeping on the bed and maybe his frog jumped (out of its jar)’

(2011-03-22-AH_AV-02_0034)

The first clause of this utterance involves the same locative verb *ri*, but this time it is followed by verb *metir* ‘sleep’, rather than a nominal locative argument. The interpretation of this

utterance is that the topic time (the time when the frog jumped out of the jar) is contained within the time when the subject was sleeping (the situation time). As suggested above for the associated motion construction, one way of analyzing this construction is to say that the activity of V_2 is a metaphorical location, and the situation time is characterized by the subject's being located within that activity. In this sense, V_2 in an imperfective SVC can be said to have the same function as the locative argument of a locative or posture verb, just as V_2 in the associated motion acts as a goal.

This analysis certainly has typological support. For example, Bybee et al. (1994:129) in their sample of close to one hundred languages, find that the majority of progressive constructions (a sub-category of imperfective) are diachronically related to locative constructions. In fact, they argue that, as far as stative sources for progressives are concerned, a locative meaning is obligatory. Their explanation for this common diachronic path is that “the original function of the progressive is to give the location of an agent as in the midst of an activity” (Bybee et al. 1994:133). Hengeveld (2011:586) makes a similar claim, stating that a progressive interpretation of locative predicates “arises through the conceptualization of the subject being located within (the time span of) the state of affairs.” In this sense the imperfective function of locative predicates can be viewed as a straightforward metaphorical extension of their locative meaning. The fact that this association between temporal location in time spans and spatial location in physical spaces is found over and over again in a wide variety of languages suggests that it is a pervasive metaphor. This lends credibility to the analysis of the Koro imperfective and associated motion constructions presented here, in which the event of V_2 has the role of a goal or location.

I have shown in this section that the minor verbs in the associated motion, change of state, and imperfective constructions retain their main predicate semantics. In addition, close analysis of their temporal structure has revealed that the semantics of each construction is entirely predictable from the semantics of the minor verb. In each case the V_2 constituent fulfills the role that a non-verbal argument typically would (that is, goal or location). In the following chapter I will analyze the syntactic structure of these constructions, and show that V_2 also fulfills a similar syntactic role to the nominal argument in such constructions, suggesting a direct correlation between syntax and semantics in these constructions.

5.3.3 Durative and sequencing

Finally, let us briefly consider the durative and sequencing constructions illustrated in (5.9–5.10) above. These represent two types of construction that are commonly identified as SVCs in Oceanic. However, in Koro (and probably in many other languages), there is not compelling evidence to suggest that they are SVCs. Although they appear to fulfill the criteria for SVCs discussed so far, when we look at argument sharing and morpho-syntactic marking, it becomes clear that an SVC analysis is not warranted for these constructions. On the contrary, the most parsimonious analysis is that they are examples of simple main clause juxtaposition. The basis for this claim is the fact that the so-called durative and sequencing constructions are in every way identical to a sequence of main clauses, except for their prosody. This is especially clear when argument structure is considered. The

argument structure of a sequential or durative construction is identical to the argument structure that would be found with those verbs in a sequence of mono-verbal clauses. In other words, each verb in the construction retains its full set of arguments, unlike other constructions where one of the arguments is shared. The fact that the minor verb takes an event argument rather than a noun phrase argument is not evidence of SVC status, because, as shown in (5.15) and (5.21) above, these verbs can take an event argument when used as a main predicate. In addition, each of the verbs in the construction has TAM marking, and therefore could stand alone as a main predicate. Nor does morpho-syntactic evidence of monoclausality exist for these constructions; since V_2 does not take an object, object extraction cannot be used as a diagnostic, and they do not undergo nominalization. In the absence of argument sharing or morpho-syntactic evidence for monoclausality, it is only the monoclausal intonation and lack of an overt subordinator or coordinator that suggests these constructions may be SVCs. Asyndetic coordination and subordination is common in Koro, and therefore the lack of an overt clause-linking morpheme is very tenuous evidence of monoclausality. Finally, there is some evidence that the sequencing construction does not have strict TAM sharing requirements. For example, in the sequencing construction in (5.210), which has monoclausal intonation, V_1 takes irrealis marking, while V_2 takes realis.

- (5.210) *yaha* *k-a* *eniyan* *i* *hepwi* *mwa* *pwen*
 1PL.EXCL IRR-NON.SG eat REAL:3SG finished COORD finished
 ‘We will eat and then that’s it (the instructions on how to make a garden are finished)’ (2011-03-22-AH_AV-03_0129)

The fact that TAM categories do not have scope over both verbs is another nail in the coffin for an analysis of this construction as an SVC. The only remaining question then, is why durative and sequencing constructions can have intonation that is similar to that of a single clause, when they have the morpho-syntax and argument structure of multi-clause constructions. Since this question is not directly relevant to the syntactic analysis of SVCs, I leave it for further research.

5.4 Conclusion

In this chapter I surveyed the various constructions in Koro that resemble SVCs. I showed that all of these constructions fulfill the superficial typological criteria for SVCs: they combine two main verbs into a single clause, without any overt marker of coordination or subordination; the verbs share tense, aspect, and polarity values; they share a core argument; and each construction describes a single event. In addition, the semantic functions of these constructions are all typical of SVCs, especially SVCs described in other Oceanic languages. Despite the fact that each of these constructions appears to fulfill the typological criteria for SVCs, and therefore may be described as an SVC in a descriptive grammar of the language, on further inspection it is apparent that they do not all fit the definition of SVCs developed in Chapter 4, and most of them must be discarded as SVCs on principled grounds. In particular, morpho-syntactic evidence suggests that the minor ‘verbs’ in the instrumental and comparative constructions are not in fact verbal — and therefore that these are not true

SVCs. In addition, the resultative does not behave like a prototypical SVC — it allows only a very restricted set of verbs to occur, it does not freely allow object extraction, and it cannot be nominalized — and therefore it is not a good candidate for a true SVC. Surprisingly, the directional and allative constructions — which fulfill prototypical functions of SVCs and are morpho-syntactically similar to SVCs commonly found in other languages — also must be discounted as true SVCs, due to their semantic properties. Finally, the durative and sequencing constructions do not necessitate an SVC analysis, but can simply be understood as two main clauses, without overt markers of coordination or subordination. Only the associated motion, change of state, and imperfective constructions remain candidates for true SVCs in Koro. I argued that these three constructions are in fact subtypes of a single syntactic construction, and that their differing semantics is due entirely to the semantics of the minor verbs in the respective constructions.

Chapter 6

Syntax of serial verb constructions in Koro

6.1 Introduction

The previous chapter explored the range of constructions in Koro that superficially resemble SVCs. By applying the criteria developed in Chapter 4, I demonstrated that most of these constructions are not in fact true SVCs. For example, the instrumental and comparative constructions are better analyzed as prepositions, while the durative and sequencing constructions appear to simply be apposed main clauses. The only constructions that fit all of the typological criteria for true SVCs are the associated motion, change of state, and imperfective, which I argued are in fact variations on a single construction. The resultative, which at first appears to be a canonical example of an SVC, is restricted to just a few combinations of verbs, and has idiosyncratic behavior with respect to extraction and nominalization. As such, although it probably represents a fossilized SVC, it is no longer productive. The directional and allative constructions, on the other hand, despite being extremely productive and fulfilling many of the typological criteria for SVCs, do not exhibit the expected properties in terms of TAM scope and telicity. I therefore concluded that these are not true SVCs, because they do not describe a single event. However, since the directional construction so closely resembles prototypical SVCs in other languages, it is nonetheless important to understand its structure. In this chapter I present a syntactic analysis of the directional and allative construction, as well as the associated motion, change of state, and imperfective. The directional is shown to have syntactic properties similar to an adjoined depictive secondary predicate, while being semantically similar to a resultative. The associated motion construction, on the other hand, exhibits a complementation structure that is indistinguishable from that of an auxiliary or raising verb construction.

The chapter is structured as follows: in §6.2 I briefly survey the literature on the syntax of SVCs, summarizing the main types of analyses that have been posited; in §6.3 I then present an analysis of the structure of directionals in Koro, arguing that they are not in fact true SVCs; in §6.4 I discuss the associated motion construction, and evaluate the merits of an SVC analysis; in §6.5 I make some programmatic remarks about the relation between

syntactic structure and event structure in these constructions; and in §6.6 I briefly discuss the resultative, and present some concluding observations.

6.2 Background: Prior analyses of SVCs

Ever since they were first recognised in the Niger-Congo languages of Africa, SVCs have presented a conundrum for syntactic theory. They appear to challenge some of the fundamental assumptions about syntactic structure in languages. For example, a basic syntactic tenet is that a phrase can only have a single head, but SVCs appear to be double-headed, having two verbs that together form a single predicate. Similarly, it is widely assumed that a single argument can be associated with only one verb, whereas the two verbs in an SVC appear to share one or more of their arguments. A number of different proposals have been put forward to try and account for these peculiarities of SVCs, and in this section I briefly survey the main approaches.

Generative analyses of serialization are split between those that treat serialization as essentially a lexical phenomenon, and those that treat it as purely syntactic. Lexicalist approaches place the explanatory burden on the lexicon. In other words, under this view, the primary difference between serializing and non-serializing languages is that the former have certain types of lexical items or processes that the latter lack. For example, according to Aboh (2009), V_1 in an SVC is a functional head or light verb occurring above V_2 in the clausal spine. A tacit consequence of this analysis is that every verb that can occur in the V_1 slot of an SVC must have at least two entries in the lexicon — one as a lexical V with a full complement of theta roles to assign, and another as a light verb or functional head, which cannot assign theta roles. A shortcoming of this type of approach is that, as Baker (1989) points out, it is ill-equipped to deal with observed constraints on the types of verbs that can occur in an SVC. For example, in many types of SVC, V_2 is restricted to the class of unaccusative verbs, or some subset thereof (such as path of motion verbs). Without stipulation, there is no obvious way in which a lexical analysis like that of Aboh can account for such a restriction. In contrast, many syntactic analyses correctly predict this type of restriction.

The lexical account presented by Lefebvre (1991) goes some way to overcoming this problem. Lefebvre analyzes the ‘take’ SVC in Fon as a causative construction formed by a productive lexical process that derives a two place predicate. In such SVCs, V_1 is restricted to one of the two ‘take’ verbs, while V_2 is an unaccusative verb that, broadly speaking, describes a change of location. In Lefebvre’s analysis, the minor verb in V_1 introduces the causer argument and fills the higher V head in a Larsonian VP-shell structure (which is essentially the correlate of a causative v head in more recent iterations of the theory). Unlike in Aboh’s proposal, V_1 for Lefebvre retains its theta grid, and is therefore similar or identical to its main verb counterpart. Her analysis correctly predicts that the V_2 slot will be restricted to unaccusative verbs encoding change of location. This restriction comes about due to the lexical conceptual structure of the two verbs. The higher ‘take’ verb has a causer in its specifier and as its complement a theme that undergoes a change of location. In order, therefore, for the structure of the lower verb to merge with that of the higher verb,

it must include as its highest argument a theme that undergoes a change of location.¹ But like Aboh's analysis, this analysis only works for asymmetrical SVCs with a restricted V_1 slot. This type of lexical analysis is unwieldy when dealing with SVCs where the V_1 slot is open because it would require a vast expansion of the lexicon. The appeal of this type of analysis is that, unlike most of the syntactic solutions, it does not introduce new theoretical apparatus. However, the trade-off of a strictly lexicalist approach is quite costly.

It is worth noting here that in the approach developed in this dissertation, this type of lexical analysis effectively does away with the phenomenon of serialization altogether. SVCs as defined here — following the established criteria — obligatorily involve two main verbs, and main verbhood has been defined as strict phonological, morphological, syntactic, and semantic identity with a morpheme that occurs as a main predicate in monoverbal clauses. Lexical proposals such as that implemented by Aboh entail that the verb occurring in the SVC is a different morpheme than the verb that occurs in isolation (it has a separate lexical entry with different properties, such as a deficient argument structure). If this is the case, then serialization is no longer a syntactic phenomenon, and the surface sequences of verbs observed in various languages are instead explained by the nature of the lexicon. As such, so-called 'serialization' would not be serialization at all, but some other phenomenon, such as auxiliary or control structures.

Let us examine now the main syntactic proposals that have been put forward to account for the morpho-syntactic and semantic properties of SVCs. There are several areas of contention within SVC analysis, and no single type of analysis has yet been agreed upon. The main disagreements center around three variables: (i) the type of juncture between V_1 and V_2 (i.e., coordination, complementation, or adjunction); (ii) the size of the V_2 projection (e.g., VP, *v*P, AspP, etc.); and (iii) the mechanism of argument sharing. In addition, scholars differ as to whether they ascribe the same structure to all types of SVCs, or whether they allow different structures for different types of SVCs.

One of the most influential analyses of SVCs is that in Baker (1989). The main proposal in this work is that SVCs are doubly-headed VPs, and that they share an object directly, without any kind of mediating empty pronominal category. Baker proposes the basic structure shown in Figure 6.1 for SVCs in Yoruba and Sranan (the same basic structure is given for Chinese directional SVCs by Law (1996)). In later unpublished work with Stewart (Baker and Stewart 2002), Baker updates this analysis in line with more current theoretical assumptions about clausal architecture (based heavily on the analysis in Stewart (2001)), doing away with ternary branching, and introducing additional functional heads above VP. The updated analysis is shown in Figure 6.2 (correct word order is derived from this structure by movement of V_1 to *v*).

This basic type of analysis, where V_2 in an SVC heads a projection that is the sister of V_1 , is argued for by a number of other scholars, including Larson (1991b) and Carstens (2002). (See also the structure proposed by Collins (1997) in Figure 6.4 below.) This is

¹This insight could also be framed with reference to the Uniformity of Theta Assignment Hypothesis (UTAH), which entails that only themes or lower ranking arguments can be merged below the causer (Baker 1988). As a result, only the highest verbal head in the verb phrase can introduce a causer, and lower verbal heads must not include a causer in their argument structure (i.e., they must be unaccusative).

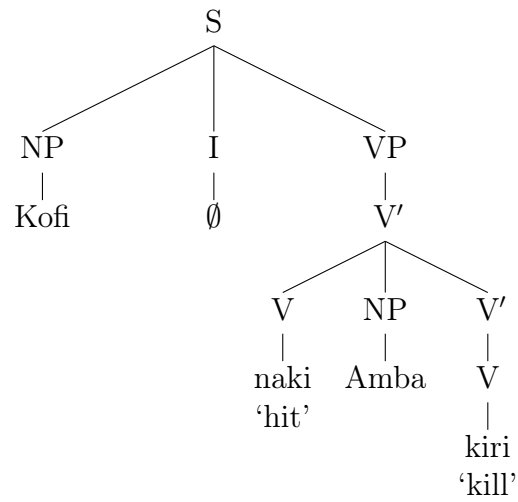


Figure 6.1: Structure of SVCs according to Baker (1989)

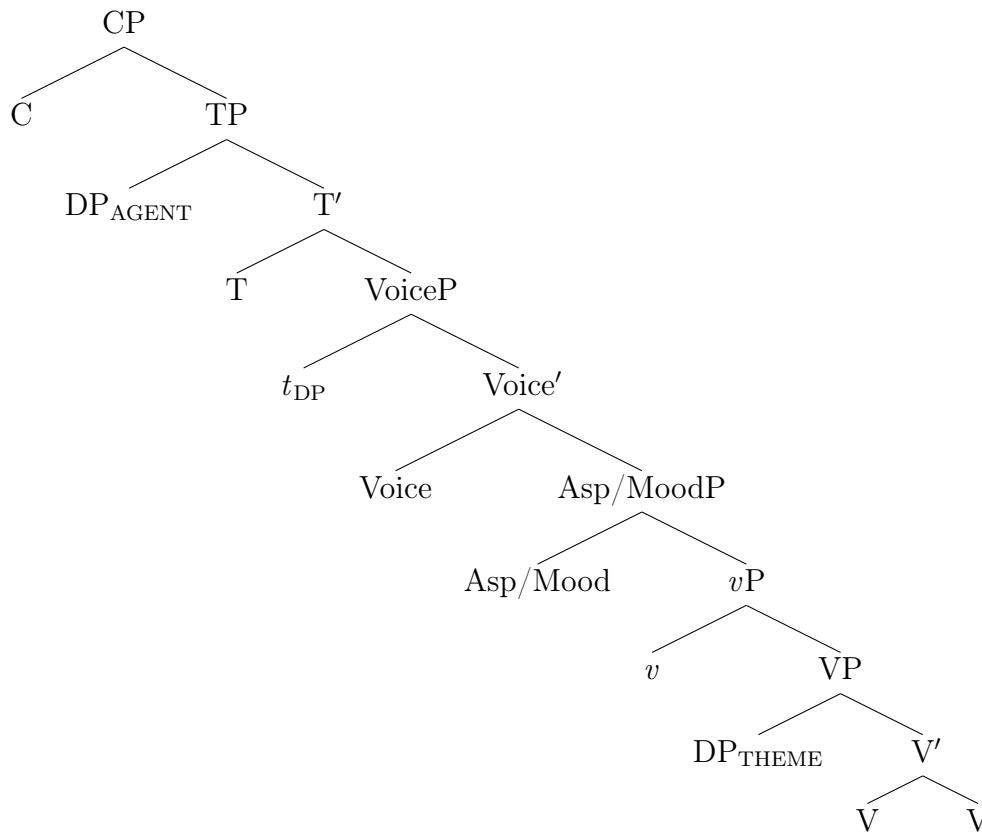


Figure 6.2: Structure of resultative SVCs according to Baker and Stewart (2002)

often referred to as a VP-shell analysis, since it involves nested VPs. The basic assertions of this analysis are that V_1 and V_2 are both heads of the SVC, and that the projection of V_2 is the complement of V_1 . As such, this is an analysis that treats serialization as a type of complementation.

A number of scholars provide different syntactic analyses for different types of SVCs. In such a framework, it is always resultative SVCs that have a complementation structure. (In fact, Stewart (2001) suggests that resultative SVCs *must* have this structure in all languages that they occur in.) For example, Stewart (2001) and Baker and Stewart (2002), in addition to the structure in Figure 6.2 for resultatives, present analyses of what they call consequential SVCs and purposive SVCs. Consequential SVCs involve two transitive verbs, which share both of their arguments. The event of V_2 in this construction is understood to temporally follow the event of V_1 , and both events are entailed. An example from Nupe is given in (6.1).

- (6.1) *Musa du etsi kun*
 Musa cook yam sell
 ‘Musa cooked a yam and sold it’ (Baker and Stewart 2002:2)

Purposive SVCs also involve two transitive verbs, but the event of V_2 is the purpose of the event of V_1 , and its occurrence is not entailed. This is reflected in the English translation of (6.2), which leaves open the question of whether or not Musa actually gave the goat the medicine.

- (6.2) *Musa wan nangi ya tsigbè*
 Musa catch goat give medicine
 ‘Musa caught a goat to give it medicine’ (Baker and Stewart 2002:3)

In line with their different entailments, Baker and Stewart propose different syntactic structures for the three types of SVC. Unlike resultatives, consequential and purposive structures are argued to include an empty pronominal category to achieve argument sharing. In addition, consequentials and purposives are formed through adjunction of the V_2 constituent, rather than complementation. Finally, whereas the resultative has iteration of a VP constituent, the consequential and purposive involve additional structure, with V_2 projecting a *vP* and an *AspP*, respectively. Baker and Stewart, and especially Stewart (2001), give plentiful morpho-syntactic evidence for these structures, but they also strongly tie the semantics of the constructions to their syntax. In other words, it is asserted that the syntax of each type of SVC in large part determines the semantics of the construction, especially the event structure and its entailments. This is important because it suggests that SVCs with similar meanings in other languages should have structures very similar to these, and this is a claim that still requires empirical testing.

Apart from complementation and adjunction, a third possible analysis of the syntactic relationship between V_1 and V_2 in an SVC is that of coordination. This is proposed, for example, by Agbedor (1994) and Muysken and Veenstra (2006).² The possibility of a coordinate analysis has been discarded by a number of scholars on the basis that SVCs are

²Note though that Agbedor does not view his proposed structure as strictly one of coordination, since it involves a VP that splits into two V-bar daughters instead of two VPs.

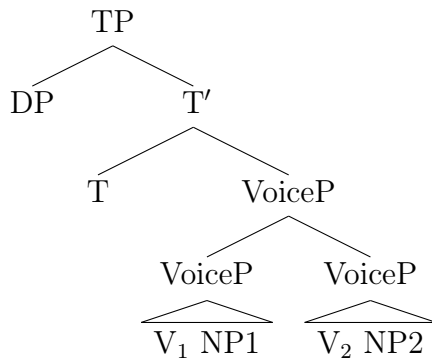


Figure 6.3: Structure of covert coordination according to Baker and Stewart (1999:11)

not subject to the coordinate structure constraint (Ross 1967). However, as Muysken and Veenstra (2006:260) point out, this constraint has been shown to apply only to symmetrical coordination, whereas SVCs would involve asymmetrical coordination, and therefore would not be expected to exhibit such island effects.³ (Hagemeijer (2001:418) makes a similar point.)

Baker (1989), Collins (1997), and Stewart (2001) do recognize a coordinated construction that involves two verbs sharing a subject, but they dismiss the possibility that this is an SVC. Instead, they analyze such constructions as cases of ‘covert coordination’, which they maintain is distinct from serialization. The proposed structure for covert coordination is given in Figure 6.3 (the specifics vary from one article to another, but the basics are represented in this tree). The main properties of a covert coordination structure are that the two verbs share a subject, and that extraction is blocked. These facts are accounted for by a structure in which two constituents immediately below T are coordinated.

Aside from the type of juncture between verbs in an SVC, the other major point of contention is how argument sharing is achieved. SVCs typically have fewer overt surface arguments than the combined number of arguments required by the two verbs, and the verbs are assumed to share arguments at some level. As noted above, in the structures proposed by Baker (1989), Stewart (2001), and Baker and Stewart (2002) for resultatives, both V_1 and V_2 directly assign theta roles to the shared theme object. This diverges significantly from the predictions of the Theta Criterion, according to which a single argument can maximally be assigned a single theta role (Chomsky 1981). This has led to a general dismissal of this type of analysis in favor of one in which argument sharing is achieved by an empty category in the V_2 projection (although Hiraiwa and Bodomo (2008) present evidence from Dàgáàrè in support of Baker’s direct object sharing analysis.). An empty category analysis is put forward, for example, by Collins (1997), who proposes the structure in Figure 6.4 for resultative SVCs in Ewe. He argues that the grammaticality of postposition *yi* after V_2 in

³Since Muysken and Veenstra implement coordination as adjunction, it is not clear that their analysis of SVCs is in fact substantively different from the adjunction analyses discussed above.

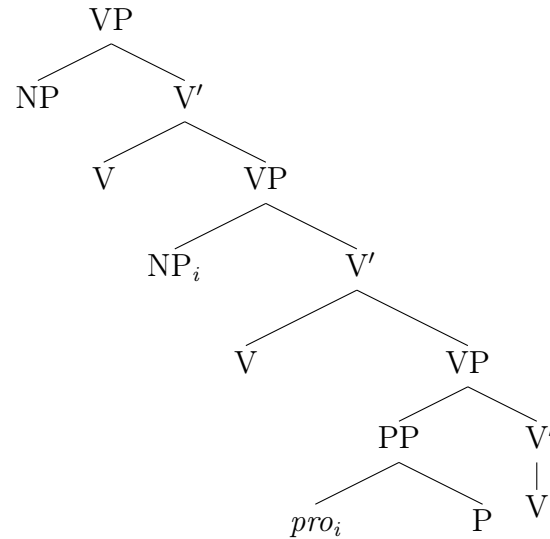


Figure 6.4: Structure of resultative SVCs according to Collins (1997:474)

an SVC shows that there is an empty category in the second VP. *yi* is a default postposition that assigns Case to NPs that do not receive structural Case. Importantly, it can also assign Case to traces of NPs. As shown in (6.3), *yi* can optionally occur following V_2 in an SVC. If there were no trace present, Collins argues, *yi* should not be able to occur.

(6.3) EWE

me nya dɛvi-ɛ dzo (yi)
 I chase child-DEF leave YI

‘I chased the child away’

(Collins 1997:470)

The grammaticality of *yi* in this construction is therefore taken as evidence for the existence of a null *pro* in the second VP, as in Figure 6.4. As discussed above, Baker and Stewart (2002) likewise propose an empty category account of argument sharing for consequential and purposive SVCs.

Finally, there has been some debate in the literature about what constructions do and do not count as SVCs. Baker (1989) makes a very strong claim that SVCs must involve sharing of the internal argument. This generalization allows for several very common types of SVCs, including resultatives and directionals, both of which are typically switch function with an unaccusative V_2 . It also allows for some subject constructions with two unaccusative verbs, since the sole argument of each verb starts out as the internal argument. Collins (1997:468, fn.12) suggests that it can even include SVCs with an unergative V_1 and an unaccusative V_2 , since unergative verbs commonly become unaccusative when telic (Levin and Rappaport Hovav 1995). It specifically excludes, however, SVCs with an unaccusative V_1

and an unergative or transitive V_2 , since these do not share an internal argument. This seems like an odd exclusion, since SVCs of the form ‘come and V’ or ‘go and V’ are very common cross-linguistically, but Baker dismisses these types of structures as control structures. Other scholars, such as Agbedor (1994) and Aboh (2009) eschew the object-sharing requirement, and claim that other syntactic argument sharing relations are also possible. At the crux of this debate is the definition of which constructions count as SVCs and which do not. To disprove Baker’s claim that SVCs involve obligatory internal argument sharing would be significant, but this can only be done if it can be shown definitively that the construction in question is indeed an SVC. This is one of the reasons why a precise definition of SVCs is vital, and why detailed studies of multi-verb constructions in individual languages must be undertaken.

In sum, there are three basic possible analyses of SVCs — complementation, adjunction, and coordination. Most scholars propose a complementation (or VP-shell) analysis for resultatives, and some, such as Larson, Collins, and Carstens, extend this to all types of SVCs. In contrast, Baker and Stewart argue that resultatives are complements, while consequential and purposive SVCs are adjoined. They tie this structural difference directly to semantic differences between the constructions. Lastly, Agbedor, and Muysken and Veenstra posit that SVCs are a type of coordination, which allows object extraction due to its being semantically asymmetrical. In the following sections I will posit both an adjoined structure and a complementation structure for different multi-verb constructions in Koro. However, only the complementation structure corresponds to a construction that fulfills all the typological criteria for an SVC and this study therefore concludes that true SVCs in Koro involve complementation and not adjunction. In contrast to the structure proposed by Baker though, SVCs in Koro do not involve object sharing, and they therefore stand as a counter-example to his object-sharing hypothesis.

6.3 Directional and allative

As described in detail in Chapter 5, directional and allative constructions (henceforth ‘directionals’) in Koro involve a main verb of almost any class followed by a path of motion verb that indicates the direction of motion of one of the participants, and can introduce a goal argument. The allative construction is illustrated in (6.4) (repeated from (5.2b)).

- (6.4) *You k-u ruwi pepa k-i me au*
 1SG:SBJ IRR-1SG put paper IRR-3SG come 2SG
 ‘I’ll give the paper to you’ (2011-03-11-AH_AV-02_0364)

In the previous chapter, I suggested that the directional and allative constructions in Koro are not true SVCs. Due to the particular entailments of the construction, it is necessary to assume either that TAM does not take scope over both verbs in this construction, or that the verb in the minor verb slot is not the same as its main verb counterpart, and therefore is not itself a main verb. Either of these analyses disqualifies the directional and allative constructions as true SVCs under the criteria outlined in Chapter 4. If the first analysis is adopted, where TAM marking on V_1 takes scope only over V_1 , then the construction cannot

be said to represent a single event, and it must be interpreted as biclausal. If the second analysis is correct, then the construction may represent a single event, but it does not involve two main verbs, V_2 instead being an adverb or preposition. Here I adopt the first position, arguing that V_2 heads an adjoined TP that constitutes its own domain for scope of TAM. Evidence for this analysis comes from semantics, and from iterability and permutability of constituents, as well as default agreement on V_2 .

Before launching into the evidence, let us briefly revisit the structure of Koro verbal clauses, as a background to the following discussion. The basic structure of clauses assumed in this work is presented in Figure 6.5 (repeated from Figure 2.1). Above vP (which I assume is only present with transitive and unergative verbs) is a TP which is headed by either irrealis $k-$, perfect $k-\dots-ni$, third person singular realis i , or the null realis head. Above this is a PolP, which is headed by preverbal negator ta if the clause is in negative polarity, and otherwise has a null positive polarity head. (For the sake of parsimony, I do not represent this null positive polarity morpheme in examples.) The negative head ta selects a null realis T, so only one overt reality status or polarity head can be present in a clause. Finally, at the top level of the clause (presumably below CP) is an AspP, which is headed by either prospective $(h)a$ or proximative pa . While TP is obligatory in finite verbal clauses, the higher AspP is optional. When no overt Asp head occurs, I do not posit the presence of a null Asp head. This is because a prospective aspect interpretation, which can be overtly encoded by $(h)a$, is also available where this morpheme is not present. This suggests that there is not a null Asp head in complementary distribution with overt $(h)a$.

As noted in the previous section, there have been three main structures proposed for SVCs — complementation, adjunction, and coordination. I do not consider a coordination analysis here. Such an analysis would be problematic for argument sharing, since all directional SVCs with a transitive V_2 are switch function. This is the opposite pattern to what we would expect if they were coordinate structures. In addition, the behavior of directionals under nominalization differs from that of coordinated clauses. In Koro, a verb or VP occurring in argument position is nominalized via one of the following three morphological processes: reduplication of the first CV sequence of the verb root (6.5); suffixation of $-(iy)a$ or $-(a)ra$ to derive an inalienably possessed noun (6.6); or suffixation of $-(a)ni$ (6.7) to the verb root.

(6.5) *you* \emptyset *lengi nda~ndan*
 1SG.SBJ REAL like REDUP:NMLZR~dance
 ‘I like dancing’ (Elicitation-2012-07-11-AD_BZ_0083)

(6.6) *you* \emptyset *lengi hul-iya* *ni*
 1SG.SBJ REAL like fish.with.hook-NMLZR:TR fish
 ‘I like fishing’ (Elicitation-2012-07-11-AD_BZ_0092)

(6.7) *meseng-ani* *wum e ngandahan*
 construct-NMLZR:TR house PROX difficult
 ‘Building this house was difficult’ (Elicitation-2012-07-22-AD_BZ_CA_0058)

When a complex VP containing a subordinate clause is nominalized, only the upstairs verb takes nominal morphology, while the downstairs verb maintains its main verb form. This is

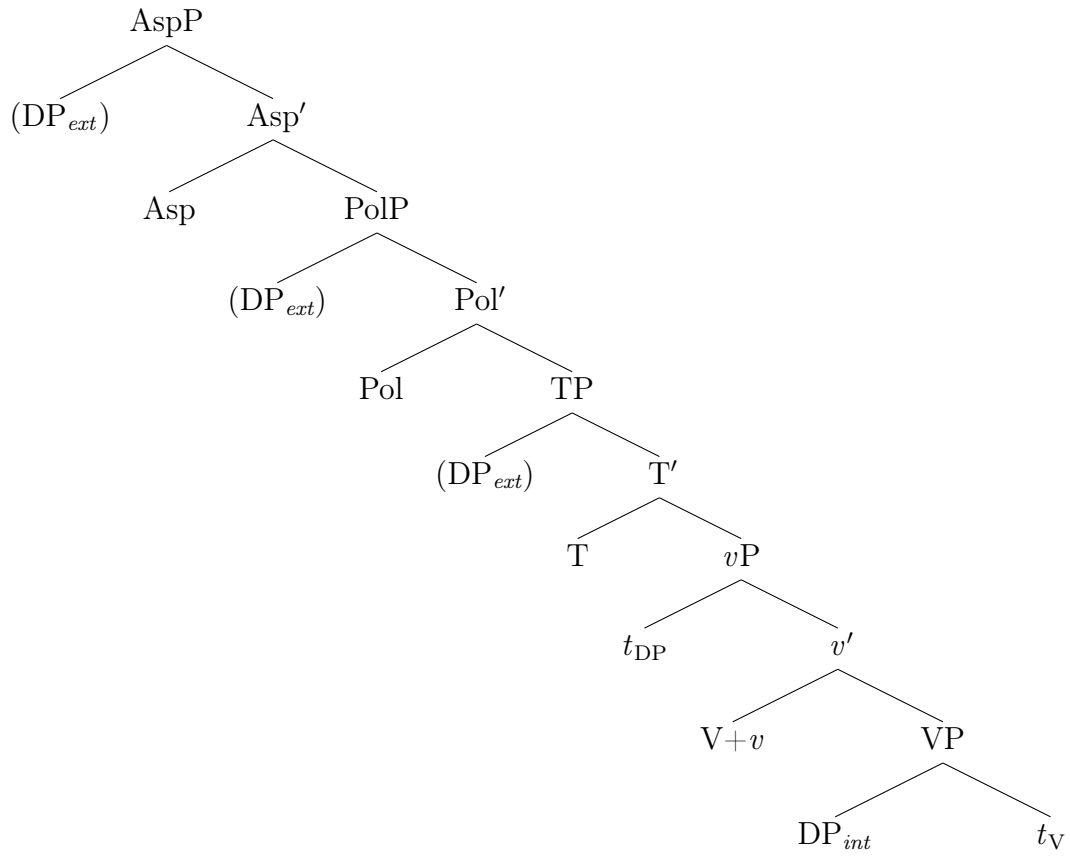


Figure 6.5: The structure of verbal clauses in Koro

shown in (6.8), where the matrix verb *urung* ‘hear’ takes nominalizing suffix *-iya*, but the subordinate verb maintains its verbal form *jiw* ‘call’.

- (6.8) [*urung-iya*_{MATRIX} [*nderu-∅* *ta* *jiw*_{SUBORDINATE} *ju*]] *ngandahan*
 hear-NMLZR:TR child-1SG:POSS LOC.COP call 1SG difficult
 ‘Hearing my child crying is hard’ (Elicitation-2012-08-10-AD_BZ_129)

In contrast, when coordinated VPs are nominalized, each verb takes its own nominalizer, as in (6.9). Here the phrases *nomwiya niu* ‘scraping coconut’ and *tuweya ndrelike* ‘boiling oil’ are coordinated with general coordinator *e*, and each verb takes nominalizing suffix *-(i)ya*.

- (6.9) *you* *tana-∅* *nomw-iya* *niu* *e* *tuwe-ya*
 1SG.SBJ know-1SG.POSS scrape-NMLZR:TR coconut COORD boil-NMLZR:TR
ndrelike
 oil
 ‘I know how to scrape coconut and make oil’ (Elicitation-2012-08-10-BZ_0120)

The generalization here is that coordinated VPs require each verb to be nominalized, while in complement clause constructions, only the matrix verb is nominalized. As was discussed in §5.2.2 of the previous chapter, Koro SVCs pattern with complement clause constructions in this respect, requiring a nominalizer on the first verb only, as in (6.10–6.11). If, in contrast, an SVC were to require nominalization of each verb, this would suggest a coordinated structure.

- (6.10) [*su~suwe* *i* *me*] *ngandahan*
 REDUP:NMLZR~paddle REAL:3SG come hard
 ‘Paddling here is hard’ (Elicitation-2012-08-06-AD_BZ_0238)

- (6.11) *you* ∅ *lengi* [*suwe-iya* *ndwal* *i* *me*]
 1SG.SBJ REAL like paddle-NMZLR:TR canoe REAL:3SG come
 ‘I like paddling a canoe here’ (Elicitation-2012-08-06-AD_BZ_0240)

Discarding the possibility of coordination leaves two main possibilities for the structure of directionals in Koro — complementation or adjunction. A complementation analysis is shown in Figure 6.6, which represents the utterance in (6.4) above. Under this analysis a TP headed by V_2 is the complement of V_1 . An adjunction analysis is shown in Figure 6.7. Here the second TP is right-adjoined to the first VP. As I will demonstrate in the remainder of this section, ultimately the evidence from Koro points to directionals having the adjoined structure shown in (6.7).

Note that the complementation structure in Figure 6.6 already differs markedly from the VP-shell analysis proposed by scholars such as Baker, Larson, and Collins, because the second constituent is larger than a VP. However, as will be discussed below, there is strong evidence that the projection associated with V_2 in this Koro construction must be a full TP (albeit one with a defective T head). As such, even if the complementation analysis were appropriate for Koro directionals, it would have a significantly different structure from that which has been proposed for SVCs in other languages. With this in mind, let us examine the

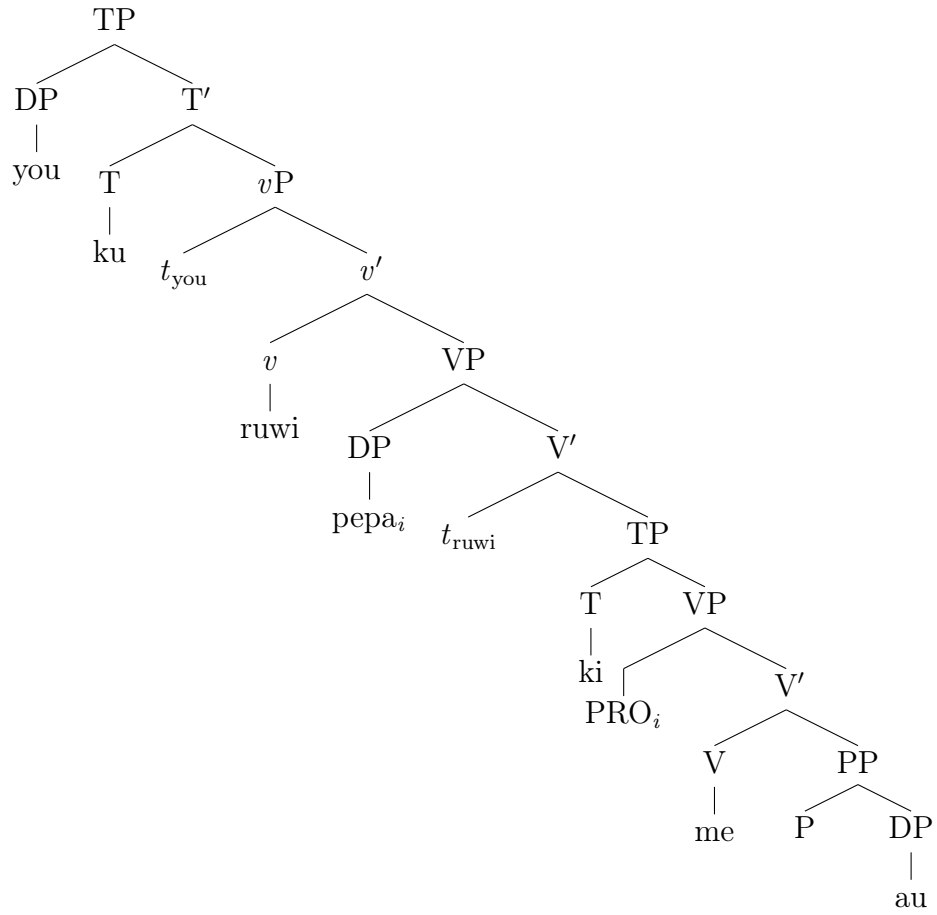


Figure 6.6: Complementation analysis of the directional/allative

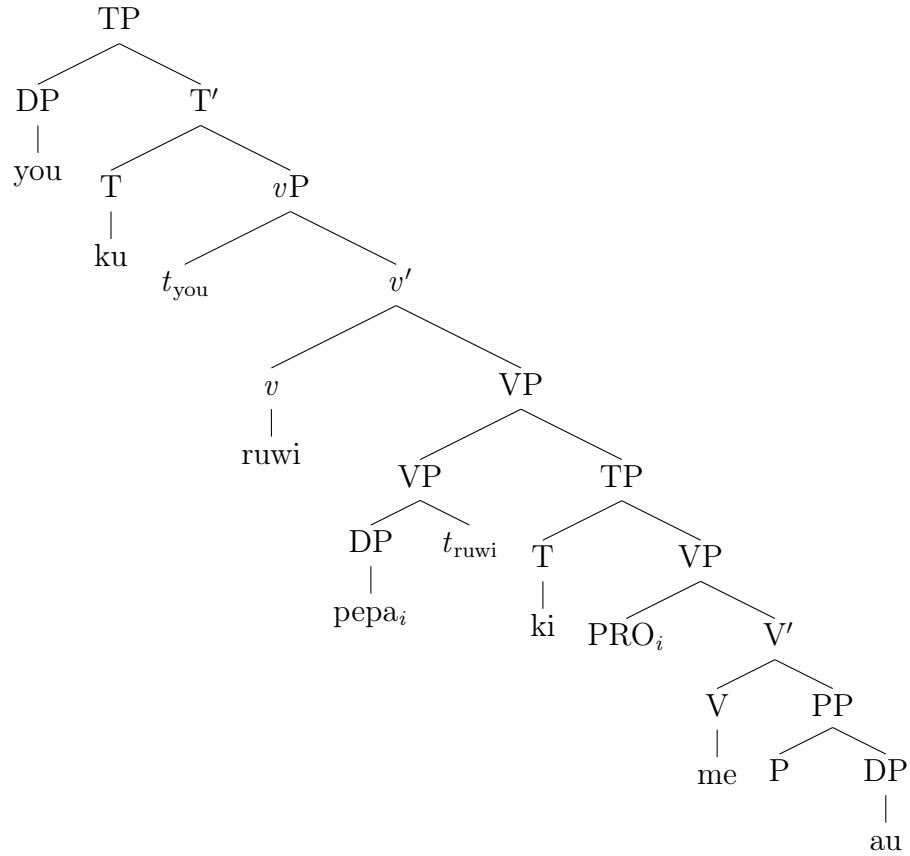


Figure 6.7: Adjunction analysis of the directional/allative

other properties of directional SVCs that favor an adjunct analysis over a complementation analysis. I will begin by looking at syntactic properties, and then examine aspects of the semantics that impact on this issue.

As expected of adjuncts, the V_2 constituent in a directional SVC can be iterated. This is shown in (6.12), where two directional constituents occur in sequence.

- (6.12) *i* *k-i* *ngap* [*k-i* *mul*]_{DIRECTIONAL} [*k-i* *me*]_{DIRECTIONAL}
 3SG IRR-3SG run IRR-3SG return IRR-3SG come
 ‘He (a dog) would run back (to his master)’ (2011-04-08-AH_AV-01a_0019)

In this example neither of the two V_2 constituents takes a goal argument; in other words, they are both true directionals. But an allative constituent with an explicit goal can also cooccur with a directional, as in (6.13) (see also (6.32) below).

- (6.13) *i* \emptyset *woh* [*i* *yau*]_{DIRECTIONAL} [*le* *polo-kei*]_{ALLATIVE}
 3SG REAL fly REAL:3SG leave go.to top-tree
 ‘He flew away to the tree-top’ (v2012-08-02-CB-04_0250)

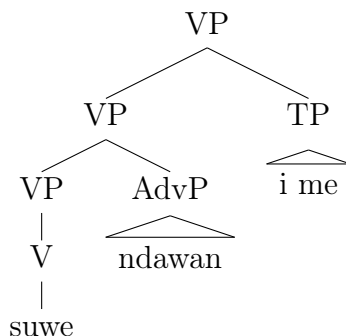
This ability to be iterated is typical of adjuncts, and would be unexpected if the V_2 constituents were complements.

It is also expected that adjuncts should be permutable, rather than occurring in a fixed order as complements would. This does not appear to be the case for directional constituents, which initially casts doubt on their adjunct status. For example, the sequence *i mul i me* in (6.12) above occurs several times in the corpus, whereas the opposite order *i me i mul* is not attested. Similarly, the sequences *i mul i la* ‘return go’ and *i la i me* ‘go come’ are common, but *i la i mul* and *i me i la* are unattested. In addition, whereas a directional constituent can precede an allative, as in (6.13) above, the opposite order is not possible. This is demonstrated in (6.14), which shows that directional–allative order is grammatical, while the opposite is ungrammatical.

- (6.14) a. *you* \emptyset *ngap* *i* *mul* *le* *kor*
 1SG.SBJ REAL run REAL:3SG return go.to village
 b. **you* \emptyset *ngap* *le* *kor* *i* *mul*
 1SG.SBJ REAL run go.to village REAL:3SG return
 ‘I ran back to the village’ (Elicitation-2013-07-31-AD_CA_0051–52)

Although these ordering restrictions appear to go against an adjunct analysis of directionals, the facts are not clear-cut. There is evidence that directional constituents can be permuted with other adjuncts, such as adverbs. Adverbials of manner such as *ndawan* ‘strong’ right-adjoin to VP in Koro.⁴ This is illustrated in (6.15), where adverbial constituent *ndawan e meriyen* occurs to the right of verb *suwe* ‘paddle’. (Since the adverbial directly modifies the action of the verb, I assume it adjoins to VP and not to some higher constituent such as TP.)

⁴Note that there is a very small class of adverbs in Koro, but certain adjectives, such as *ndawan* ‘strong’, can also be used as adverbs.

Figure 6.8: Manner adverb after V₁

- (6.15) *i ta suwe ndawan e meriyen*
 3SG LOC.COP paddle strong COORD quickly
 ‘S/he is paddling the canoe strongly and quickly’
 (Elicitation-2011-03-11-AH_AV_0066)

In a directional SVC, adverbials can occur after either V₁ or V₂, as shown in (6.16–6.17).

- (6.16) *i ∅ suwe ndawan ~ tahit i me*
 3SG REAL paddle strong FRUSTR REAL:3SG come
 ‘S/he paddled strongly ~ in vain towards here’ (Elicitation-2012-08-08-BZ_0079,82)

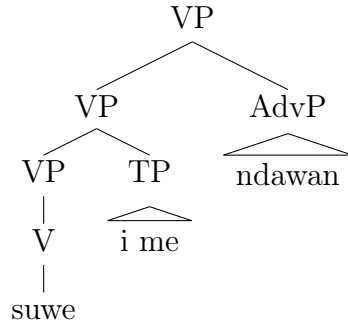
- (6.17) *i ∅ suwe i me ndawan ~ tahit*
 3SG REAL paddle REAL:3SG come strong FRUSTR
 ‘S/he paddled towards here strongly ~ in vain’ (Elicitation-2012-08-08-BZ_0080–81)

The two orders of adverb and directional adjunct are illustrated in Figures 6.8–6.9.⁵ This provides strong evidence that the directional TP in these constructions is an adjunct rather than a complement, since it has variable order with respect to manner adverbs. In contrast, object noun phrases, which are clearly complements, cannot be separated from the verb by an adverb, as shown by the ungrammaticality of (6.18).

- (6.18) **you ∅ suwe ndawan rutun le mbruchon*
 1SG.SBJ REAL paddle strong 3PL go.to island
 Intended: ‘I paddled them quickly to the island’ (Elicitation-2012-08-07-AD_0094)

The apparent ordering restrictions that apply to directional constituents most likely have a semantic explanation. Just as adjectives in English and other languages are ordered semantically, so directional adjuncts in Koro take part in fixed collocations, based on the individual verbs involved.

⁵Since the manner adverb *ndawan* ‘strong/fast’ modifies the action of V₁ I assume that it must adjoin to the first VP, and not the second TP.

Figure 6.9: Manner adverb after V_2

There is evidence, however, that the ordering of directional and allative constituents — in contrast to the ordering of directionals and adverbs — does in fact have a structural basis. Unlike purely directional constituents, allative constituents cannot be freely permuted with manner adverbs. As shown in (6.19–6.20), the ordering where the manner adverb precedes the allative constituent is strongly preferred, with the opposite order deemed highly questionable.

- (6.19) *i* \emptyset *suwe* *ndawan* *le* *mbruchon*
 3SG REAL paddle strong go.to island
 ‘S/he paddled strongly to the island’ (Elicitation-2012-08-07-AD_0087)

- (6.20) ?*i* \emptyset *suwe* *le* *mbruchon* *ndawan*
 3SG REAL paddle go.to island strong
 ‘S/he paddled strongly to the island’ (Elicitation-2012-08-07-AD_0090)

The fact that the allative constituent must follow both directional constituents and manner adverbs suggests that it attaches at a higher point in the clausal spine than either of those elements. It is not surprising that different types of adjuncts might attach at different levels of the verbal projection. There is evidence that certain adverbs also attach higher than VP. Consider the examples in (6.21). Here we see that adverb *liye* ‘also, again’ cannot precede manner adverb *ndawan*, whereas the opposite order is acceptable.

- (6.21) a. *Max* *i* *ngap* *ndawan* *liye* *le* *Marcus*
 Max REAL:3SG run strong also go.to Marcus
 ‘Max ran faster than Marcus again’ (Elicitation-2012-08-07-AD_0146)
- b. **Max* *i* *ngap* *liye* *ndawan* *le* *Marcus*
 Max REAL:3SG run also strong go.to Marcus
 (Elicitation-2012-08-07-AD_0147)

This ordering restriction could be explained by positing that *liye* adjoins higher than *ndawan*. This hypothesis has the advantage that it also fits with their semantic scope — *ndawan* modifies the manner of the verb, while *liye* modifies the whole event. It is likely, therefore, that manner adverbs adjoin to VP, while *liye* adjoins to a higher node, such as TP.⁶ As it turns out, allative constituents have fixed order with respect to manner adverbs, but not event-modifying adverbs. Another such adverb is frustrative *tahit*, which indicates that the event was not fully achieved, or that it did not fulfill the intended end. As shown in (6.22), the allative has free ordering with respect to *liye* and *tahit*.

- (6.22) a. *i* \emptyset *suwe* *tahit* ~ *liye* *le* *mbruchon*
 3SG REAL paddle FRUSTR also go.to island
 ‘He paddled again ~ in vain to the island’ (Elicitation-2012-08-07-AD_0088,91)
- b. *i* \emptyset *suwe* *le* *mbruchon* *tahit* ~ *liye*
 3SG REAL paddle go.to island FRUSTR also
 ‘He paddled to the island again ~ in vain’ (Elicitation-2012-08-07-AD_0089,92)

A slight chink in this analysis is the fact that directional constituents also exhibit variable order with respect to these event-modifying adverbs. As shown in (6.23), a directional constituent can occur either before or after *tahit*.

- (6.23) a. *i* \emptyset *suwe* *tahit* *i* *me*
 3SG REAL paddle FRUSTR REAL:3SG come
 ‘He paddled in vain over here’ (Elicitation-2012-08-08-BZ_0082)
- b. *i* \emptyset *suwe* *i* *me* *tahit*
 3SG REAL paddle REAL:3SG come FRUSTR
 ‘He paddled over here in vain’ (Elicitation-2012-08-08-BZ_0081)

If directional constituents adjoin to VP and *tahit* adjoins to TP, we would expect a fixed order where the directional precedes *tahit*, but this is clearly not the case. One possible explanation is that *tahit* may have a variable position, being able to adjoin either to VP or TP. Whatever the explanation for these ordering facts, the fact that the directional and allative have fixed order with respect to each other, and that the allative cannot precede a manner adverb, are both best explained by positing that directionals adjoin to VP while allatives adjoin to TP.

The surface ordering properties of directional and allatives examined so far support an analysis in which the second constituent in a directional SVC is an adjunct, rather than a complement. I now turn to the semantics of the construction, and argue that they too support an adjunct analysis. Although the complement–adjunct distinction is hard to precisely characterize, there are certain generalizations that can be made. For example, complements are selected by a head, and are therefore subject to selectional restrictions. In addition they are obligatory, or if not, they alter the intrinsic semantics of the constituent in which they

⁶This aligns with work by (Cinque 1999), who argues for a universal fixed hierarchy of adverb positions in the clause.

B: (*pu k-u la*) *so ni*
 PRXMV IRR-1SG go.to:ANDAT spear fish
 ‘(I’m going to go and) spear fish’ (Elicitation-2012-07-27-AD_BZ_0105–07)

Since verbs can in fact occur without TAM marking, we must reject an analysis where the TAM marking on V_2 in a directional SVC is simply there to fulfill a morphological requirement. This means that TAM marking on V_2 in the directional does in fact signal the presence of a T head. This is also supported by the fact that, as noted in §5.2.3, TAM marking on V_2 can differ from that on V_1 . Since TAM marking on V_2 is not always identical to that on V_1 , we cannot simply posit that V_2 marking is a type of concord; in contrast, it appears to have semantic content. Given these facts, the existence of overt TAM marking on V_2 cannot be dismissed as a morphological requirement, and it instead must be taken as evidence that a T head is present in the extended projection of V_2 .

We have seen that the V_2 constituent must be at least a TP in order to explain the presence of TAM marking on V_2 . There is also evidence that the constituent containing V_2 cannot be larger than TP. Recall from Chapter 2 that there is a PolP and an optional AspP that occur above TP in Koro verbal clauses (see Figure 6.5 above). The overt head of the PolP is preverbal negator *ta*, while that of the AspP can be either proximative *pa* or prospective *ha*. Since V_2 in the directional construction must take concordant reality status and perfect marking, we might expect there to also be concordant marking of these higher polarity and aspect heads. However, as shown in (6.32–6.33), concordant marking of these heads never occurs. In (6.32) V_1 *suwe* ‘paddle’ takes prospective Asp head *ha* and in (6.33) V_1 *takeyeni* ‘throw’ is marked with proximative Asp head *pi*, but in neither example does the Asp head occur with V_2 .

(6.32) *ha you k-u suwe k-i mul le Ponam*
 PROSP 1SG.SBJ IRR-1SG paddle IRR-3SG return go.to Ponam
 ‘I’m going to paddle back to Ponam’ (Elicitation-2013-07-29-AD_CA_0123)

(6.33) *i pi k-i takeye-ni pat k-i yau*
 3SG PRXMV IRR-3SG throw-SPEC.OBJ stone IRR-3SG leave
 ‘He wants to throw the stone away’ (Elicitation-2012-08-06-AD_BZ_0261)

This shows that V_2 cannot project an AspP, since there is no Asp head present in the directional constituent. Now consider the negated directional construction in the last clause of (6.34). Here V_1 *ngap* ‘run’ is marked with pre-verbal negator *ta*, but V_2 *la* is not.

(6.34) *mwa chinal tana-n pwi, i ∅ pwa tehene wesikei ta*
 COORD devil know-3SG.POSS NEG 3SG REAL say thus rope NEG
ngap i la pwi
 run REAL:3SG go NEG
 ‘And the devil didn’t know, he thought that the rope didn’t go all the way (into the hole)’ (2011-04-01-AH_AV-01_0103)

As with the Asp heads in the above examples, this shows that there is not a PolP associated with V_2 in directional constructions. These facts together show that, although V_2 in Koro directionals must project a TP, it does not project a larger constituent, such as PolP or AspP.

Although we have established that V_2 in a directional construction projects a TP, it seems that the T head is not a regular finite T. There are several pieces of evidence supporting this. Firstly, there cannot be an overt subject DP associated with V_2 . This suggests that the T head in the directional constituent is special in disallowing an overt subject in its specifier. Secondly, as discussed in the previous chapter, TAM marking on V_2 has different semantics from TAM marking on a main verb. For example, realis marking on an allative constituent does not entail that the goal was reached, whereas realis marking on a prepositional path verb in a monoverbal clause would entail reaching of the goal. In addition, perfect marking on V_2 does not have the normal function it has as a main clause TAM marker, but instead it makes the predicate telic, entailing that the goal was reached. In addition, the TAM marking on V_2 exhibits slightly different allomorphy than that in main clauses. Specifically, the null allomorph of the realis morpheme cannot occur on V_2 ; instead the overt third person singular realis marker *i* must occur. A final piece of evidence for the defectiveness of the second T head is provided by the fact that TAM marking on V_2 is restricted based on the marking on V_1 . This relationship of dependency between the two markers of TAM suggests that the second TAM marker is not a regular finite T head, but is instead some sort of nonfinite dependent T.

A final question is how argument sharing is achieved in the directional SVC. Since the directional constituent does not have an overt subject, it can be assumed that a null pronominal (probably PRO) occupies subject position in the adjoined constituent. PRO is typically assumed to be controlled by a c-commanding noun phrase (Rosenbaum 1967, Larson 1991a), but given that the controlled PRO in Koro directionals is part of an adjunct and not a complement, it is not entirely clear how correct patterns of argument sharing are ensured in this construction. In line with the analysis of directionals as a type of depictive, I propose that argument sharing is achieved via a linking operation such as that proposed by Winkler (1997:415). This operation links depictive secondary predicates to arguments that precede them, and with which they are in a mutual m-command relation. This mechanism for argument sharing in Koro directionals would explain the default third person singular marking on V_2 — because there is no direct syntactic relation of dependency between the directional constituent and the argument it modifies, agreement does not take place. Linking is a semantic operation rather than a syntactic one, and it therefore does not trigger morphological agreement. I assume, after Preminger (2009), that when the relationship of agreement between a nominal argument and an agreeing morpheme is broken, default phi-features are expressed on the agreeing morpheme (in this case third person singular on the TAM marker on V_2).

A brief note about grammaticalization is in order. A fact that has been suppressed in the discussion so far is that there exist versions of the allative construction where V_2 does not take any TAM marking. In such a construction V_2 remains unmarked regardless of the TAM marking on V_1 . This is illustrated in (6.35), where V_1 takes irrealis marking and V_2

is unmarked.

- (6.35) *hiyan, teru k=au le pilingan*
 OK 1DU.INCL IRR=leave:NON.SG go.to up
 ‘OK, let’s leave and go up (to the shore)’ (2011-03-08-AH_AV-01_0074)

Only deictically neutral *le* ‘go’ and venitive *me* ‘come’ can occur in this construction — as (6.36) shows, andative *la* ‘go (away from deictic center)’ is disallowed without TAM marking.

- (6.36) **mwah i k-i suwe la taun*
 next.day 3SG IRR-3SG paddle go.to:ANDAT town
 Intended: ‘Tomorrow he will paddle to town’ (Elicitation-2013-07-23-AD_0085)

Likewise, a directional constituent that lacks a goal argument cannot occur without TAM marking, as shown in (6.37).

- (6.37) **uru k-a suwe me*
 3DU IRR-NON.SG paddle come
 Intended: ‘They will paddle towards here’ (Elicitation-2012-08-04-AD_CA_0122)

It appears that in the allative construction, V_2 is grammaticalizing into a preposition, just as the comparative and instrumental have (see §5.2.1). The fact that *la* is disallowed here suggests that it is not undergoing the same grammaticalization process, probably due to frequency effects (andative *la* occurs much less frequently in the allative than do *le* and *me*). I would suggest that the adjoined structure of the directional construction may have facilitated this grammaticalization process. Since PPs are typically adjuncts, the transition from adjoined TP to adjoined PP does not require major changes to the constituent structure. This construction, along with the instrumental and comparative, may thereby offer us a window into grammaticalization in progress.

6.4 Associated motion, change of state, and imperfective

As described in §5.3.2.1, the associated motion construction involves a path of motion verb followed by a main lexical verb that denotes an event that temporally follows the motion of V_1 . This is illustrated in (6.38).

- (6.38) *yourun k-a la kah pamei*
 1PL.EXCL IRR-NON.SG go.to:ANDAT find betelnut
 ‘We were going to go and look for betenut’ (v2012-08-02-CB-01_0042)

As I argued in the previous chapter, the change of state construction and the imperfective can be considered variants of the above construction, and I will treat them together here, using the label ‘associated motion’ to refer to all three constructions.

In the previous section I presented evidence that the path verb in directional and allative SVCs heads a TP that is adjoined to a projection of V_1 , and acts as a spatial modifier.

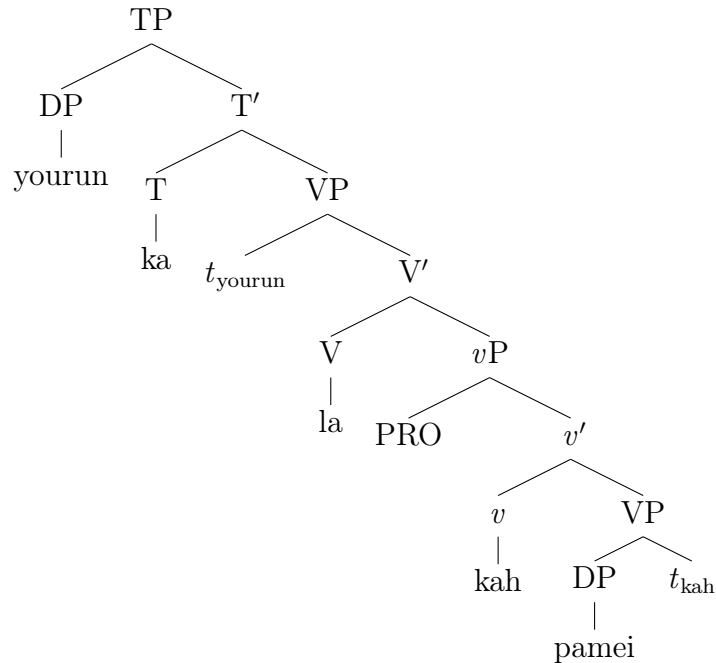


Figure 6.10: Associated motion construction: SVC analysis

In contrast, there is no reason to consider an adjunct analysis for the associated motion construction. Instead, as I will demonstrate shortly, it is clear that V_1 in the associated motion SVC takes the projection of V_2 as its complement. What is unclear in this construction is the status of V_1 . Given the very restricted nature of this slot, the question arises as to whether these are true SVCs, or whether instead V_1 is a grammaticalized light verb or auxiliary. These two alternatives are represented in Figures 6.10–6.11. These analyses are very similar, but entail certain important differences. Crucially, the analyses differ in whether the minor verb is a functional head without any argument structure or a lexical head that selects arguments, and as a corollary, they differ in whether or not a controlled PRO is present in the V_2 constituent. As the data in this section will show, ultimately the syntactic evidence is inconclusive, and either analysis is plausible. However, the fact that, as discussed extensively in the previous chapter, all verbs that occur in the V_1 slot retain their main verb semantics in this position provides strong evidence that this construction is in fact a true SVC.

As discussed in previous chapters, unlike in the directional construction, nothing can intervene between the two verbs in an associated motion or imperfective SVC (i.e., they are nuclear-layer constructions). For example, whereas motion and locative verbs can typically take a goal or location argument when occurring as a main verb, as in (6.39a) and (6.40a), in an associated motion SVC a goal or location directly following V_1 is ungrammatical, as shown in (6.39b) and (6.40b).

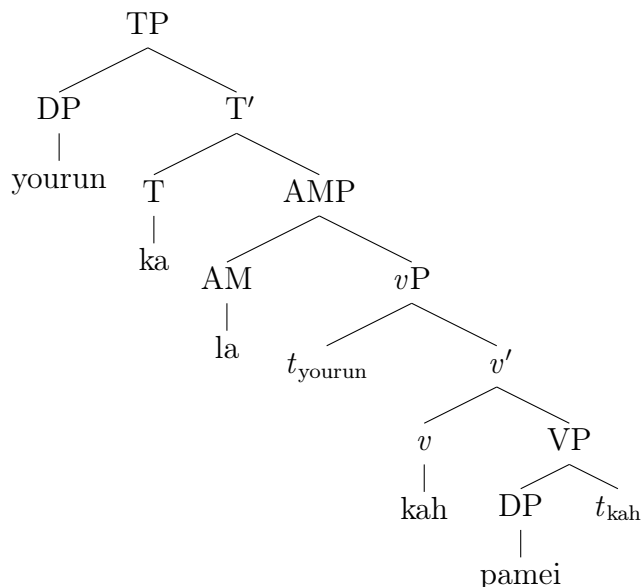


Figure 6.11: Associated motion construction: auxiliary analysis

- (6.39) a. *i k-i-ni me wum*
 3SG PERF-3SG-PERF come house
 ‘He has come to the house’ (Elicitation-2012-07-27-AD_BZ_0149)
- b. **i k-i-ni me wum tile mwalih*
 3SG PERF-3SG-PERF come house tell story
 Intended: ‘He has come to the house and told stories’
 (Elicitation-2012-07-27-AD_BZ_0150)
- (6.40) a. *you le-tu wum*
 1SG:SBJ PROX-stay house
 ‘I am at home’ (Elicitation-2012-07-20-AD_BZ_0009)
- b. **you le-tu wum jan karahat*
 1SG:SBJ PROX-stay house eat mud.crab
 Intended: ‘I am at home eating crab’ (Elicitation-2012-08-07-AD_0021)

Likewise, a manner adverb is unacceptable between V_1 and V_2 in this construction. The examples in (6.41a) and (6.42a) show that the demonstrative manner adverb *tehene* ‘thus’ can modify both path verbs and posture verbs when they occur in a monoverbal clause. However, as (6.41b) and (6.42b) show, *tehene* cannot occur directly after the path or posture verb in an associated motion SVC.

- (6.46) *mwah* *a* *me,* *a* *u* *k-a* *ru* (**k-i*)
 next.day 2SG:IRR come PROSP 3PL:SBJ IRR-NON.SG stay:IRR IRR-3SG
ndan
 dance
 ‘Tomorrow when you come they will be dancing’
 (Elicitation-2012-08-06-AD_BZ_0071,74)

The lack of TAM marking on V_2 provides strong evidence that, unlike in the directional construction, V_2 in the associated motion does not project a TP. If it did, we would expect to see concordant marking of TAM on V_2 . There is evidence, however, that V_2 projects more than just a VP. The suffixes *-i* and *-(a)ni* can attach to a verb root in the presence of a referential direct object. As noted in §1.3.3, this is a system of differential object marking (DOM), where certain semantic properties of the object trigger transitivity marking (Bossong 1985, Aissen 2003, de Swart 2007). Because of this interaction with argument structure and structural Case, I assume that these suffixes are overt *v* heads. As illustrated in (6.47), where V_2 *pohar* ‘inform’ takes the suffix *-ani*, a DOM suffix can occur on V_2 in the associated motion construction.

- (6.47) *i* \emptyset *le* *pohar-ani* *i* *le* *cheche-n*
 3SG REAL go.to inform-SPEC.OBJ 3SG go.to grandmother-3SG.POSS
 ‘She went to introduce him to his grandmother’ (2011-04-23-AA-02_0464)

This provides evidence that V_2 in this construction projects a *vP* rather than just a VP.

Based on the above evidence, it seems fairly certain that the second constituent in the associated motion construction is a *vP* that is the complement of V_1 . As such, a VP-shell analysis applies to this construction. The fact that both verbs are governed by a single T head explains why aspect, reality status, and negation take scope over both verbs in this construction (see §5.2.3). However, despite the evidence presented in the preceding chapter that V_1 in this construction is truly a main lexical V, it is premature to discard the possibility that V_1 is in fact a functional head above V_2 , rather than a lexical head in a true serial construction. Especially in the case of the imperfective, V_1 in this construction has a function that is typical of auxiliaries cross-linguistically.

There are two main ways to decide between the SVC analysis in Figure 6.10 above and the auxiliary analysis in Figure 6.11. The first is to examine the different structures entailed by each analysis and look for evidence to support one or the other. The second is to ask what the general properties of auxiliaries and main verbs are, and to see which of these properties V_1 in this construction exhibits. In the remainder of this section I will follow both of those routes.

There are two main structural differences between the analyses in Figure 6.10 and Figure 6.11. Firstly, if V_1 is a lexical V head, then it should select a noun phrase argument. As such, there should be the same restrictions on its subject as there are when it occurs as a main verb in a mono-verbal predicate. In contrast, if it is a functional head, the only selectional restrictions should be those that apply to V_2 , since V_1 would not select any arguments itself. Unfortunately, there do not appear to be any restrictions on animacy or agentivity of the

subject of path verbs or locative predicates, even when they occur in a mono-verbal predicate. Any apparent restrictions, such as the fact that verbs marked with prefix *le-* primarily occur with first person subjects, are explained by the spatial and temporal deictic semantics of the locative predicates, and do not speak directly to the question of selectional restrictions (see §3.4 and §5.3.2.3 for details on the deictic properties of locative predicates and imperfective SVCs in Koro). The second difference is a function of the first — in a true SVC analysis there is a controlled PRO associated with V_2 , whereas in the auxiliary analysis there is simply a trace in the specifier of V_2 , from which the subject has raised to Spec,AMP. As a result, any tests that distinguish between PRO and a trace should be able to differentiate between the two analyses. Unfortunately we are thwarted once again, as there are no clear syntactic tests to identify either PRO or a trace. The structural differences between these two analyses are therefore almost impossible to identify through surface properties. Let us therefore turn to an examination of the properties of auxiliaries and lexical verbs in Koro.

A useful typology of verbs is provided by Butt and Geuder (2001), who distinguish between lexical verbs, light verbs, and auxiliaries on syntactic and semantic grounds. According to this typology, syntactically both lexical verbs and light verbs are V heads, whereas auxiliaries have a distinct syntactic status (they suggest AUX or I, but other categories are possible). In addition, lexical verbs have a complete argument structure associated with them, while light verbs have an incomplete argument structure, and auxiliaries have no bearing on argument structure at all. Semantically, lexical verbs introduce an event description, light verbs modify an event, and auxiliaries situate an event (for example, situating the event in time with respect to a reference time).

The argument structure of V_1 is difficult to assess in these constructions in Koro. Since, as noted above, none of the verbs involved places restrictions on their subject (for example animacy or agentivity), there is no obvious indication of whether the minor verb in these constructions introduces its own argument, or simply piggy-backs onto the argument structure of the main verb. Argument structure therefore proves an unhelpful criterion. Semantically, imperfective aspect V_1 s clearly seem to fall within the purview of auxiliaries, since they situate the event (Klein's TSit or Reichenbach's E) with respect to a reference time (Klein's TT or Reichenbach's R). Change of state verbs seem to modify an event, rather than denoting an event of their own, or situating an event in time. Associated motion verbs, on the other hand, appear to introduce a motion event, which is subsequently identified with the event of the main verb, ultimately yielding a complex single event. As shown in §5.3.2.1, although they do have an aspectual effect on the predicate, the effect is on inner aspect (lexical aspect or *Aktionsart*), rather than outer (grammatical) aspect. In other words, the aspectual function of associated motion minor verbs is not to situate the event in time, but rather to derive a telic predicate, and this is not a typical function of auxiliaries. However, there is also evidence that an associated motion V_1 does not introduce an event argument of its own. Recall that manner adverbs and other adverbials cannot modify V_1 in this construction. One possible explanation for this fact is that V_1 does not introduce an event argument at all, and therefore there is no event available to be modified. On semantic grounds, therefore, it appears that imperfective V_1 s, which situate the event of V_2 , are good candidates for auxiliaries, while change of state and associated motion V_1 s have semantic functions more

typical of light verbs, in that they modify the event of V_2 .

Lastly, let us examine the criterion of lexical versus functional status. As noted above, Butt and Geuder claim that lexical verbs and light verbs are V heads, while auxiliaries are another (functional) category. Contrasting the properties of V heads and auxiliaries in Koro will therefore help to determine the status of associated motion morphemes. The main relevant characteristics of lexical verbs are: they do not inflect to agree with the subject (although a few exceptional verbs change their initial consonant under certain conditions); they are immediately preceded in the clause by a marker of reality status (which can be null) or perfect aspect; and they obligatorily take a preceding morpheme *ta* under negation. The behavior of auxiliaries is not so simple to determine, since Koro does not have an obvious class of auxiliaries. At first sight, the most likely candidates for auxiliaries are the modals *nap* ‘can’ (< Tok Pisin *inap* ‘can’ < English *enough*) and *mas* ‘must’ (< Tok Pisin *mas* ‘must’ < English *must*), illustrated in (6.48–6.49).

(6.48) *you ta nap k-u so ni pwi*
 1SG.SBJ NEG can IRR-1SG spear fish NEG
 ‘I won’t (be able to) spear fish’ (Elicitation-2012-07-16-BZ_0087)

(6.49) *you mas you k-u suwe le sawal*
 1SG.SBJ must 1SG.SBJ IRR-1SG paddle go.to side
 ‘I must paddle to the other side’ (Elicitation-2012-08-06-AD_BZ_0123)

These appear to be good candidates for auxiliaries because of their modal semantics, and the fact that they can take a verbal complement. However, there are problems with categorizing these as prototypical auxiliaries in Koro. The two verbs do not form a homogeneous class; instead, they exhibit distinct syntactic behaviors. Not only that, but neither has the expected syntax of an auxiliary: *nap* can function as a control verb, as discussed in §2.7.2, while *mas* takes a finite clausal complement (TP), instead of the expected verb phrase complement. Neither of these constructions exhibits any evidence that the verbs *nap* and *mas* have special status as functional heads rather than lexical heads and I therefore reject these as auxiliaries.

On closer inspection, better candidates for auxiliaries in Koro are the reality status and perfect aspect morphemes, which were analyzed in Chapter 2 as T heads. These are irrealis *k-*, perfect *k-. . . -ni*, and null realis. These morphemes fit Butt and Geuder’s semantic definition of auxiliaries, since they situate an event in time, rather than introducing or modifying an event. Moreover, they do not have any effect on argument structure, and they are clearly not of category V, being unable to occur without a V complement. They also exhibit prototypical morpho-syntactic behavior for auxiliaries, in that they inflect for subject agreement, take a lexical verb as their complement, and are unable to occur independently (Krug 2011).

Taking these morphemes as exemplars of the auxiliary class, the properties of auxiliaries are as follows (see Chapter 2 for details): they inflect for the number and person of the subject; they are not preceded by a TAM morpheme; they cannot occur in a negated clause; and, as illustrated in the preceding section, they obligatorily occur on V_2 in a directional SVC. Table 6.1 summarizes these properties, as well as the properties of lexical verbs and

Auxiliaries	Lexical Verbs	Associated motion morphemes
situate an event	introduce an event description	situate/modify an event
do not introduce arguments	have full argument structure	unclear
inflect for number/person	do not inflect	do not inflect
cannot be negated	take <i>ta</i> under negation	take <i>ta</i> under negation
N/A	preceded by a TAM morpheme	preceded by a TAM morpheme
occur on V ₂ in directional construction	N/A	disallowed on V ₂ in directional construction

Table 6.1: Comparison of the properties of auxiliaries, lexical verbs, and associated motion morphemes in Koro

associated motion morphemes in Koro. This table shows that, although they do not have the semantic properties of lexical verbs, associated motion morphemes tend to pattern with lexical verbs rather than auxiliaries in their morpho-syntactic behavior. They do not inflect for person or number of the subject (although the locative verbs do change form depending in part on properties of the subject) and as illustrated in (6.46) above and (6.50) below, they are preceded by TAM marking.

- (6.50) *i* *k-i* *ru* *peleng* *a*
 3SG IRR-3SG stay:IRR/SG wait DIST
 ‘She’ll be waiting there’ (2011-04-03-BC-01_0072)

In addition, associated motion morphemes take *ta* under negation, as shown in (6.51), where V_1 *me* is preceded by the preverbal negator.

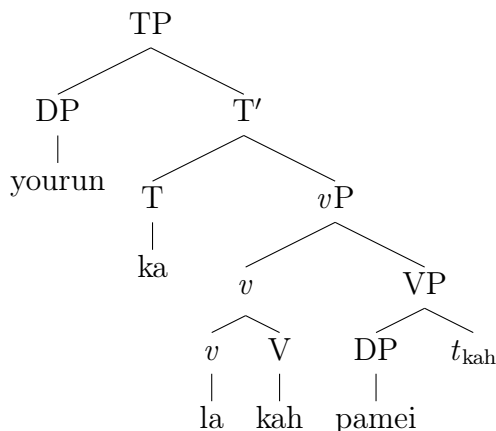
- (6.51) *i* *ta* *me* *mesenge* *wum* *mwasau*
 3SG NEG come work.on house NOT.YET
 ‘He hasn’t come to work on the house yet’ (Elicitation-2013-08-01-AD_CA_0004)

Finally, unlike auxiliaries they cannot mark V_2 in a directional SVC. This is demonstrated in (6.52). Here V_1 *chan* ‘clear’ takes imperfective marking, but the construction is ungrammatical if V_2 is also marked as imperfective, as in (6.52a). Instead, the grammatical example in (6.52b) requires V_2 to take realis marking.

- (6.52) a. **i* \emptyset *ri* *chan* *rutun* *i* *ri* *jau*
 3SG REAL stay:SG clear 3PL REAL:3SG stay:SG leave
 b. *i* \emptyset *ri* *chan* *rutun* *i* *yau*
 3SG REAL stay:SG clear 3PL REAL:3SG leave
 ‘He was chasing them away’ (Elicitation-2012-08-10-BZ_0076-77)

The ungrammaticality of (6.52a) cannot be explained by restrictions on the occurrence of path verbs in the imperfective construction because *jau* is not subject to this restriction (see Chapter 3 for more detail and examples.) In other words, when *jau* occurs as the sole verb in a monoverbal predicate, it can be marked as imperfective. There is therefore no independent restriction that blocks *ri* from occurring with *jau* in the above example. Instead the ungrammaticality reflects a structural prohibition against the occurrence of imperfective and associated motion morphemes in the directional construction, and provides evidence that they have a different syntactic status than the TAM auxiliaries. If these morphemes are auxiliaries then, they are of a different morpho-syntactic type than the auxiliaries that mark other TAM categories.

A possible alternative analysis that was mentioned briefly in §3.5 is to treat the path and locative verbs as functional *v* heads. This would allow us to posit a structure like that in Figure 6.12 for associated motion SVCs. I noted in Chapter 3 that this analysis is problematic because it assumes the existence of a null lexical V head that cooccurs with the path and locative verbs in monoverbal clauses. However, this does not totally discount

Figure 6.12: Associated motion construction: *v* analysis

the *v* analysis, since the existence of a null *V* is possible, if unlikely. A more problematic issue becomes evident though when we consider the structure proposed in Figure 6.12 for the associated motion SVC. If V_1 in this construction were a *v* head, it would take the VP headed by V_2 directly as its complement. Given that the path and locative verbs are unaccusative, they would necessarily be unaccusative *v* heads, which do not introduce an agentive external argument. However, such SVCs preserve the argument structure of V_2 , which includes an agent if transitive or unergative. The problem with this analysis then, is that because the *v* in the construction is unaccusative there is no head to introduce the external agent argument of the predicate. In addition, since we assume that *V* moves to *v*, this analysis would also require head adjunction of V_2 to V_1 . But the fact that V_2 (plus its object) can occur alone in answer to a question (as in (6.31) above) provides strong evidence that the two verbs do not form a complex head, despite being obligatorily contiguous. Finally, if the DOM suffixes discussed above are indeed *v* heads, then the fact that V_1 can cooccur with one of these markers indicates that it must be a higher head.

In summary, the evidence presented in this section clearly shows that the second constituent in an associated motion construction is the complement of V_1 and that it is a *vP*. However, the question of whether V_1 is a true lexical *V* in this construction, or whether it instead is a functional head, is more difficult to determine. Semantic evidence suggests V_1 may be an auxiliary or light verb, because it situates or modifies an event rather than introducing its own event description. However, the semantics of the verbs themselves is otherwise identical to that of their main verb counterparts. Morpho-syntactic evidence, on the other hand, suggests that V_1 is a full lexical *V* because it does not exhibit the behavior of the TAM auxiliaries. One way to resolve these apparent inconsistencies is to analyze the associated motion morphemes as low auxiliaries which have the syntactic category *V*. In this way they would have a different syntactic status to that of TAM auxiliaries, which are higher in the clause and are true functional heads, but they would also differ from regu-

lar lexical verbs in that they situate or modify an event, rather than introducing an event description. The question then, is whether this analysis differs substantively from a true SVC analysis. In practice, there does not seem to be any principled reason to distinguish the two. We can therefore conclude that the associated motion construction is an SVC that consists of a modifying V which takes V_2 as its complement. Given that V_1 is in some sense auxiliary-like, it is probable that the associated motion construction offers another example of grammaticalization in progress, where a full lexical verb is grammaticalizing into an auxiliary.⁷

6.5 Discussion: the interaction of syntax and semantics

In the previous chapter I examined the semantics of Koro multi-verb constructions, and in this chapter I have given an account of their syntactic structure. A remaining question then, is how the syntactic structure of each of these constructions relates to its semantics. Specifically, can the differences in event structure and lexical aspect be explained by syntactic differences? A full account of the syntax–semantics interface as it applies to these constructions is beyond the scope of this work, but I will offer some tentative observations here, which can hopefully be elaborated upon in future work.

First let us briefly recap the important semantic differences between the relevant constructions. As I argued in §5.3.2.1–5.3.2.2, the associated motion and change of state constructions derive a punctual 2-state predicate (an achievement) in which the source state is the source state of V_1 and the target state is the union of the target state of V_1 and the lexical content of V_2 . For a concrete example, consider the phrase *i me ndan* ‘he/she come dance’. The source state of this complex construction is the source state of V_1 *me* ‘subject located further from deictic center’, while the target state is the union of the target state of V_1 ‘subject located closer to or at deictic center’ and the lexical content of V_2 ‘subject dancing’. The imperfective construction, which I argued has the same syntactic structure as the associated motion and change of state constructions, has very different event structure. It derives a 1-state predicate that is interpreted as imperfective (topic time inside situation time) by default. Like the associated motion and change of state constructions though, this involves merging the lexical content of V_1 (which in this case is a stative, or 1-state, locative verb or particle) with that of V_2 . Although they differ significantly in their lexical aspect, all of these constructions describe a single event. In contrast, the directional and allative constructions do not straightforwardly describe a single event, since the two verbs can have different values for TAM. Instead, V_2 is part of an adverbial secondary predicate, which modifies the event of V_1 . Unlike the associated motion, change of state, and imperfective, therefore, the directional and allative do not alter the basic event structure or Aktionsart of the verb phrase projected by the major verb. What I would like to suggest is that this semantic difference between event-structure-changing and non-event-structure-changing constructions is attributable to the syntactic difference between complementation

⁷This type of example is important because it is often assumed that SVCs are a common diachronic source for auxiliaries (e.g., Lord (1993), Anderson (2006)), but as Bowern (2008) points out, the specific development of SVCs into auxiliary constructions is not well attested.

and adjunction. This is in the spirit of Stewart (2001) and Baker and Stewart (2002), who tie the different semantic entailments of different types of SVCs to their distinct underlying structural characteristics, including constituent size and type of syntactic juncture.

Consider first of all the syntactic structures proposed for the associated motion construction in Figures 6.10–6.11 above. In both of these structures, the V_2 constituent is a complement of V_1 , and V_1 therefore *c*-commands V_2 . In addition, there is no TP layer between the two verbal heads. This syntactic configuration is reminiscent of the relation that obtains in mono-verbal clauses between the lexical V head and the higher functional head that introduces the external argument (*v* in current theories). As such, it is plausible that operations that apply between those two heads could also apply between the V_1 and V_2 heads in an associated motion construction. Event Identification is one such operation. This semantic operation was proposed by Kratzer (1996:122) to explain how the external argument of a predicate establishes a thematic relation to the verb phrase, assuming that it is introduced by a separate functional head. Since each of the verbal elements in the clause (the lexical V head and the functional Voice head, in her proposal) is associated with its own unique event argument, but the resulting predicate describes just a single event, it is necessary to combine the separate events of Voice and V into a single event, to which both the subject and object bear a thematic relation. Event Identification achieves this by taking the functions of Voice and V and combining them into a function with a single event argument. My proposal here is that in the associated motion and change of state constructions, V_1 and V_2 undergo Event Identification to form a complex event. A fully fleshed-out account of this semantic operation is beyond the scope of the current work, but the basic proposal is that Event Identification operates on the verbs in an associated motion and change of state construction, taking their unique functions and outputting a single function with a single event argument. This would potentially explain both how the event descriptions of the two verbs are merged into a single event description (the lexical content described in §5.3.2.1–5.3.2.2 of the previous chapter) and how the external argument comes to bear a thematic relation to both verbs. In contrast to this, the imperfective construction does not require Event Identification to take place in order to output a single event. Since the stative V_1 does not introduce an event argument, no such operation is necessary.⁸ However, in order to describe a single event the two verbs must have compatible aspectual properties. My proposal is that this constraint on the lexical aspect of the two verbs in the construction coerces V_2 into an imperfective reading, which is compatible with the stativity of V_1 .

Now consider the directional/allative construction represented in Figure 6.7 above. As discussed previously, this construction does not describe a single event, but rather involves a secondary predicate that modifies the event of V_1 . This semantic property is reflected in the syntax by the fact that V_2 projects its own TP, and is an adjunct rather than a complement of V_1 . I propose that this syntactic configuration blocks the process of Event Identification from occurring, and therefore the two event arguments associated with V_1 and V_2 cannot be identified with one another. Specifically, the fact that they are not in a *c*-command relationship, and that there is a TP layer intervening between them, could both

⁸This follows from an assumption that stative verbs in general do not introduce event arguments; see, for example, Katz (2003).

be invoked to explain the inability for Event Identification to apply. The adjoined structure also explains other semantic properties of the directional construction. For example, whereas a complement can have an effect on the telicity of a predicate (in other words, it is able to act as a delimiter), an adjunct cannot. As was argued in the previous chapter, directionals and allatives in Koro do not act as delimiters, and this can be attributed at least in part to their syntactic status as adjuncts.

The findings reported here for Koro have wider implications for the syntax of SVCs generally. One such implication is that no true SVC should have an adjoined structure. This follows from the fact that SVCs comprise two main verbs that together describe a single event. Since the separate event arguments of the verbs must undergo Event Identification in order for a single event reading to result, they must be in a syntactic configuration that allows this. If I am correct in positing the above restrictions on Event Identification, this would entail that they must be in a relation of complementation. Another ramification is that a true SVC should only include a single TP. This could be considered the formal correlate of the requirement that an SVC be monoclausal, since ‘clause’ roughly corresponds to TP. If it is correct that Event Identification cannot operate across a TP boundary, then the single eventhood criterion also requires an SVC to have just a single TP. These comments on the interaction between syntax and semantics in SVCs constitute preliminary remarks, and I leave a more detailed hashing out of these proposals to further research.

6.6 Conclusion

In this chapter I have analyzed the syntactic structure of two multi-verb constructions in Koro — the directional/allative and the associated motion/change of state/imperfective. I showed that directional constructions in Koro are not SVCs, but are instead akin to depictive secondary predicates. A number of characteristics lead to this conclusion. Firstly, directionals contain two TPs, as evidenced by contentful TAM marking on V_2 . Since a construction containing two TPs cannot be said to be monoclausal, this immediately discounts an SVC analysis, due to the requirement of monoclausality. In addition, TAM marking does not have scope over the whole construction, and therefore it cannot be said to denote a single event. Instead, V_2 in a directional is part of an adjoined TP that acts as a modifier of the shared argument. Although the semantics of the directional are similar to a resultative, it does not have the delimiting function of a resultative, nor does it require a transitive V_1 , and it therefore cannot be treated as a resultative construction. As for the associated motion construction, the morpho-syntactic evidence clearly shows that it has a VP-shell structure, but the question of whether it is a true SVC, or is instead an auxiliary or light verb construction, is more difficult to resolve. Ultimately I showed that the preponderance of evidence points to an SVC analysis in which V_1 is a lexical verb that takes the second verb phrase as its complement, and has an event modifying function. This construction therefore has ramifications for the theory of SVCs, since its same subject argument sharing relation provides a counter-example to Baker’s strict object-sharing requirement.

One construction that was not addressed in this chapter is the resultative, which was discussed briefly in Chapter 5. As argued there, the resultative in Koro is not a productive

SVC, although it is likely that the fossilized collocations observed today developed from a previously productive construction. Since there is so little data on this construction, it is difficult to assess its structure. For example, because only a few verbs can occur in the construction, it is not possible to test whether the V_2 constituent can be iterated. This is important in order to test whether it behaves as a true resultative, which would not allow iteration of the V_2 constituent, or is instead similar to the directional construction. The structure of the resultative is of interest because it appears very similar to canonical SVCs. Resultatives seem to occur in most serializing languages, and the majority of formal analyses have been based on the properties of SVCs that have resultative semantics, even if they are more restricted than a general resultative (for example, directional constructions). On the surface, the resultative in Koro closely resembles the directional construction — V_2 takes TAM marking, and an object intervenes between V_1 and V_2 . This suggests that it may have the same structure, but this would be anomalous for a true resultative construction because resultative constituents are generally considered to be complements. More data is required to fully test the structure of the resultative, but it is unfortunately probable that the data cannot be acquired due to the almost obsolete nature of the construction.

Chapter 7

Conclusion

The overarching aim of this dissertation has been to try and bring clarity to the somewhat murky waters of SVC studies. The issues that have plagued this body of research are twofold. Firstly, there has not been agreement on exactly which types of constructions are SVCs and which should be excluded from this category. As I showed in Chapter 4, a wide variety of multi-verbal constructions in different languages have been discussed under the label ‘serialization’, and this has led to difficulty in making cross-linguistic generalizations about the nature of SVCs. Secondly, there has been a dearth of adequately detailed descriptions of SVCs in individual languages, especially those outside of the Niger-Congo family. As with many constructions that are not found in the well-described ‘Standard Average European’ languages, a good picture of the behavior of SVCs cross-linguistically is only beginning to emerge. This dissertation makes significant progress towards filling both of these lacunae. On the one hand it provides an explicit and detailed definition of SVCs and a comprehensive set of diagnostics derived from this definition. These diagnostics are cross-linguistically applicable, and thereby allow meaningful typological generalizations to be made about the properties of SVCs and serializing languages. On the other hand it presents a detailed description and analysis of SVCs and other multi-verb constructions in a previously undescribed Oceanic language, Koro. This is a solid step towards increasing the number of rigorous language-specific analyses of SVCs across a range of language families. In this concluding chapter I summarize the key findings of the dissertation and point to some avenues for further research.

In Chapter 2 I began by describing and exemplifying the functional categories that occur in Koro verbal clauses. This chapter provides vital background information for the analysis of multi-verb constructions in the language, but it also offers insights into typologically interesting aspects of the grammar of this previously undescribed language. Koro is a tenseless language, meaning that there are no grammatical morphemes that serve to locate an event in time relative to the time of utterance. Nonetheless, Koro clauses must be temporally anchored, and this is achieved by a number of non-tense functional heads, including markers of prospective, proximative, and perfect aspect, and overt and null reality status morphemes. The calculation of temporal reference in tenseless languages is of great theoretical and typological interest (e.g., Matthewson 2006, Bohnemeyer 2009, Tonhauser 2011), and the Koro system is especially interesting due to the nature of its reality status paradigm. I suggested

that the category of reality status in Koro does not have the canonical function of distinguishing between realized and unrealized events, but instead encodes temporal definiteness or specificity, which is analogous to the category of definiteness in the nominal domain.

The discussion in Chapter 3, like that in Chapter 2, provided crucial background information for the analysis of multi-verb constructions presented in later chapters. All Koro SVCs are asymmetrical, and contain a path verb or locative predicate in the minor verb slot. Understanding the behavior of this subclass of verbs is therefore vital for understanding the syntax and semantics of SVCs. I gave evidence that all path and locative verbs in Koro are unaccusative, despite many of them occurring in a superficially transitive syntactic frame. I showed that the surface object of such predicates is an oblique argument rather than a direct object, and I posited that these verbs, when they cooccur with an overt goal, select a PP complement with a null P head. This syntactic analysis provides potential insight into the grammaticalization of path verbs into prepositions in certain contexts (instrumental, comparative, and allative) — when a verb plus null preposition serves to introduce an additional argument into a clause (for example in the allative construction), it is easy to see how this syntactic configuration could be reinterpreted as a simple overt preposition.

In Chapter 3 I also showed that Koro path and locative predicates fall into a number of subclasses, each of which is identifiable through its unique morpho-syntactic behavior. This classification of verbs is important because I argue later in Chapter 4 that true SVCs can only include a restricted verb slot if that slot allows an independently identifiable morpho-syntactic subclass of verbs to occur. It is therefore crucial to establish that the groups of verbs occurring in the minor verb slot of Koro multi-verb constructions are in fact legitimate subclasses, and are not simply lexically listed. In addition to establishing their subclass membership, I gave a detailed description of the semantics of each verb, including its lexical aspect and spatial and temporal deictic properties. I highlighted two typologically notable aspects of these verbs. Firstly, all of the path verbs are punctual. This is a somewhat unexpected aspectual restriction for the class of path of motion verbs, but it is crucial to the interpretation of associated motion constructions (which I will return to at the end of this discussion). Secondly, despite being a tenseless language, Koro possesses a system of locative predicates that exhibits temporal deixis, in addition to its spatially deictic properties. I showed that certain locative predicates can only be used for present time reference, while others are restricted to non-present usage. This appears to be a typologically unique paradigm, and outside of the Admiralties family I am only aware of one similar system where certain locatives are restricted in their temporal reference (the Pama-Nyungan language Djambarrpuyngu: Wilkinson 1991).

After the necessary background information provided in the previous two chapters, Chapter 4 presents the core of the proposal in this dissertation. In this chapter I developed a cross-linguistic definition of SVCs and discussed the diagnostic criteria that fall out from this (see Table 4.1 for a summary). The definition is based on the existing typological characterization of SVCs, but builds on it by enumerating and clarifying the underlying principles and extrapolating diagnostic criteria from these. Most studies of SVCs make reference to some subset of the properties in (7.1) (repeated from (4.4) in Chapter 4.)

(7.1) Surface properties of SVCs:

- i. SVCs consist of components that could each stand on their own as a main predicate
- ii. SVCs are monoclausal
- iii. An SVC describes something conceptualized as a single event
- iv. The verbs in an SVC share at least one core argument
- v. SVCs include no marker of coordination or subordination
- vi. SVCs have intonational properties the same as a clause with a single verb
- vii. The verbs in an SVC share one tense, aspect, and polarity value

A major point that I made in Chapter 4 is that these criteria are not independent of one another, but instead form groups of criteria that test for the same underlying structural or semantic property. In the discussion I attempted to make overt the connection between each of these criteria and the more fundamental property it reflects. I also introduced additional criteria that I argued can help to diagnose each of these core characteristics. Ultimately, I claimed that the defining properties of SVCs boil down to the following four:

(7.2) Defining criteria for SVCs:

- i. Each of the verbs in an SVC is a main lexical verb
- ii. An SVC forms a single clause
- iii. An SVC describes a single event
- iv. The verbs in an SVC do not introduce separate arguments

From this list of defining properties a set of cross-linguistic criteria for SVCs emerges, and these then have language-specific implementation. For example, one of the entailments of single eventhood is that any temporal operators must have scope over the whole construction. But exactly how this looks will vary significantly from language to language. In Koro this means that if V_1 is marked as realis then the predicate must entail the occurrence of both the V_1 and the V_2 events, regardless of the formal marking on V_2 . Similarly, decisions about whether a particular root in an SVC is truly a main verb will be based on language-specific morpho-syntactic, semantic, and phonological criteria for main verbhood. In this way the discussion in Chapter 4 makes a major contribution to SVC studies by developing a principled methodology for identifying true SVCs in any language, regardless of its typological profile.

Chapter 5 presents a case study of these criteria in action. In this chapter I gave an overview of all multi-verb constructions in Koro that fulfill the broad definition of SVCs. I then showed, through rigorous application of the criteria developed in the previous chapter, that all but three of these constructions fail the tests for true SVC-hood. What this application of the criteria shows is that very subtle semantic and morpho-syntactic analysis is sometimes needed to evaluate SVCs. For example, it is the semantic entailments of the directional construction that disqualify it from the status of true SVC. Specifically, unlike

in a mono-verbal main clause, realis marking on V_2 does not entail that the event described by the V_2 constituent was completed. As such, a realis-marked allative SVC does not entail reaching of the goal introduced by V_2 . The ramification of this fact is that both verbs are not under the scope of a single TAM value, and therefore the construction does not constitute a single event. Importantly, since these constructions have a strong implicature that the V_2 event was completed, this atelic property of directional and allative constructions only becomes evident with targeted elicitation specifically designed to probe their semantic entailments. One of the aims of this chapter is to model the kind of detailed description and analysis that is required to identify true SVCs in a language and distinguish them from superficially similar constructions. As noted above, the greater the number of such descriptions, the better our understanding of the SVC phenomenon will become.

In addition to categorizing multi-verb constructions in Koro, Chapter 5 provides an analysis of the semantics of the constructions that are closest to the prototypical SVC — namely the directional/allative and the associated motion/change of state/imperfective. In analyzing the latter construction, I presented ample evidence that this does in fact constitute a single construction type, despite the seemingly disparate semantics of the different variants. The only surface difference between the sub-types is what verb can fill the minor verb slot. In the associated motion and change of state it is any of the prepositional path verbs, while in the imperfective it is a locative predicate. This suggests that they may constitute a single construction, since all the morpho-syntactic properties are the same. However, the semantic differences are significant. The associated motion construction derives a dynamic telic predicate (an achievement) that denotes literal motion of the subject followed by the event of V_2 . In contrast, the change of state construction does not entail literal motion, although it is also an achievement predicate. Finally, the imperfective creates a predicate with an imperfective aspect reading, and there is no temporal ordering between the verbs. These very disparate semantic functions suggest that the three variants may represent three distinct construction types. In this chapter, though, I demonstrated that the interpretation of each construction can be derived directly from the properties of the verb in the minor verb slot, and therefore they can in fact be analyzed as representing a single construction. One outcome of this chapter, therefore, is that there is only one true SVC in Koro, which has semantics of associated motion, change of state, or imperfective, depending on the verb that occurs in the minor verb slot. Additionally, there is a construction that is morpho-syntactically and semantically very similar to an SVC — namely the directional/allative — but which differs from SVCs in lacking the Macro-Event Property.

Finally, Chapter 6 focuses in on these two construction types and gives an analysis of their syntax in the Minimalist framework. What emerges from this investigation is that the two constructions have very different syntactic properties, and do not even appear to be variations on the same type of construction. The two major differences between them are the size of the V_2 constituent and the type of juncture between the verbs. The directional/allative construction consists of a TP that is adjoined to the first VP and acts as a modifier. I suggested that it is syntactically analogous to a depictive secondary predicate, although it has semantics that resemble that of a resultative. The associated motion/change of state/imperfective, on the other hand, involves a vP that is the complement of V_1 . As

such, V_1 resembles a raising verb or auxiliary. I hypothesized that the syntax of these constructions can be directly tied to their semantic interpretation — specifically, I proposed that two verbs can only be interpreted as describing a single event if there is a relation of complementation between them. I suggested that this configuration allows the process of Event Identification to take place, yielding a single event reading. A consequence of this is that true SVCs should only ever have a complementation structure. There is some cross-linguistic support for this position. For instance, Stewart (2001) claims that resultative SVCs must have a complementation structure, and he demonstrates that this is the case for such SVCs in a number of languages. Whether this holds true for other types of SVCs across languages remains to be investigated, but the Koro data at least corroborate this claim.

Table 7.1 at the end of this chapter summarizes the surface morpho-syntactic properties of the different Koro multi-verb constructions discussed in this dissertation, and outlines the syntactic analysis that was proposed for each. As can be seen from this table, many diverse underlying syntactic structures can result in a surface form that appears to involve the combination of two verbs in a single clause. For example, as just discussed, the associated motion, change of state, and imperfective constructions are comprised of a vP that is the complement of V_1 . In contrast, the directional and allative consist of a TP that is adjoined to the constituent headed by V_1 . Other constructions that superficially resemble SVCs do not resemble them structurally at all. For instance, the instrumental and comparative are prepositions rather than verbs and the durative and sequencing constructions are simply apposed main clauses that optionally fall under a single intonation contour. It is notable that, of this fairly lengthy list of multi-verb constructions, only three (associated motion, change of state, and imperfective) are true SVCs (and as argued extensively, these in fact form a single SVC type). One important point that is highlighted by this study, therefore, is that even in languages that superficially appear to be heavily serializing there may be few or no true SVCs, and great pains must be taken to prove that a given construction is a legitimate SVC.

The sixth column of Table 7.1 indicates the juncture layer of each construction. This is not intended as an analytical claim, but is instead meant to reflect how the constructions would be classified under the core–nuclear rubric that is ubiquitous in Oceanic studies of SVCs. As outlined in §4.3.1, this classification is based on contiguity of verb roots, marking of verbal categories, and argument structure. The table reveals that in Koro all nuclear-layer constructions involve complementation of the V_2 constituent to V_1 , while core-layer constructions represent a variety of syntactic configurations. There has been very little work done on the precise syntactic structure of core- and nuclear-layer SVCs in Oceanic so it is not clear how widespread this structural correlation is. An interesting future avenue of inquiry would be to examine whether this pattern extends to other Oceanic languages.

Another important finding of this dissertation, alluded to above, is that in Koro the semantics of SVCs can be fully attributed to the semantics of the lexical and functional items that make them up, in combination with general principles of semantic interpretation that apply to the syntactic configuration. In other words, there is no need to appeal to a semantic contribution of the construction itself. This speaks to an ongoing debate over whether the ‘construction’ is a cognitively real linguistic unit (Adger 2013, 2012, Goldberg

2013). One piece of evidence that suggests a positive answer to this question is the fact that certain constructions appear to have a semantics of their own, quite apart from the semantics imparted by the lexical items that inhabit them. Many SVCs appear to provide examples of such construction-specific semantics. For instance, in some SVCs a sequence of verbs is interpreted as occurring consecutively while in others it is interpreted as simultaneous. What I showed for associated motion SVCs in Koro is that their strict consecutive interpretation is entirely predictable based on the punctual semantics of the path verb that occurs as V_1 . It is therefore unnecessary to attribute any semantics to the construction itself, despite the fact that it has a restricted temporal interpretation that initially seems arbitrary. Whether this generalizes to SVCs in other languages remains to be seen, but the study of Koro demonstrates that detailed analysis of the verbs occurring in SVCs is necessary before any claims about semantics of the construction can be made.

The findings in this dissertation also contribute to a debate over the universal properties of SVCs, specifically their argument-sharing restrictions. As discussed in Chapter 6, Baker (1989) makes the claim that all SVCs must involve a shared internal argument. Collins (1997) confirms this generalization for Ewe, but work by Agbedor (1994) and Aboh (2009) suggests that it does not in fact hold up to scrutiny. The work reported in this dissertation very strongly suggests that Baker's claim is erroneous. As reported in Chapters 5 and 6, the associated motion SVC in Koro involves sharing of the subject. This sometimes equates to sharing of the internal argument, such as when both V_1 and V_2 are unaccusative, but it typically does not. It is very common for V_2 in this construction to be unergative or transitive, and in these cases it is the external argument of V_2 that is shared with V_1 . Since, as discussed in Chapter 6, there is no principled reason to exclude the associated motion construction from the category of true SVCs, its patterns of argument sharing provide compelling evidence in favor of rejecting Baker's proposed universal.

Let me make a final observation about the nature of Koro multi-verb constructions. In Koro SVCs, the only verbs to occur in the minor slot are path verbs and locative predicates. In addition, most of the multi-verb constructions that do not fall into the category of true SVCs utilize the path verbs in their restricted slot. The question that rears its head, therefore, is what is it about these verbs that makes them so amenable to use in multi-verb clauses? Interestingly, this pattern fits with what has been observed cross-linguistically, namely that the most common verbs to occur in asymmetrical SVCs are verbs of motion, direction, posture, and location (Aikhenvald 2006b:47). However, it is not clear what the explanation for this universal tendency is. In Koro I showed that path verbs and locative predicates differ from other lexical verbs in a number of ways (for example, they are unaccusative, they cannot be nominalized, and they cannot occur in imperfective aspect). But it is not clear that any of these properties directly explains their ability to combine so readily with other verbs in such a variety of syntactic and semantic configurations. One possibility I entertained is that these verbs are in fact unaccusative *v* heads, rather than lexical Vs. This would potentially explain their ability to occur in the associated motion SVC, because a *v* is expected to take a V as its complement. But I presented a number of arguments against this position, and ultimately dismissed it. Nonetheless, the idiosyncrasies of the path and locative verbs suggests that they possess one or more unique features that also allow them to

occur in SVCs and other multi-verb constructions. The exact nature of these features must be left to future research.

Construction	V ₁	V ₂	TAM on V ₂	Obligatorily contiguous V _s	Juncture layer	Syntax
Directional, allative	unrestricted	path verb	yes	no	core	V ₂ heads adjoined TP (secondary predicate)
Associated motion	prepositional path verb	unrestricted	no	yes	nuclear	V ₂ heads <i>v</i> P complement of V ₁
Change of state	prepositional path verb	stative/process verb	no	yes	nuclear	V ₂ heads <i>v</i> P complement of V ₁
Imperfective	locative predicate or posture verb	unrestricted	no	yes	nuclear	V ₂ heads <i>v</i> P complement of V ₁
Resultative	a few transitive verbs	a few unaccusative verbs	yes	no	core	uncertain (fossilized idioms)
Instrumental	unrestricted	<i>le</i> 'go to'	no	no	core	V ₂ is preposition
Comparative	adjective or adverb	<i>me</i> 'come', <i>le</i> 'go to'	no	no	core	V ₂ is preposition
Durative	unrestricted	<i>la</i> 'go'	yes	no	core	apposed clauses
Sequencing	unrestricted	<i>hepwī</i> 'finished'	yes	no	core	apposed clauses

Table 7.1: Morpho-syntactic properties of multi-verb constructions in Koro

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Appendix A

Description of texts

The following is a list of text descriptions and synopses, in alpha-numeric order based on the full file name of the audio recording and transcription file. This list includes every text that was cited in the body of the dissertation. The full corpus contains many more texts, as well as numerous elicited sentences.

2011-03-07-AH_AV-03: Itupo Loniu

John Kris tells the traditional story of Itupo Loniu, from the Tewi clan, including a song sung by Itupo Loniu. Itupo Loniu and her husband Lepengam were spearing fish when a she-devil saw them and decided she wanted Lepengam. The next day the she-devil's husband changed her into a woman and she took Itupo Loniu's place. At first Lepengam didn't realize, and he stayed with the she-devil. However, when they were eating he noticed that she ate the plate along with the food, and he figured out that she must be a devil. He heard Itupo Loniu sing out to him and he resolved to kill the devil and retrieve his wife. The next day the she-devil's husband came back and Lepengam killed him, removed his liver (or heart), and took back Itupo Loniu, leaving the she-devil with her husband's corpse.

2011-03-08-AH_AV-01: Pokerem and Chichindrikawa

John Kris tells the traditional story of Pokerem and Chichindrikawa. Pokerem was a man and his wife Chichindrikawa was a devil, but he did not know it. One day they were fishing and while Pokerem was not looking, Chichindrikawa ate all the fish. He was suspicious, and so he tested her by asking her to climb a betelnut tree and collect some betelnut. When she climbed the tree she turned around and cut the betelnut down with her bum, instead of using her hands like a person would. Another day they went fishing again, and once again Chichindrikawa ate all the fish. Now he knew she was a devil and he decided to kill her. He took big mumu stones and heated them up on the fire. Then he put the stones on top of her and she died. Finally, he removed her heart and put it on the fire.

2011-03-09-AH _ AV-01: The old woman, the eagle, and the snake

John Kris tells a traditional story from the Tewi clan about an old woman and her children, an eagle and a snake. There was an old woman who was lonely, so she decided to make herself some children. She made them by dripping blood from her finger into two seashells and burying them under a tree. She waited and after a week one of the shells began to hatch and she saw a small fat leg sticking out. Five days later an eagle appeared at her front door, and she was very happy. She took good care of him, teaching him how to eat and fly, and he grew strong. When he was strong enough he would fly to catch fish for them, and they were very happy with each other. But the old woman worried about the eagle's sibling, which still had not hatched. Soon the other shell hatched into a snake. But the snake was lazy and the old woman got angry. She asked the eagle to build them a house in the tree, and they left the snake at the bottom of the tree and just threw their food scraps down for him to eat. Eventually the old woman died, and the eagle buried her and he died too, and who knows what happened to the snake.

2011-03-11-AH _ AV-01: The drummer

John Kris tells a traditional story about a drummer. There was a man who was very good at beating the drums, and he wanted his son to follow in his footsteps. He gathered all the people from all the islands and they watched his son play the drums. Everyone was dancing and dancing to the beat of his drums and the father told everyone that his son would keep playing until they told him to stop. They danced on and on, through the night and into the next day, even though the boy was getting tired. This went on for three weeks, with the boy drumming and the people dancing, only stopping to eat and sleep. Three of the women — one from the islands and two from the mainland — fell in love with him because of his prowess at drumming and dancing, and they raced to his house. When the boy went back to his house to change, he was surprised to find the three women waiting for him. He consulted their parents, who were happy for him to marry their daughters, so he married all three of them.

2011-03-11-AH _ AV-02: Kris's cigarette story

John Kris tells a personal story from his school days. When he was in grade 5 the American army was there in Manus. The Americans told Kris to get his friends and come to the bridge and they would give them food and cigarettes for the father. So they went by boat and they collected all the food and cigarettes and took it back to the mission, but they stole two cartons of cigarettes. When they were smoking their stolen cigarettes some of the other boys smelled the smoke and reported them to the teacher. Kris got in trouble and was whipped, but he fought back and beat up the teacher who whipped him, then he ran away from school and did not go back. The father felt sorry for him and gave him some work, at first fixing tyres and later piloting a ship around Manus Province. He recognized that Kris was smart and so he taught him how to drive a car and he got his license and eventually got a government transport job.

2011-03-15-AH _ AV-01: Mbrokop e Mbrulei

John Kris tells the traditional story of hermit crab (*mbrokop*) and rat (*mbrulei*). Some of the dialog is in another language, possibly Mokoreng. One day rat came to hermit crab and asked him if they could go to the sea to catch some fish to eat. The hermit crab agreed, so rat made a canoe and they sailed out to a reef. They put down anchor there and hermit crab went into the water and collected the meat from the clams and brought it back up to rat. Rat was happy and hermit crab asked if he would like to come down too so they could collect clams together, but rat protested that he cannot swim and he would drown. So hermit crab went back down by himself to collect more clams. Unbeknownst to hermit crab, rat was eating all the clams as he brought them up. Hermit crab went down again and speared some fish, which he brought up to the canoe. Again, rat ate all the fish, and only the skin and bones remained. This went on and on until finally the crab got tired and rested by the canoe. When he saw that the rat had eaten all the clams and fish he had collected he was angry. As they sailed away, hermit crab decided to sink the canoe. He steered it into the crashing waves and the canoe broke apart. Hermit crab crawled away to the shore, but rat could not swim and he clung onto the mast. He saw the sea creatures swimming nearby and he called out to shark to come and rescue him, but the shark told him his canoe was too small and he should wait for a bigger canoe. The same thing happened with dolphin, and turtle, and all the other sea animals, until finally a crocodile came and he told rat to hop on board. Rat climbed onto the crocodile's back and showed him where his home was. As they were traveling the crocodile farted, but when the rat asked him about it he said, "The sea made my bottom fart." When they got to the rat's home the rat told the crocodile that he had disrespected him by farting; he told him that his fart was smelly and his breath was smelly too. The crocodile was angry and tried to catch the rat, but the rat jumped into a crab hole to get away. The crocodile dug and dug until his fingers were raw and his claws were gone, but he did not catch the rat.

2011-03-21-AH _ AV-02: Making a canoe

John Kris tells a story of his grandson making a canoe. The boy had made a canoe to paddle to school, but when he tried it, it was no good and it sank. So on Sunday the boy went to the bush and cut down a tree to make another canoe. Then he called all his brothers and sisters and cousins to help him transport the tree to the beach. When his father saw him carving the canoe on the beach he helped him finish it. John Kris saw the boy still carving and told him to leave it or else it would become too flimsy and so the boy stopped carving and he has not done any more work on it.

2011-03-22-AH _ AV-02: Frog story

Mary Clara tells the frog story, based on the wordless picture book *Frog, where are you?* by Mercer Mayer (Mayer 1969).

2011-03-22-AH _ AV-03: How to make a garden

Mary Clara describes how to make a garden. If you want to make a garden you will tell your brothers and sisters and your mothers and fathers that you have some work to do. First you will go to the bush and make a clearing. On the first day you must clear the undergrowth, and the next day you can return and chop down all the big trees and cut them into small pieces. You must wait one or two months for the sun to dry all the vegetation and then you can go back and burn it so the area is totally cleared. Then you must go around to different villages and collect what you would like to plant in your garden, such as yam shoots and taro shoots. You will prepare food and take it to the garden and leave it in the shade of the trees. The men will dig and the women will plant. When night comes everyone will go home and if there is still more work to be done they will return the next day. Once all the planting is done you must wait however many months for each plant — between six and nine months — and when it is ready you will gather up your family again and take baskets to the garden to harvest the vegetables.

2011-03-31-AH _ AV-01: How coconuts came to Manus

An old woman and her two grandsons were paddling to an island far away. They traveled on and on and when they were close to the island the old woman was close to death. She instructed her grandsons that when she died they should cut her head off and bury it and throw away her body. They followed her instructions and buried her head, and the next day a coconut had grown on top of her grave. They took the coconut back to the village and planted it, like their grandmother had told them to. A short coconut palm grew and when the coconuts were ready they took them around to the other villagers to exchange them for other food. The villagers wanted to know where the coconut came from, and they wanted to take them and plant another coconut palm, but the brothers told them they could not grow their own — if they wanted a coconut they would have to exchange food for it. The villagers stole a coconut and planted it, but it didn't grow. The coconut would only grow for the two brothers. If other people tried to plant one it would just die. The villagers were jealous, and the brothers got dogs to guard the coconuts. Eventually the older brother died and at his funeral the younger brother tried to give the coconut to the villagers to plant, but it didn't grow because the old woman had only wanted her grandchildren to have the coconuts. Finally the brother used the coconut to buy a wife, and she had two sons. When the brother died the wife wanted to give away the coconuts, but the older son said, "No, our father told us not to share the coconuts. We can only exchange them for food." The mother didn't listen and she tried to give away the coconuts to her family, but they would not grow. Eventually the children grew up and the older one married. The younger son went and prayed to the coconut and promised never to share them, but to just keep them in the family. And nowadays there are coconuts everywhere, enough for the whole village.

2011-03-31-AH _ AV-02: Chauka

John Kris tells the story of chauka (Manus friarbird). This is a traditional story but not from Tewi clan. It includes a song in Mokoreng language and the same song sung in Koro.

One day chauka's wife went away somewhere and the people saw him alone and told him to come with them. But chauka wanted to wait for his wife. He called and called for her and she returned. They went and the people were angry with them because they had been waiting, and the chaukas were just singing. So the men got sticks and chased the chaukas away. And the news arrived that the chaukas were at Lou. A Lou man and his wife were making a garden, and they went to rest in the shade out of the sun. They started having sex, but the chauka interrupted them. The man thought that the chauka would go and tell everyone, so he and his wife chased the chauka and tried to beat him with sticks. But they kept missing and chauka escaped. He gathered all the chaukas from all around and told them to come to Lou to drink up all the fresh water and scatter it all around Manus. So they sucked up the water and filled up all of the creeks and rivers around Manus, and now Lou has no fresh water. They have to go to the beach and dig wells to get fresh water.

2011-03-31-AH _ AV-04: Man and tree game number two

Mary Clara and John Kris play the Man and Tree game, number two (Levinson et al. 1992). The game consists of a set of pictures depicting men and trees in various spatial relations (as well as some distractor pictures). Each person has their own set of pictures and the aim is to describe to your interlocutor the picture you are holding so that they can retrieve the identical picture from their set.

2011-03-31-AH _ AV-06: Man and tree game number four

Mary Clara and John Kris play the Man and Tree game, number four.

2011-04-01-AH _ AV-01: The man-eating devil

John Kris tells a traditional story about a man-eating devil at the water at Masar. There was a place with running water, but a devil dammed it up. When people would come to bathe he would beckon them over and they would walk into his mouth and out of his bum and they would end up in his lair. Eventually the hole was full of people, but they had nothing to eat, so the devil would go to a far away village and kill people to feed to the people in his lair. There was an old woman, and one day when her grandsons were going to go to the water and bathe she told them that their mother and father had gone to the water and been eaten by the devil. They decided to go and see, even though she begged them not to go. After a while she told them if they go, they should pick a hibiscus flower and they should tear up their laplaps and make them into a rope. One of them should tie the rope around his neck and jump into the devil's hole. Then when the devil goes out at night to hunt all the people can climb up the rope and escape. So one of the brothers went and did as she said, and the other brother waited behind. When it got dark he went to find his brother, and he made a torch from coconut leaves and lit the way. The people returned to the village and the devil was angry when he came back to his lair, but there was nothing he could do.

2011-04-03-BC-01: Ndramei e Ipwedu

Maria tells the traditional story of Ndramei and Ipwedu. Ndramei (a bird with a red head) and his wife Ipwedu lived in the mangrove. Each day Ndramei would go to the bush and Ipwedu would stay and cook their food. But she wanted to find another man, and so she met Kareu (a type of clam). When Ndramei went to the bush, Ipwedu pretended she was sick. She made herself pretty and Kareu came to visit her and they had sex. When Ndramei came home she just slept next to the fire as if she was sick, and he made their food. But he suspected something, and so one day he pretended to go to the bush, but instead he hid close by so that he could catch them at it. Kareu came and they messed around, but then Ndramei came home. When he found them he beat them both with a stick. Ipwedu was upset and she berated him and told him she was dying. He did not believe her and he was still angry. Nowadays the red-headed bird sits in the tree-tops and cries, and because of Ndramei and Ipwedu there are no *kareu* in the mangrove here.

2011-04-03-BC-04: Itupo Loni

Maria tells the traditional story of Lepejap, his wife Itupo Loni, and their son Pwakop. This story includes a song in Mokoreng language — the same song that Kris repeats in the chauka story above (2011-03-31-AH_AV-02), and a song in Koro, which is almost the same as the song Kris sings in his Itupo Loni story. The family was going to go and hear the drums being played, but on the way a devil took Itupo Loni's place while she was going to fetch water. Itupo Loni called out to them and the devil heard her and told Lepejap that it was just two chaukas fighting. Itupo Loni climbed a cho-ul tree. She wanted to try and jump into the canoe from there, but the tree fell and she fell with it into the sea. She drifted along on top of the tree until she came to a beach where two young girls were. The girls were menstruating for the first time and had been put in isolation. They had gone to the beach for some fresh air, and they saw the tree with a woman on top of it. They came over to her and she told them her story. They bathed her and took her home to their grandma, who was a devil. The grandmother went to the bush to find food, and they devised a plan to fill up a cup with lice and water and cover it with leaves and give it to their grandma to drink. She drank the whole thing up and the lice were crawling around in her mouth and her belly. After she drank it her two devil's teeth fell out and two normal teeth appeared in their place. Then Itupo Loni and the two sisters bathed and got dressed. They decorated themselves and went to where the drums were being played. There was a huge crowd and lots of dancing, and they stayed for a while and went back home. The next day they returned to watch the drumming again, and that is when Pwakop and Lepejap spotted Itupo Loni. The father and son went home and planned how to get their mother back. The following day they all returned to the drumming, and the father and son took Itupo Loni away from the two sisters. The sisters protested and they went crying to their grandmother. The next day everyone went to the sea to spear fish. The devil woman was paddling the canoe for Lepejap and they came across a big giant clam with its mouth open. Lepejap told the devil woman to dive down and collect the clam meat. He told her not to use her hands or her feet to collect the meat, but instead to put her head inside the shell and carry it up to the

surface on her head. When she did that the clam closed its shell and chopped off her head. Her body floated to the surface and they took it back to the beach. when they opened her belly they found dishes and palm fronds and all sorts of things in her (because she was a devil she ate the plates along with the food). After that Lepejap took Itupo Loniu home.

2011-04-03-BD-03: Mbrokop e Mbrulei

Kris tells the traditional story of hermit crab and rat. Hermit crab and rat were paddling together and spearing fish. When rat speared a fish, hermit crab would just dive in and eat it so the spear came up with nothing on it. They paddled against the waves and one wave smashed their canoe to pieces. The hermit crab simply crawled along the sea bed up to the beach, but the rat was in trouble. He got on top of a stone and waited. He called out to the shark to give him a ride, but the shark told him his canoe wasn't big enough, and he left. This happened over and over again with different fish, until finally the turtle told him to hop on board. As they were paddling, the sea hit the turtle's bum and it farted. The rat asked him, "What was that?" And the turtle told him, "Don't worry, the sea hit my bum and my bum farted." This happened over and over again as they were paddling on, until eventually the rat got off. Today you see lots of rats around here, in the bush and the garden and the kitchen, and they eat all the food.

2011-04-07-AH _ AV-01: Hipolo Angei

John Kris tells the traditional story of a woman who lived in the top of the *angei* (okari nut) tree. There were three boys who lived in the village. One day they decided to make gardens for themselves. Once they had made the gardens and were cooking some of their vegetables, they wanted to get protein to eat with it. So the smallest brother went to the roadside, and there he found lots of fallen okari nuts. He collected them and shared them with his brothers and they ate them. Afterwards they went back and ate their vegetables. Day after day it went on like this and that boy only ever went to collect the nuts by himself. His brothers asked him about the nut tree, but he didn't tell them anything. One day they followed him and spied on him when he was collecting the nuts. A nut fell down with a loud sound, and when the youngest brother went over to pick it up it had a young girl inside. He took her home with him and his brothers asked him what he was hiding from them. So he told them about the girl from the tree and the middle brother told him to bring her for his wife because the youngest brother was too small to take a wife. But the smallest brother told him, "No. If you want a wife you must go and collect okari nuts, and then after a few days your wife will fall down from the tree." After the second brother was married the oldest also wanted a wife, so the smallest brother told him the same thing. The last girl told them that the old woman in the okari nut tree was the grandmother of them all, and she felt sorry for the boys and that's why she sent the girls down to them. Eventually the couples each had a child and the old woman from the tree came down to check on them. After she had gone back again the boys asked their wives about her and they told them she was their boss, named *Hipolo Angei* (*Hi-* 'prefix for feminine names', *polo* 'top', *angei* 'okari nut'). The brothers and their offspring kept reproducing, until finally the village was packed. Then the old woman from

the tree died and the brothers gave her a good burial.

2011-04-07-AH_AV-03: Family problems tasks one and two

Mary Clara and John Kris do the family problems task 1 (San Roque et al. 2012). This stimulus consists of a set of 16 pictures that can be ordered in different ways to make a story. In this part of the task I handed the pictures to the consultants one by one in a set order and asked them to describe each picture without telling them that the pictures are intended to create a narrative. After they had described each picture I then asked them to work together to line them up to make a story. Mary Clara did most of the talking in both tasks.

2011-04-08-AH_AV-01b: Man and his dog, part 2

John Kris tells a story about a man and his trained dog. It is unclear whether this is a true story or not. This recording is the second half of the story. A man had a dog and he trained it to hunt cuscus and bandicoot. He went out with his dog and his friend one day. The dog caught plenty of cuscus and bandicoots and the friend was impressed with how the man had trained his dog.

2011-04-23-AA-02: Hinimeï and Hinipong

Kristine tells a traditional story from the Tewi clan about Hinimeï and Hinipong, two girls who turned into fish and are the ancestors of the clan. There was an old woman who looked after her two granddaughters, Hinimeï and Hinipong. One day when she was preparing their food the shell she was using as a knife cut her finger and she got angry. The girls heard her and they thought she was sick of looking after them so they decided to leave. The next day they dressed up and they went to the *Ndran Tewi* (the water of the Tewi clan where there are two swimming holes — see the map in Figure C.2). When they jumped into the water they turned into bright red fish (like a *nipong*, which is a species of mangrove bass). They swam to the deep sea and got caught in Pwakop's trap. Pwakop's men got the fish, and Pwakop told them to leave the smaller one on the drying rack and cut up the larger one for their food. After they had eaten, Pwakop sent one of his men to fetch him some of the soup. The younger sister had turned back into a person and when the man came she sent him away, telling him that he smelled of her sister's blood. This happened again and again until Pwakop decided to go himself. The girl told Pwakop that he had eaten her sister and he was very sorry. He just thought they were regular fish. He took her as his wife and they had a son. Eventually the son found out that his mother was a fish. She told him to go and get a bow and arrow from his grandmother so that they could make a journey through the sea. The next day they departed on their journey. When they got to the edge of the land the mother told the boy to shoot the arrow into the water. When he did that the sea parted and they kept walking. They did this on and on until finally they arrived at the Tewi stone, next to Peheka. They went to the old woman's house and shook the fragrant leaves of the *keremet* plant and the old woman smelled it and asked who was there. Hinipong revealed

herself and introduced her son to her grandmother. After that Hinipong got remarried to a man named Chapapeu, and they had children, and this is where the Tewi clan comes from.

2011-04-23-AA-03: Itupo Loniu

Kristine tells the story of Itupo Loniu. The story includes the same two songs that are in Maria's story, but Kristine sings both in Koro. Pwakop (a different Pwakop than the one in the Hinimeia and Hinipong story), his wife Itupo Loniu, and their son paddled in the canoe to go and fetch water. Pwakop and the boy stayed with the canoe and Itupo Loniu took a basket into the bush to fetch water. When she was fetching the water a devil woman appeared and pushed her into the water. The devil woman took on the form of Itupo Loniu and she went back to the canoe and told Pwakop to paddle onwards. Pwakop gave the baby to the devil woman to hold and he told her to feed it. She tried to feed him but her breast was spiky and it poked his mouth. Itupo Loniu got out of the water and called to her husband. Pwakop heard her, but the devil woman told him it was just *chaukas* fighting. This happened three times, and after the third time Pwakop realized that it was the voice of his wife he was hearing. They kept paddling and they came to the beach. The next day Pwakop's family came and brought food for the devil woman and when she ate it she ate the plate and everything with it. The women thought it was strange that she didn't bring their plates back and they asked Pwakop, so he told them about the devil woman. When it was low tide he told his mothers and sisters to go to the reef and find fish and to take the devil woman with them. He told them if they saw a big clam to tell her to put her head in it, and it would cut her head off so that they could get back all their dishes. So they did as he said, and when the clam cut her head off they took her body to the shore and cut her belly open to get out all their dishes. Then Itupo Loniu finally found her way back to Pwakop.

2012-06-28-AA-01: The old woman, the eagle, and the snake

Kristine tells a traditional story from the Tewi clan about an old woman and her children, an eagle and a snake. There was an old woman who lived by herself. One day as she was peeling vegetables, the shell she was using cut her hand and it started bleeding. She poured some of the blood into an empty clam shell and she put it in the fork of a tree. After a few days the shell had turned into two eggs, and out of one hatched a snake and out of the other hatched an eagle. The snake went to the bush, but the eagle stayed with the woman. It grew bigger and stronger, and it felt sorry for the old woman because she just ate food from the garden and had no meat to go with it. So he flew out to sea to catch her some fish. After a while the woman wanted sago, so the eagle flew off to find some sago for them. He went to the bush and took some sago that had been left hanging to dry. When the people found that some of their sago had been taken they decided to lay in wait for the thief. When the eagle came to take more, they whipped him and he dropped the sago and fled back to his grandmother. (There is another story that elaborates on this part of the tale.) The eagle got a leaf and told the grandmother that as long as the leaf stayed fresh that meant he was still alive, but if it dried up that meant that he had been killed. He tried to take more sago, but the people whipped him again and shot him with arrows. He flew away to Anitah island and

he fell into the sea and was floating. The people from Pityluh island saw the eagle and they killed him and ate him, but they kept the bones and gave them power using black magic. Then when they would fight with the people from Powat or Nombrot they would win with the eagle's bones. One woman from Powat got married to a Pityluh man and she found out about the magic eagle bones. So she stole some of the bones and took it back to her village so that they could use them. They tied the bones to their spears and after that when they fought with the Pityluh they killed them all.

2012-07-09-BC-01: How to prepare sago

Maria explains how sago is harvested and cooked. First the sago palm is chopped down and split in half and then a sago bow (called *kuwal*) is used to scrape out the inside of the trunk. The pulp is collected and mixed with water in a *pandehékau* until all of the starch comes out. Then the pulp is thrown away and the water drains into a container where the starch slowly settles to the bottom. Once the starch has separated the water is poured off and the sago starch is put into baskets. The basket is tied to a stick and carried home. The water will drain from the sago, which will form a hard block when dried. After the sago has dried it will be divided up between the people who helped to harvest and wash it. To cook it, you break it into small pieces by rubbing it between your fingers (similar to making shortcrust pastry) and then fry it with some coconut.

2012-07-09-BD-01: World War II

Kris tells the personal story of when World War II came to Manus. There is a lot of code-switching between Koro and Tok Pisin in this story. Kris was just a boy when the war came. When the war came in 1941, '42, '43, people didn't stay in the villages — they fled to the bush. Everything was destroyed by bombs. The Japanese came first to Lombrum. Japan came and displaced the Australians. They were short on manpower and they sent word to Australia, New Zealand, the UK, and the US for back up. Backup arrived and Los Negros was completely full of army, navy, and airforce troops — maybe one or two million people. There were ships and planes and cars everywhere. There was no room for the people of Los Negros. Everyone went to stay at Mokoreng because the battles were raging everywhere else on the island. The war didn't affect all of Manus, just Los Negros. The Allies came and chased the Japanese away and put some in the prisoner of war camp at Lombrum. When the war finished in 1944, '45, '46, the people of Los Negros went and stayed at Puruhut. They did not stay in Papitalai or go to the bush there because it was full of soldiers. There was no pig, no cuscus, no fish, no crab, so they just relied on rations from the army. After two or three years, when the army moved on to Vietnam, people moved back to Papitalai and fixed the place up. It was a very hard time during the war. When bombs would drop it was every man for himself and you didn't worry about your friends or family or belongings. People didn't used to have so many children as they do now. Nowadays if the war came, how would you keep track of all your children? We should go back to the old ways when the women stayed in the house and the men stayed in the *hausboi* (special house for boys and men).

2012-07-14-AA-04: Mbrokop e Mbrulei

Kristine tells the traditional story of hermit crab and rat. Hermit crab and rat were paddling in a canoe together when a big wind came and snapped off their sail and their outrigger. The canoe sank and hermit crab crawled down to the sea floor, but rat was just swimming in the deep sea. Rat saw a fish and asked if it had a canoe big enough to carry him, but the fish said, no, his canoe was too small and rat should wait for a bigger canoe. More fish came and they said the same thing — shark, mackerel, all the fish told him to wait for a bigger canoe. Finally turtle came and he told rat to hop on and he would take him home. Turtle paddled on and on to rat's place, and while he was paddling turtle farted. The rat asked the turtle what that sound was and he said, "The sea went into my bum and my bum made a sound." It kept happening and the turtle kept denying it, but the rat knew because it smelled very bad. He told the turtle to take him to the shore because they had come to his home. When he was on the beach he berated the turtle, and the turtle was offended and chased the rat. The rat ran and hid in a hole in a rock and the turtle couldn't reach him. The turtle chewed and chewed at the rock trying to get to the rat. He chewed until his teeth were ground down, and then he gave up and went away.

2012-07-14-AA-06: Mwalulu

Kristine tells the traditional story of Mwalulu. It includes a song from another very similar language. Mwalulu had a wife, Iyesah, and a son. He had very large, round genitals, but he never carried them with him — instead he put them in a big basket and hung them on a tree by the beach. When he went out fishing he would call to his genitals to come and help him get the canoe in the water. When he came back he would give the big fish to his genitals to eat and take the smaller fish up to his house. His wife became suspicious because he only ever brought home the small fish, and she told him to go out again to catch more. She sent one of her sisters to paddle him but he tricked the sister into putting her head in a clamshell and she died. Then he cut out her liver and gave it to his wife, pretending it was the liver of a large fish. After Iyesah had eaten her sister's liver, Mwalulu's family taunted her with a song. Iyesah vowed to get even with him and so one day when he was going to go fishing she went and hid at the beach to spy on him. She saw him call out to his genitals and she realized that was who he had been giving the large fish to. So when Mwalulu left she beat the genitals and took them home and cooked them. When Mwalulu came home he ate what she had prepared, without realizing what it was, and when he had finished, her family taunted him with a song. Then one day she tricked him into climbing a tree and her family brought coconut fronds to the base of the tree and set it on fire. He fell into the fire and died and they ate him.

v2012-07-21-AD_BZ-02: Rosemary's tsunami story

Rosemary tells a personal narrative about the small tsunami that struck Manus after the Japanese earthquake on Friday March 11, 2011. Rosemary heard about the tsunami on the radio, but she was not worried and she went to sleep. In the night Steven came and yelled

at her to get her baby and go up the mountain because the tsunami was coming. She was scared and she did as he said. She stopped halfway up the mountain because she couldn't climb to the top, and she stayed there with her baby and some others. In the night it rained and they covered themselves with big tarps. The boys went down to check the village and they told everyone to wait until morning to go back. In the morning they went down to the beach and saw that the tsunami had thrown all kinds of things on the beach.

v2012-07-21-AD _ BZ-03: Margaret's tsunami story

Margaret tells a personal narrative about the small tsunami that struck Manus after the Japanese earthquake on Friday March 11, 2011. When she heard the news that a tsunami was coming, Margaret was scared. They went and watched the water, and it was coming and going, and so Margaret went and got her 5 month old grandson and tried to flee to the bush. But the people told her to go back because it was dark and the baby was still so small. Some of the other people just wanted to stay in the village and monitor the water, but Margaret and some other girls and women were scared, so they went to the mountain above Chopokeleheu (where the school is). Sister Rita and the girls from the school also went up there. One of Margaret's sons was paddling his canoe in the water when the tsunami came, but he is strong and he got himself back to shore. After a while the boys told Margaret and the others that the tsunami was gone and they could come back down, but they were still scared, so they waited for morning. When they came back down in the morning they saw lots of things drifting back and forth in the water.

v2012-07-21-CA _ AD _ BZ-06: Rose's fishing story

Rose tells a personal story about going fishing with her father and her cousin. When Rose's father was still alive, he took her and her cousin Jenny to Peren (where the swimming holes of Hinimei and Hinipong are) at night to spear fish. He had already speared a lot of fish when he spied some big, fat mullet. He told his daughters not to speak pidgin, but to only speak the village language, because they were in a sacred place. He told them off for speaking pidgin, because it would make bad spirits come. Jenny paddled the canoe to the roots of a *pirau* tree, and Rose's father went to spear a big mullet, but a bad tree spirit had also seen the mullet and wanted to spear it too. When Rose's father tried to spear it the tree spirit tried to spear it at the same time. The mullet ran away and the tree spirit's spear knocked a *pirau* fruit out of the tree and it hit Rose's father on the head. The girls laughed and laughed, and Rose's father was angry and told them to paddle back to the village. When they got back to the village they were still laughing so hard that they woke up the village.

v2012-07-26-AH-01: Mbrokop e Mbrulei

John Kris retells the story of hermit crab and rat.

v2012-07-31-AD_BZ-05: Eluh, Kewin, and Chou

Margaret tells a traditional story about Eluh and her two brothers, Kewin and Chou. This is not a Papitalai story; some of the dialog is in another language or dialect that is very close to the Papitalai dialect, but is slightly different. There was once a village that had a very big devil. The devil tried to eat all the villagers and they ran away. Only a girl, Eluh, and her two brothers, Kewin and Chou, stayed in the village. They built a house in a treetop, and when the brothers went out to catch fish they would warn their sister not to let the ladder down for anyone else. One day though, the devil came when the boys were out fishing. The devil called up to Eluh, asking her to put down the ladder, but Eluh was scared and she refused. The devil became angry and started to dig at the posts of the house to try and make the house fall down so he could eat Eluh. Eluh called out to her brothers, who paddled back quickly when they heard her. The older brother came to the house and he saw the devil digging with its bright red bum in the air. He speared the devil right through and it died. They took out the devil's liver and fried it, and then they sent its head to all the other villages so they could see that the devil had been killed. When the word spread that the devil had been killed all the villagers returned.

v2012-07-31-AH-03: Kris's watch story

John Kris tells a personal narrative about when the American soldiers were on Manus. He was just a boy at the time. After World War II ended, the American soldiers were still on Manus, waiting to be sent home. Some of them came to the village and the villagers took them to the *waswas meri* (the two swimming holes where Hinimei and Hinipong are said to have turned into fish). They were throwing money and things into the water and diving down to try and retrieve them. But the water was very deep and they couldn't get them because they would run out of air. They kept trying and trying, but eventually they gave up and decided to just leave the things there. The leader (Sergeant Banjo) had not swum yet, and they told him to go and swim. But he didn't have any money, so they told him to throw his watch into the water instead. He hesitated for a long time because the watch was a wedding gift from his wife, but eventually he threw it. Like the other men, he couldn't retrieve it when he tried because the water was too deep. He was really upset, but it was time to eat so they all went and ate. Kris told them that he was going to go and look for fish, but instead he went to fetch the watch. He spoke to Hinimei and Hinipong and told them that he was going to retrieve the watch and they could keep all of the other things that had been thrown down. He dove down and got the watch, but he waited until they had returned to the village to give it to the sergeant. When he got his watch back he was very happy with Kris, and the next day he drove to Poloka and beeped the horn and Kris paddled over and collected lots of food and cigarettes that the sergeant had brought for him as a reward for retrieving the watch.

v2012-08-01-AH-05: The story of Koles

John Kris tells a personal narrative about a boy named Koles who drowned. In 1970 when Kris came to the village there was a young man named Koles who was staying with Kris's

mother, and he was sick. Kris went to bring him food and he said he was not sure if he was going to get better or not. Peter Kapak came to look after Koles and he took him to the sea to wash because he had soiled his bed. Kapak washed the sheets and hung them up and when he went to find Koles he was gone. He thought that he must have fallen into the sea, and so he dived and searched for him. When church finished he told all the people and they got in their canoes and went to search for him in the deep water. Kris's grandfather came to him and asked him to help look for Koles. So Kris got his diving goggles and went to the water. He saw how the currents were running and he decided where he should dive. He dove into the water and searched all around the sea bed, and finally he saw him. At first he thought it was a large fish and he was scared, but then he looked more closely and realized it was Koles's body. They dragged the body into a canoe and then they went and gave him a proper burial and observed mourning for five days. The people who carried him and made his coffin were compensated, and Kris too.

v2012-08-02-CB-01: The story of the snake

Michaela tells a personal narrative about finding a giant snake. One day Michaela and two of her in-laws went to the water to go and find betelnut. They came to a big tree in the water and there was a huge snake coiled on the branch. One of the in-laws had her grandchild with her and she was afraid for him, so they paddled back to the village. When Michaela told her husband about the snake he didn't believe her, so the next day they went together and found the snake still in the tree. The news spread quickly, and people came from Naringel to see. They tried to talk to it to see if it was an ancestor spirit. While they talked to it it was changing color, but it didn't speak. Michaela and her husband went to see it again the next day, and they thought it was something the Americans had left behind from the war. Eventually they went and got one of the navy men and he shot it. They took it back to the village in a canoe and a car came to take it to Lombrum (where the naval base was). At Lombrum they cut it up and cooked it and ate it, so that only its head remained. One man from Finschhafen took the head and buried it. The snake actually was a spirit, and when he buried the head the snake rewarded him by giving him good luck.

v2012-08-02-CB-04: Forty flying foxes and their wives (Kombe story)

Michaela tells a traditional story from Kombe (West New Britain) about 40 flying foxes with human wives. Every time the flying foxes came home and embraced their wives, the wives' flesh would get scratched by the flying foxes' claws. One day one of the women met a human man in the garden and he showed her how humans have intercourse. She decided to take the man home with her and hide him in her house. When her flying fox husband came home she beat him and broke his wing. The flying fox figured out that she was hiding a man in the house and he got angry. He flew away and gathered all the flying foxes together and the next day they went and beat the man to death with betelnut. But he had already impregnated the woman, and after the flying foxes left she gave birth to a baby boy. That child bred with the other women and soon there was a whole village of humans, which they named Kombe.

Appendix B

List of speakers

The following is a list a speakers who are quoted in this dissertation. Not all of the speakers whom I worked with are listed here. In the file name cited after each example sentence throughout the dissertation is a two letter speaker code. Refer to this table to find out the details of that speaker. If there is more than one speaker code in the file name this indicates that there was more than one speaker on the recording. The citation does not specify which speaker made that particular utterance.

Speaker ID	Name	Gender	Age	First language(s)
AA	Kristine Pat	F	65+	Koro
AD	Rosemary Nayap Paura	F	35–45	Tok Pisin, Koro
AH	John Kris Hinduwan Lopwar	M	65+	Koro
AV	Mary Clara Hinduwan	F	50–60	Koro, Tok Pisin
BC	Maria Pokisel	F	65+	Koro
BD	Kris Pokisel	M	65+	Koro
BZ	Margaret Nausai Pohn	F	45–55	Koro, Tok Pisin
CA	Rose Kewin	F	35–45	Tok Pisin
CB	Michaela (Ingela) Kupwai	F	65+	unknown

Table B.1: Speaker IDs and biographical details

Appendix C

Maps of Los Negros Island

The following maps of Los Negros Island and the immediate Papitalai area were sketched freehand by community member John Chipeko (John Choo). They are reproduced with kind permission.

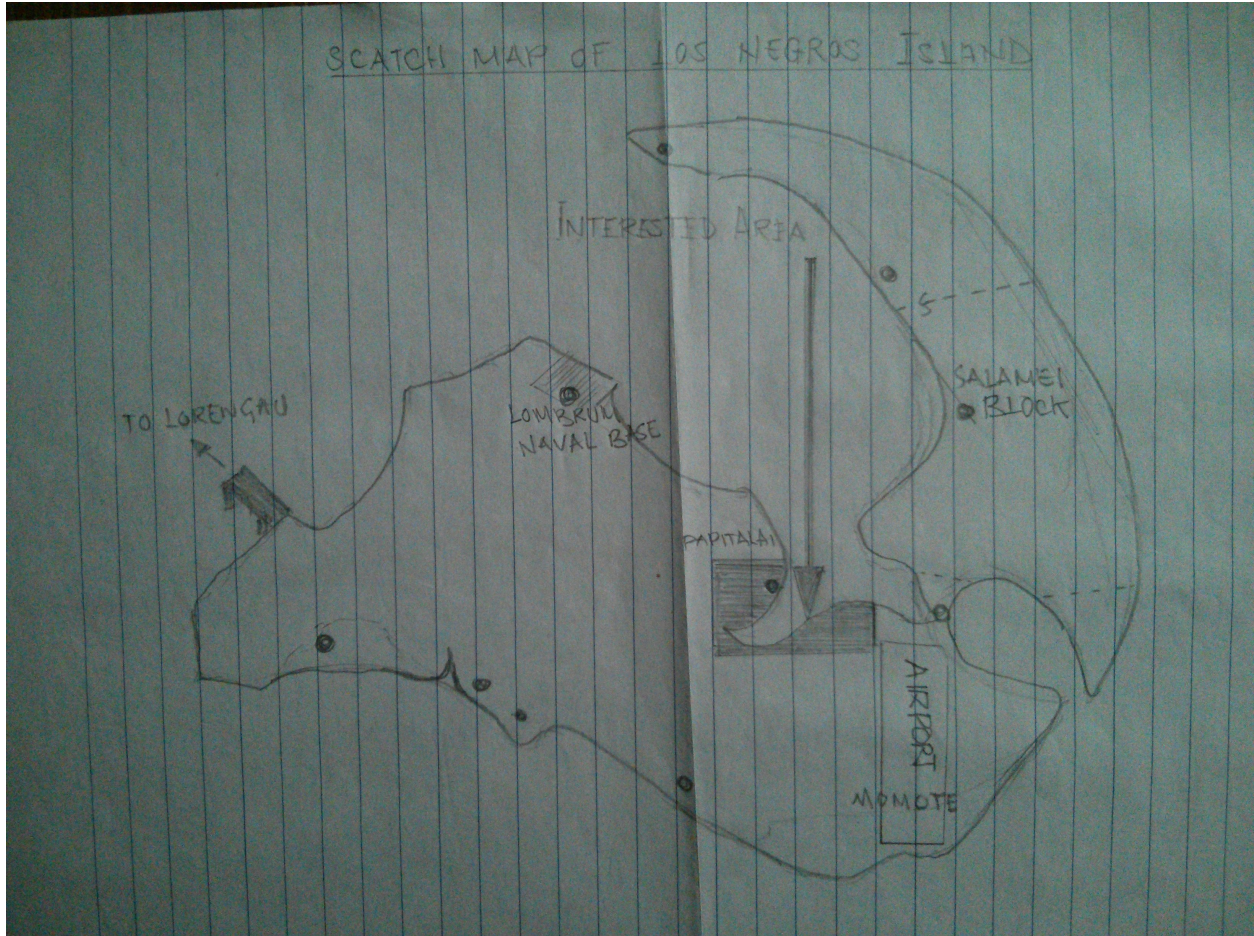


Figure C.1: Sketch map of Los Negros Island

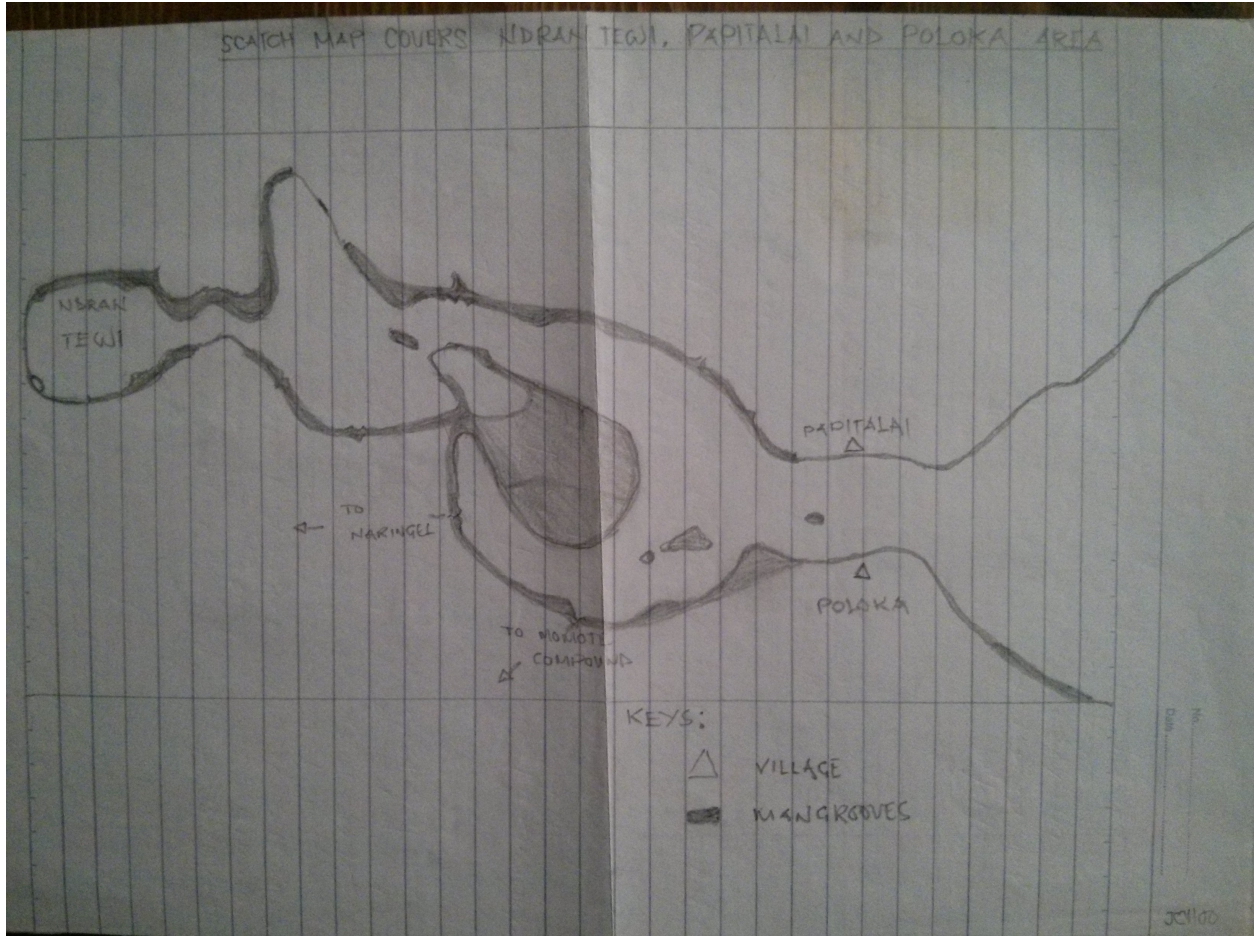


Figure C.2: Sketch map covers Ndran Tewi, Papitalai and Poloka area

Appendix D

List of languages in the typological survey

Language	Subgroup	Location	Sources
Kele	Admiralties	Manus, PNG	Ross (2002e)
Sivisa Titan	Admiralties	Manus, PNG	Bowern (2011)
Loniu	Admiralties	Manus, PNG	Hamel (1993, 1994)
Koro	Admiralties	Manus, PNG	field notes
Mussau-Emira	S ^t Matthias	New Ireland, PNG	Brownie and Brownie (2007)
Ifira-Mele	CEOc, ¹ ROc, ² Central Pacific (Polynesian)	Vanuatu	Clark (2002)
Pileni	CEOc, ROc, Central Pacific (Polynesian)	Solomon Islands	Næss (2004)
East Uvean	CEOc, ROc, Central Pacific (Polynesian)	Wallis and Futuna	Moyse-Faurie (2004)
Nêlêmwa	CEOc, ROc, New Caledonian	New Caledonia	Bril (2004b)
Abma	CEOc, ROc, NC Vanuatu ³	Vanuatu	Schneider (2007)
Araki	CEOc, ROc, NC Vanuatu	Vanuatu	François (2002)
Lamen	CEOc, ROc, NC Vanuatu	Vanuatu	Early (2002)
Namakir	CEOc, ROc, NC Vanuatu	Vanuatu	Sperlich (1993)
Mwotlap	CEOc, ROc, NC Vanuatu	Vanuatu	François (2006)
Paamese	CEOc, ROc, NC Vanuatu	Vanuatu	Crowley (2002b)
Gela	CEOc, SES, ⁴ Gela-Guadalcanal	Solomon Islands	Crowley (2002a)
Longgu	CEOc, SES, Malaita-San Cristobal	Solomon Islands	Hill (2002)
Toqabaqita	CEOc, SES, Malaita-San Cristobal	Solomon Islands	Lichtenberk (2006)
Buna	CEOc, Utupua-Vanikoro, Vanikoro	Solomon Islands	Tryon (2002)
Bali	WOc, ⁵ MM, ⁶ Bali-Vitu	New Britain, PNG	Ross (2002a)
Vitu	WOc, MM, Bali-Vitu	New Britain, PNG	van den Berg and Bachet (2006)
Hoava	WOc, MM, New Ireland	Solomon Islands	Davis (2003)
Kokota	WOc, MM, New Ireland	Solomon Islands	Palmer (2009)
Tungak	WOc, MM, New Ireland	New Ireland, PNG	Fast (1990)
Banoni	WOc, MM, New Ireland	Bougainville, PNG	Lynch and Ross (2002)

¹Central-Eastern Oceanic

²Remote Oceanic

³North and Central Vanuatu

⁴Southeast Solomonic

⁵Western Oceanic

⁶Meso Melanesian

Language	Subgroup	Location	Sources
Jabêm	Woc, NNG, ⁷ Huon Gulf	Morobe, PNG	Ross (2002b)
Numbami	Woc, NNG, Huon Gulf	Morobe, PNG	Bradshaw (1993)
Arop-Lokep	Woc, NNG, Ngero-Vitiaz	Madang, PNG	D'Jernes (2002)
Bariai	Woc, NNG, Ngero-Vitiaz	New Britain, PNG	Gallagher and Baehr (2005)
Lote	Woc, NNG, Ngero-Vitiaz	New Britain, PNG	Pearson and van den Berg (2008)
Takia	Woc, NNG, Ngero-Vitiaz	Madang, PNG	Ross (2002f)
Ma'ëa	Woc, NNG, Ngero-Vitiaz	Morobe, PNG	Guérin (2011)
Sobei	Woc, NNG, Sarmi-Jayapura Bay	Indonesia (Papua)	Sterner and Ross (2002)
Tobati	Woc, NNG, Sarmi-Jayapura Bay	Indonesia (Papua)	Donohue (2002)
Kairiru	Woc, NNG, Schouten	East Sepik, PNG	Ross (2002c)
Saliba	Woc, Papuan Tip, Nuclear	Milne Bay, PNG	Margetts (2004, 2005)

⁷North New Guinea