

22

Arrernte children's linguistic construction of motion events: Exploring the use of Associated Motion

Susan Poetsch and David Wilkins

Introduction

This study is a preliminary investigation of Eastern Arrernte children's use (or non-use) of one interesting and complex area of Arrernte verbal morphology; the system of Associated Motion (AM). The work reported here emerges out of the first author's more comprehensive study of children's Arrernte at Ltyentye Apurte community in Central Australia, one location in the multi-site Aboriginal Child Language Acquisition (ACLA) research project directed by Jane Simpson and Gillian Wigglesworth. Informed by narratives elicited from 18 children and four adults, using a set of textless picture books (O'Shannessy 2004), this study is motivated by a language maintenance perspective, i.e. Arrernte families' aspiration for their language to remain strong into the future. It contributes some specific insights into a general concern held by Arrernte educators that children's Arrernte is missing some of the complexities of their mother tongue.

Cross-linguistic typological and descriptive work on AM is more common than research on AM acquisition. Thus, this chapter offers a rare exploration of children's use of the AM system in their first language (L1). The significance

of the study also lies in links found between the diachronic development of AM – as proposed by Simpson (2001, 2004) and Koch (2020, 2021) – and synchronic L1 acquisition of elements of the system. This study will show that, as a cohort, the children are maintaining at least a subset of the core morphemes in the AM system that are used by adults, and are preserving key distinctions in the system. However, some children are not yet showing an adult-like alignment of semantics and grammar for clauses containing AM-marked verbs. Also, for one of the AM morphemes used by the adults, we find that the children use an alternative structure (a motion with purpose construction). In this deviation from adult patterns, we see echoes of the construction proposed as the precursor to the development of AM prior motion forms.

Background

Linguistic descriptions of Arrernte and other Australian languages produced in collaboration with older speakers from the 1970s onwards have provided foundations for more recent research on the language use and practices of younger generations in remote communities. Such research not only helps us track the fate and future of Australian languages but also provides a snapshot of the role of language and language practices in the educational experiences of Aboriginal children and youth.

The ACLA project has provided significant stimulus for the current increase in child-focused research in communities in the Northern Territory (NT), Western Australia (WA) and South Australia (SA). ACLA phase 1 documented language input to children aged 1–4 years in Yakanarra, Dagaragu and Tennant Creek (Simpson and Wigglesworth 2008). ACLA phase 2 investigated language production by primary school-aged children in Yirkala, Ipmangker and Ltyentye Apurte (Wigglesworth, Simpson and Vaughan 2018; Dixon, this volume). Research on children's language has also been underway in Warlpiri communities, the Ngaanyatjarra and Pitjantjatjara lands, the Tiwi Islands and at Wadeye (Browne 2019; Browne and Gibson 2021; Defina 2020; Ellis, Green and Kral 2017; Forshaw et al. 2017; Kral 2012; Minutjukur et al. 2019; O'Shannessy 2015, 2020; Wilmoth, Defina and Loakes 2021; Wilson, Hurst and Wigglesworth 2018).

These several case studies have begun to build data-informed portraits of children's linguistic repertoires, their language maintenance and language innovation practices, and the first and additional languages they grow up with and use at school. In some cases, details have also been emerging about the multimodal communicative environments and events that children experience and participate in. The study reported in this chapter is born out of PhD research in one of the ACLA2 sites (Poetsch 2022), and also builds on research on children's Arrernte conducted in the 1980s–1990s (Wilkins 1993, 2003, 2006, 2016, 2008).

The participants live at Ltyentye Apurte, where Eastern Arrernte is the main language (Figure 22.1). Eastern and Central Arrernte, members of the Arandic subgroup of Pama-Nyungan languages, are very closely related. They are represented together in the same dictionary and grammatical descriptions (e.g. Henderson and Dobson 2020; Henderson 2013; Wilkins 1989). Where it is not necessary to distinguish it from other varieties, we will refer to the language simply as Arrernte, as people at Ltyentye Apurte do.

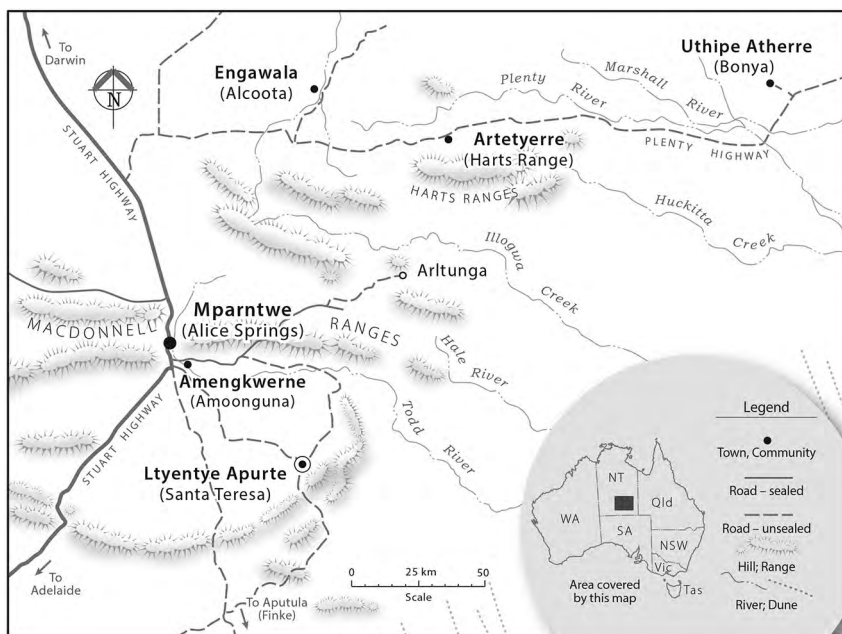


Figure 22.1: Communities associated with Eastern and Central Arrernte.

Source: Map by Brenda Thornley.

The ACLA2 PhD study investigated children's differential deployment of Arrernte grammar and broader communicative proficiencies in three sample contexts: four textless picture book narratives (17 child participants), sand stories (told by five girls, four of whom also participated in the textless picture book narrative task), and classroom learning (a Year 1–2 Maths lesson taught in English, including two children who also participated in the other two contexts). Although English elements were found in the children's Arrernte, as will also be evident in some of the examples to be presented in this chapter, such elements did not meet the criteria of a contact code. They were determined to be older and newer borrowings, and signs of children accessing the languages in their repertoire.

Basic Arrernte morphosyntax was found to be intact in the children's speech; thus the PhD work investigated two of the more complex and distinctive aspects of Arrernte grammar: the definitising function of third person pronouns and the switch reference system (Poetsch 2022). The study in this chapter investigates another such feature: the associated motion (AM) system. Compared with basic Arrernte morphosyntax, these features reveal more variation among the children's production.

Associated motion in Arrernte

Arrernte verbs have a complex structure with seven distinct slots, though only the first and last are obligatory (Table 22.1).¹ Although the notion of associated motion is present in many PamaNyungan languages, it is found formally in the Arandic subgroup, where it is expressed in a separate grammatical category. That is, AM morphemes fill a unique slot in the verb structure – after derivational suffixes and before aspect, subject number agreement and verb-final suffixes. When added to a verb such as 'speak', AM markers convey notions such as 'speak while coming', 'speak while going back', 'speak then go back', 'go then speak'.

1 For an alternative representation of Arrernte verb structure, see Henderson (2013, 276). Henderson's representation more accurately shows that number marking can, in fact, take up a number of positions in the verb, including being marked in portmanteau fashion in the AM slot.

Table 22.1: Arrernte verb structure.

1	2	3	4	5	6	7
Verb root	Derivational suffixes	Category of associated motion	Continuous aspect	Number agreement with subject	Reduplication (aspect)	Verb-final main and dependent verb suffixes
<i>angke-</i>	<i>-rr</i>	<i>-inty.alpe</i>	<i>-rle.ne</i>	<i>-rre</i>	<i>-pe-rre</i>	<i>-me</i>
speak	RECIPROCAL	DO.COMING.BACK	CONT	DL.S/A	FREQ.RDP	NON-PAST PROG
Two people frequently speaking continuously to each other while coming back (towards here)						

Source: Wilkins (2006, 28).

For the purposes of typological comparison, Guillaume (2016, 92) conceived 'of the phenomenon of AM as a COMPARATIVE CONCEPT to be distinguished from any specific DESCRIPTIVE CATEGORY that might be present in a particular language'. Guillaume requires that, to qualify as an AM marker, a form must meet the following definition (independent of the system or grammatical category the form falls into in a particular language): 'An AM marker is a grammatical morpheme that is associated with the verb and that has among its possible functions the coding of translational motion'. Through this definition, Guillaume intends to formally rule out lexical expressions of a co-event of motion through means 'such as lexical verbs of motion in multiverbal constructions as in compounding, serialization, subordination, or coordination'.

Figure 22.2 shows the 17 forms in Arrernte that meet Guillaume's definition of an AM marker. Of these, 16 forms constitute the system of AM proper in Arrernte.² The 17th form, *rl.ape* 'do continuously while in motion (DO. ALONG)' appears in a separate slot in the verb and, in that slot, forms a contrast with another continuous aspect morpheme, *rl.ane* 'do continuously'. Thus, we have a distinction between the conceptual category and the formal category of associated motion, as shown in Figure 22.2. This figure only provides forms that are unmarked for number. Some markers have portmanteau variants for explicitly marking plural subject agreement as well as AM, e.g. the plural subjectverb agreement form for DO&GO is *rlt.alhe*. These indicate the number but not the person of the subject. (Wilkins 1989, 1991, 2006).

2 Wilkins (1989, 1991) only identified 14 forms in the system of AM proper. This increased to 15 in Wilkins (2006). Koch (2021), on the basis of the Arrernte Dictionary, identified a 16th form. Like Koch (2021), we acknowledge that semantically there are 17 AM markers in Eastern and Central Arrernte with the inclusion of the form DO.ALONG from the continuous aspect slot.

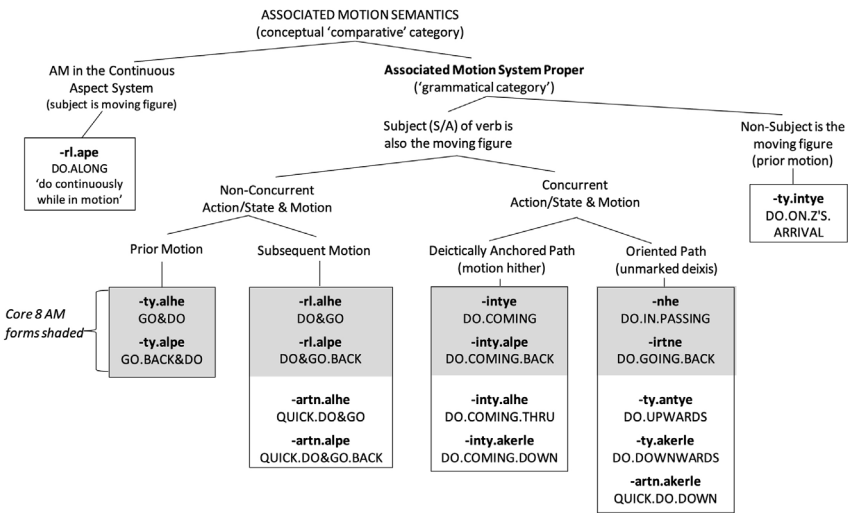


Figure 22.2: The Category of Associated Motion in Eastern and Central Arrernte.

Source: Authors.

Within the AM system proper, we see most of the key distinctions that Guillaume (2016) and Guillaume and Koch (2021a) have identified as relevant to typological comparison. These distinctions are the role of the figure in motion (subject or non-subject), the temporal relation between the verb action and the motion co-event (motion prior, subsequent or concurrent), the direction of the motion (toward the speaker, deictically unspecified, upwards, downwards), the shape of the motion path (return, unspecified) and speed (if hurried).

Forms like *ty.alhe* ‘GO&DO’ and *rl.alhe* ‘DO&GO’, which betray their historical origins from compounding, use a dot to separate diachronically analysable elements. In this case, *alhe* is the Arrernte verb meaning ‘go, move in the manner characteristic of the subject’. There is a debate in the literature as to whether all the forms within the AM motion systems of the Arandic languages conform to Guillaume’s definition, because some of these AM markers transparently display the traits of having emerged from precursor constructions of compounding, i.e. they seem to lie on the grammaticalisation continuum somewhere between full compound and (complex) suffixal inflection. However, as Koch (2021, 266) observes: ‘Any attempt to synchronically analyse the AM markers into component morphemes encounters problems with the verbal elements, the ligatives and the semantic compositionality of the formations’. We will follow Koch

(2021, 2020) and Wilkins (1991) in treating the forms as suffixes to the verb. It is important to note, however, that even analysts who question the best analysis of complex forms in the system recognise that AM functions as a coherent system of paradigmatic distinctions.³ Dealing with similar issues cross-linguistically, Ross (2021, 69) simply states that '[a]t its core, Associated Motion expresses the translational movement of a syntactic argument before, during or after the lexical action of a verb'.

Another minor controversy concerns the label 'Associated Motion'. Simpson (2001, 2004) and Panther and Harvey (2020) prefer the term 'Associated Path' and find that the better semantic generalisation (one that, for instance, avoids invoking metaphor or 'fictive motion') is to say that such markers 'associate a path to a verbal predicate' (Panther and Harvey 2020, 74).

To get a sense of how AM can be deployed in a text, consider examples (1a,b,c) in which an adult narrator adds an AM marker to one of the three static positional (stance) verbs *tne* 'stand', *ane* 'sit' and *inte* 'lie'. The images are from *Bicycle Story*, the textless picture book used to elicit data for this study (O'Shannessy 2004), detailed in the Method section below. The speakers are referred to by their participation code in the PhD study, e.g. A01 is adult speaker 1.

In (1a), to narrate Figure 22.3, the speaker uses the GO.BACK&DO form on *tne* 'stand' to encode that the boy and girl interrupted a return path to (get off their bicycles and) stand (looking at the horse).⁴

- (1a) Tne-ty.alpe-rre-me, wale re-atherre nanthe are-me tne-rl.ane-
rleke.
stand-GO.BACK&DO- well 3DL(NOM) horse see-PRS stand-PROG-
DU.S/A-PRS DS
'Well those two went back and stood looking at the horse.' (A04, *Bicycle Story*, p. 2)

3 Henderson (2003) argues that the complex AM markers in Eastern and Central Arrernte are 'suffix+root compounds', where a suffix attaches to the first (primary) verb and compounds with a restricted number of motion roots. He provides evidence that such compounds form a single grammatical word composed of two phonological words in which the motion 'root' and 'suffix' are codependent. Indeed, the meanings of Henderson's 'suffix' elements only appear with AM constructions and are only discernible because of paradigmatic oppositions within the system, and several of the verb root 'motion' elements do not appear as independent motion verbs and, when they do, it is with a distinct meaning.

4 In addition to the standard abbreviations in the Leipzig Glossing Rules, this chapter uses ASSOC associative; BI-AND binary and (conjoining two entities); GRP group; DS Different Subject; SS Same Subject; s/A subject or agent; and the AM markers in Figure 22.2. For details of Arrernte grammar, see Wilkins (1989).



Figure 22.3: *Bicycle Story*, page 2.

Source: O'Shannessy (2004).

In (1b), to narrate Figure 22.4, the speaker adds the DO.IN.PASSING suffix to *ane* 'sit' to express that the boy and girl are sitting while moving past the viewer (since they are riding a horse).

- (1b) *Re-atherre anteme apurte ane-nhe-ke.*
3DU(NOM) now together sit-DO.IN.PASSING-PST
'Now those two rode past.' (A01, *Bicycle Story*, p. 5)

In (1c), to narrate Figure 22.5, the speaker adds QUICK.DO.DOWN to *inte* 'lie' to indicate that as he plummeted from his bike to the ground, the boy was in a lying posture. This speaker is the only one who seemed to feel the need to more accurately express the fact that picture captures the accident mid-fall.

- (1c) *Wale re atnye-ke-arle bike-nge inte-artn. re atnye-ke-arle*
akerle-ke
well 3SG fall-PST-FOC bike-ABL lie-QUICK. 3SG fall-PAT-FOC
DO.DOWN-PST
'Well he fell off the bike in a lying position.' (A03, *Bicycle Story*, p. 11)



Figure 22.4: *Bicycle Story*, page 5.

Source: O'Shannessy (2004).



Figure 22.5: *Bicycle Story*, page 11.

Source: O'Shannessy (2004).

The core eight AM forms in Arrernte

When writing about research undertaken in the early 1980s to mid-1990s, Wilkins (2006, 51) observed that only older speakers knew and used the complete system of AM forms. However, a subset of eight AM markers from the system were reliably recognised and used by younger adults (*ty alhe* ‘GO&DO’; *ty.alpe* ‘GO.BACK&DO’; *rl.alhe* ‘DO&GO’; *rl.alpe* ‘DO&GO.BACK’; *intye* ‘DO.COMING’; *inty.alpe* ‘DO.COMING.BACK’; *nhe* ‘DO.IN.PASSING’; *irtne* ‘DO.GOING.BACK’). Of course, there were some younger adults who used, or at least knew, some of the other AM forms. We will call the eight shared AM markers, which are shaded in Figure 22.2, the *core* of the AM system.

Even for older speakers, these eight forms were the ones most frequently used in conversation and texts. Wilkins (1991) observed that information about AM forms expressing motion in the vertical domain (DO.UPWARDS, DO.DOWNWARDS etc.), AM forms expressing speed (e.g. QUICK.DO&GO) and the single AM form expressing motion of the non-subject (DO.ON.Z’S. ARRIVAL) was primarily gleaned from conversations and elicitation since they tended not to occur in his corpus of texts. Moreover, in a recent comparison of the AM systems of six Arandic languages (Lower Arrernte, Western Arrernte, Eastern & Central Arrernte, Anmatyerr, Alyawarr and Kaytetye), Koch (2021, 262–63) found:

The number of semantic distinctions within the AM category in Arandic languages varies from nine in Lower Arrernte to 16, arguably 17 if -rl.ape [the continuous aspect form DO.ALONG] is included, in EC Arrernte. Non-subject as the moving figure is not documented for Anmatyerr and only weakly for Western Arrernte. With respect to the Relative Timing parameter, all languages contrast Prior, Subsequent and Concurrent motion; only Kaytetye has a clear Prior plus Subsequent subcategory. The main directional contrast is between ‘go’ (neutral direction) and ‘return’, but motion toward the speaker (‘come’) is also well represented. Motion in the vertical dimension, ‘up’ and ‘down’ is relatively rare in attestation, even in its use in languages where it has been found. The dimension of Speed is sporadically attested. Aspectual distinctions within Concurrent Motion (continuous vs. punctual, coextensive vs. unspecified) are restricted to Kaytetye ...

In other words, the distinctions made by the core eight AM forms in Eastern and Central Arrernte are the ones that are commonly shared across the Arandic family, whereas those that are more ‘peripheral’ in the

system have a more sporadic occurrence. As such, when considering child usage of AM, our expectations are only related to the core forms in the system. See Appendix 1 for a summary of the form and meaning of the core eight AM markers as they're presented in the *Eastern and Central Arrernte to English Dictionary, Revised Edition* (Henderson and Dobson 2020).

Note that even these eight forms constitute a complex AM system in cross-linguistic terms. In a sample of 325 languages from around the world, Ross (2021) only found 83 languages with AM. Of these, only eight languages had eight or more AM markers (2021, 44), and only eight languages included all three possible temporal relationships between the motion co-event and the main verb event (i.e. prior motion, subsequent motion and concurrent motion) (2021, 49).

Previous research on children's use of AM

Although the past decade has seen a burst of descriptive and typological work on AM (Guillaume 2016; Guillaume and Koch 2021b), this is the first study to explore children's use of AM. Two papers, however, make some observations about child usage (or lack of usage) of AM: Vuillermet (2021) and Wilkins (2003).

Vuillermet (2021) used *A Hunting Story*, a wordless picture book she designed herself, 'specifically conceived to elicit associated motion (AM) morphemes in Ese Ejja, an Amazonian language with a complex system of 14 such morphemes' (Vuillermet 2021, 201). Reporting on a pilot study conducted with 14 Ese Ejja speakers aged seven to 73 and representing three variants of the language from four communities, Vuillermet found that '[t]he data collected make use of half of the morphemes present in the Ese Ejja AM system' (2021, 212) and 'there was also a lot of variation across consultants and across communities' (2021, 218). The number of AM-marked verbs produced in each of the 14 narratives ranged from zero to 22. With respect to the children in her sample, Vuillermet (2021, 218–19) observes:

The two youngest consultants (7 and 10 years old) from Portachuelo Bajo actually produced up to 4 more AM morphemes than adults in the same community (whose members speak their native language daily at all ages). These results are even more surprising as the two young consultants are also very fluent in Spanish, unlike other Ese Ejja children of the same age. Children in this community still acquire (at least part of) the AM system, despite the heavy influence

of Spanish in their everyday life, e.g. at school. Conversely, a 26-year-old woman in this same community produced only a single AM morpheme.

Vuillermet does not indicate which AM morphemes the children used, nor how their usage compared to that of adults.

Wilkins (2003) used two distinct 'journeys' from adult and child narrations of the *Frog Story* wordless picture book (Mayer 1969; Berman and Slobin 1994) to compare the construction of complex motion events by Arrernte and English-speaking adults and children. For both journeys (the 'journey from the jar' and the 'journey off the cliff'), a majority of the six Arrernte adults (two-thirds for the first journey and all for the second) used at least one AM-marked verb when constructing each journey. By contrast, none of the six Arrernte-speaking children (aged 7–10) used an AM-marked verb for either journey. Even though Arrernte children did not use the AM system, Wilkins was able to show that they did manifest unique Arrernte adult-like channelling of attention in terms of where they began the narration of a journey and the path segments that they highlighted.

In sum, the Vuillermet study indicates that at least one 7-year-old and one 10-year-old speaker of Eſe Ejja, a language with an AM system of similar complexity to the Arrernte system, produced AM-marked verbs in their narratives, with a frequency that was higher than some adults in their community. Thus, they have acquired at least part of the system. However, the meanings, forms or structures used and how they sit with respect to expected adult usage were not addressed. The Wilkins study established that the six children he worked with did deploy constructions that rendered complex motion events but did not use AM where it might have been expected on the basis of adult narratives of the same story. Whether the system was absent from Arrernte children's language altogether, and whether they had other constructions for pairing a (non-motion) event with a motion co-event, are questions that were not addressed.

Our study is informed by narrative discourse, which does indeed have some use of AM by Arrernte children. We investigate: Which forms in the AM system do children use in their elicited narratives? Where children do not produce AM forms (where they might be expected based on adult packaging of the same events), which constructions do they use to express events that entail an action and a motion?

Method

Four textless picture books were among the stimuli used for the PhD project that this study extends: *Sick Woman Story*, *Guitar Story*, *Monster Story* and *Horse & Cow*. All are from the collection created to investigate Warlpiri children's language (O'Shannessy 2004). The discourse to be analysed in this chapter, reported here for the first time, was elicited using another story from this collection, *The Bicycle Story*, which prompted comparatively more AM use. Although the other four picture books yielded little AM use, that data are added to the analysis here, as are some sand story data collected for the PhD project, to include all available evidence for all of the children.

See Appendix 2 for the full sequence of images in the 19 pages of *Bicycle Story*. The plot begins with a girl and a boy who, while out riding their bikes, came across a horse. They got off their bikes to pat the horse, climbed on and rode it for a while. When they dismounted and the horse walked away, the pair climbed back on their bikes and headed home. On the way, the boy rode over a fallen branch and fell off his bike. The girl helped him limp to a tree, where he sat and waited, while she rode solo through a stand of trees and over a bridge, all the way back to the family members who were sitting together under a bough shade. She told them that the boy was injured. A father character then drove to the scene of the accident, accompanied by the girl. They helped the boy into the car and brought him back home to the family camp.

The participants in this study are the same four adults (aged 50; 11–60; 2) and 17 children (aged 5; 9–10; 10) who participated in the larger study, plus one additional child (aged 7; 3). This chapter follows the same system of de-identifying participants as the larger study: A01, A02 are adult 1, adult 2 and C01, C02 are child 1, 2, etc.

The same data collection procedures were also used. That is, each child looked through the story to become familiar with the plot, and was then recorded telling it by an Arrernte educator working at the school. The task required the children to produce a narrative in Arrernte independently. The adult recordings were made by the first author. All recordings are audio only. They were partially transcribed by the first author working in the community with Arrernte educators and later checked and revised by the second author.

While the Sick Woman, Guitar, Monster and Horse & Cow stories together evoked a total of only six uses of AM by 4/17 children and 19 uses by 3/4 adults, the *Bicycle Story* elicited 32 uses by 13/18 children and 24 uses by 4/4 adults. This considerably greater use can be attributed to the *Bicycle Story* involving a complex journey with multiple transitions from motion to stasis and stasis to motion, as the protagonists ride bicycles and a horse and travel by car.

Findings

Frequency of AM-marked verbs

Responding to Pakendorf and Stoynova's (2021, 888) lament that 'most studies [of AM] to date do not mention frequency of use, rather focusing on the form and function of the markers found in a particular language', we begin by assessing AM verb frequency in the *Bicycle Story* data. The adult range for AM-marked verbs is 6 per cent to 17 per cent of all verbs used, compared with the child range of 0 per cent to 15 per cent. The adult average is 13 per cent, compared with the child average of 6 per cent. Exactly half of the children (9/18) used two or more AM marked verbs, and thus fall within the adult range.

Further, at least two studies of Central Australian languages have in fact addressed the issue of frequency. A Kaytetye text corpus of 2,870 sentences was found to include 240 AM forms (Koch 2021, 236). In six narratives with a travelling theme told by five Arrernte speakers, AM marked verbs occurred in five of the texts and accounted for between 6 per cent and 36 per cent of all verbs within those five (Wilkins 1991, 214–15).

As another indicator of adult use, we searched for AM-marked verbs in the readers created for Arrernte school programs in the bilingual education era, now stored in the Living Archive of Aboriginal Languages (Christie, Devlin and Bow 2015). After removing duplicates and readers that only had a single word or verbless phrase per page, we were left with 86 Arrernte readers where it was reasonable to ask whether AM-marked verbs occurred

or not. AM markers only appeared in 23 of these 86 readers. So, only 27 per cent of relevant school readers contained AM, and the only forms to occur were six of the eight core AM markers.⁵

These various calculations of AM frequency use different measures; however, together (and along with the data from the other four picture books) they indicate that AM marked verbs occur relatively infrequently, that AM verb production is sensitive to the elicitation tool, and that the number and variety of AM tokens in the *Bicycle Story* discourse can be considered substantial.

Overview of AM production in the data

Of the 19 pages in the *Bicycle Story*, 12 are associated with the use of an AM-marked verb by at least one of the adult participants. Pages 16 and 17 drew AM forms from three of the four adults. At some point in the story, all four adults used a prior motion form, either GO&DO (3 adults) or GO.BACK&DO (1 adult). Three of the four adults used the subsequent motion form DO&GO. Two of the four adults used concurrent motion forms (DO.IN.PASSING, DO.GOING.BACK, QUICK.DO.DOWN, DO.ALONG).

A02 and A04 used two different AM forms (both produced DO&GO, A02 produced GO&DO, A04 produced GO.BACK&DO). A01 and A03 used four different AM forms (both produced GO&DO, and one or other of them produced DO.IN.PASSING, GO.BACK&DO, DO&GO, DO.GOING.BACK, QUICK.DO.DOWN, DO.ALONG). Two of these are outside the core eight forms (QUICK.DO.DOWN, DO.ALONG).

While the *Bicycle Story* was clearly the tool that elicited the most AM, we also searched the larger corpus for more productions (Table 22.2). Thirteen of the 18 children produced AM verbs in the *Bicycle Story*. Six produced AM verbs elsewhere in the larger corpus. Two of these six did not produce AM verbs in the *Bicycle Story*. The remaining four produced AM verbs both in the *Bicycle Story* and elsewhere in the corpus. Three children did not produce any AM verbs; all of them were older members of the cohort.

5 The two core AM markers that did not occur (in AM function) in the readers were *-intyalpe* 'DO.COMING.BACK' and *-irtne* 'DO.GOING.BACK'. A total of 62 AM marked verbs was found in the readers.

Table 22.2: Overview of children's AM production in all data sets.

Child age order	Age	Uses of AM in the <i>Bicycle Story</i>	Uses of AM elsewhere in the ACLA2 PhD corpus	
			4 textless picture books	The sand stories
C02	6;3	DO&GO (1)	DO&GO (1)	N/A
C01	6;10	DO&GO (1)	–	DO.COMING (2)
C21	7;3	DO&GO (2)	N/A	N/A
C07	7;4	DO.IN.PASSING (1)	–	N/A
C06	7;9	DO.IN.PASSING (1)	–	–
C11	8;0	–	–	DO&GO (1)
C12	8;0	DO&GO (3) DO&GO.BACK (1)	–	N/A
C23	8;0	N/A	N/A	–
C05	8;1	DO&GO (2) DO.IN.PASSING (1) GO.BACK&DO (1)	–	N/A
C09	8;1	–	DO.IN.PASSING (1)	N/A
C10	8;4	DO.IN.PASSING (2)	–	N/A
C14	9;0	DO&GO (4)	DO&GO (2) DO&GO.BACK (1)	–
C15	9;1	DO.IN.PASSING (3) GO.BACK&DO (1)	–	N/A
C13	9;8	DO.IN.PASSING (3)	DO.COMING (1)	N/A
C16	9;8	DO.IN.PASSING (3)	–	N/A
C17	9;9	–	–	N/A
C19	10;1	–	–	N/A
C18	10;3	–	–	N/A
C20	10;10	DO&GO (1) GO.BACK&DO (1)	–	N/A
Total 41 uses		32 uses by 13/18 children	6 uses by 4/17 children	3 uses by 2/5 children

Note: 'N/A' means the child did not participate in the task; '–' means the child participated in the task but did not produce any AM verbs.

Thus, considering the *Bicycle Story* data, together with the other four stories and the sand stories in the larger corpus, as a cohort, the children evidenced five AM markers. In order of frequency of use, these are DO&GO (18), DO.IN.PASSING (15), GO.BACK&DO (3), DO.COMING (3), DO&GO.BACK (2), totalling 41 tokens and comprising a subset of the core eight.

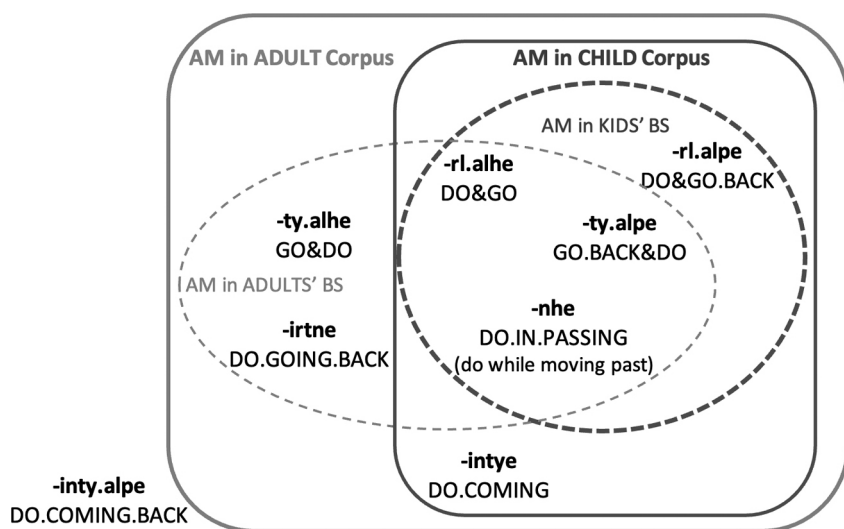


Figure 22.6: Child vs adult AM forms from the core system.

Source: Authors.

In the larger study, three of the adults were also recorded telling the other four textless picture book narratives. The adult *Bicycle Story* data provided five of the eight core AM forms (GO&DO, GO.BACK&DO, DO&GO, DO.GOING.BACK, DO.IN.PASSING), and the adult data for the other four stories provided DO&GO.BACK, DO.COMING. Thus, altogether, seven of the eight core forms were produced by the adults (Figure 22.6).

The five AM forms in the child corpus are a proper subset of the forms found in the adult corpus (Figure 22.6). Importantly, the five forms found in the child corpus preserve the key distinctions found in the system, i.e. motion that is Prior, Subsequent or Concurrent with action, return and neutral paths and deictic anchoring. The AM form that is conspicuously missing from children's relative to adults' production is GO&DO, since three adults each used this marker twice in their *Bicycle* stories.

Further, children's lexical choice can be described as adult-like in that the most common verb root in the *Bicycle Story* tellings to which an AM marker was added was *antye* 'move up on(to); climb; get up on; ride', accounting for eight of the 24 AM productions by adults (33 per cent) and 27 of the

32 AM productions by children (84 per cent). All four adults and the 13/18 children who produced an AM form added it to this particular verb root. This is notable lexical selection consistency between adults and children.⁶

We conclude this section with some observations on individual children among those who used AM markers. To determine which children showed some evidence of productivity, we looked for use of (a) different AM markers and (b) the same AM marker on different verb roots. Applying these criteria, eight children showed some evidence of AM as a system (C01, C02, C05, C12, C13, C14, C15, C20). Four were adult-like in using at least two different AM markers in their Bicycle stories (C05, C12, C15, C20). Another three used at least two different AM markers when the broader corpus is considered (C01, C13, C14). Three applied a single AM marker to different verb roots (C02, C13, C14).

Child treatment of the motion component of AM

Some of the Arrernte children who produced AM forms seem to do so with a different semantic and argument structure analysis than that of adults, one which tends to treat the motion component as more central in the determination of case marking of spatial phrases occurring in the clause. Further, where we might expect a child to use an AM form, we find some children using a construction of a sort that has been proposed as a historical precursor to the development of some of the AM forms. In this and the following section, we elaborate on these observations and thereby explore how Arrernte child production seems to synchronically recapitulate some of the diachronic issues proposed for the development of AM.

As Simpson (2001) observes, AM (Simpson's 'associated path') in Australian languages commonly originates in a complex construction involving a non-finite verb and a finite verb. In a multiphase process of development, what begins as a biclausal construction is reanalysed by speakers as a monoclausal structure involving a (non-finite)Verb+(finite)Motion.Verb compound and eventually as a verb inflected for AM.

6 In the other 67 per cent of productions in the adult corpus (16 tokens), an AM form was added to *are* (see), *ile* (tell), *ane* (sit), *tne* (stand), or *inte* (lie). In the other 16 per cent of productions in the child corpus (5 tokens), an AM form was added to *ine* (get), *iwe* (throw), *atnye* (fall), or the English loan *cross over*.

Using Warlpiri as an example, Simpson shows how the grammaticalisation of AM involves speaker reanalysis at different levels of grammar, affecting diachronic changes in both semantics and morphosyntax. In particular, she focuses on (i) how a free word order language can set up the conditions of order that would permit grammaticalisation (i.e. issues of constituent structure); (ii) how existing analogous structures in a language can provide the model that smooths the transition from one generation having a syntactic analysis of a construction to another generation having a morphological analysis; and (iii) how the argument structures of the non-finite verb and the finite motion verb merge and the semantic interpretation of AM arises.

As far as the argument structure of verbs marked with AM is concerned, for Arrernte, Wilkins (1991, 211) states:

It is important to realise that, although the 'associated motion' inflections convey similar information to certain motion verbs, these forms do not derive motion verbs. A verb form inflected for 'associated motion' takes exactly the same case frame(s) and adjunct possibilities as the verb stem without any 'associated motion' inflection. Moreover, the use of associated motion inflections does not appear to license, nor increase the likelihood of, the occurrence of spatial adjuncts that typically cooccur with motion verbs (such as ablative and allative phrases).

This situation is different, for instance, from that which Simpson describes for Warlpiri associated path (participle+motion_verb) compound constructions. She writes (2001, 180) that 'the number of arguments and their cases are determined jointly by the combination of the argument structure of the participle and the finite [motion] verb', and she provides examples where a directional argument is added by virtue of the motion meaning of the finite motion verb in the compound. Similarly, for Kaytetye, Koch (2021, 252–53) notes that, like Eastern and Central Arrernte, 'it is the verb denoting the main event that determines the transitivity of the whole, and not the AM marker'; however, unlike Eastern and Central Arrernte, Kaytetye 'shows some variability in the marking of location with AM forms' and there are examples where the motion sense of the AM markers appears to license the use of phrases marked with, for instance, allative and ablative case.

Independent of a particular language's degree of grammaticalisation, we assume, synchronically, that AM presents learners with the problem of determining what the motion semantics of the AM form is and whether

or not it contributes motion-related arguments and adjuncts to the clause containing an AM marked verb and/or determines the case marking of arguments/adjuncts that might be shared between the main event and motion co-event. We imagine the problem is heightened by the fact that some AM forms, like *rl.albe* ‘DO&GO’ and *rl.alpe* ‘DO&GO.BACK’, transparently include high-frequency basic motion verbs, like *albe* ‘go, move along in manner expected of the Subject’ and *alpe* ‘go back’.

To understand how adults and children seem to treat AM differently in the *Bicycle Story* at an argument/adjunct level, we need to look more closely at the intransitive verb *antye*. In its most basic sense, *antye* means ‘move up on(to)’. There are a number of points in the story where it is felicitous to use this verb: when the girl or boy are getting on the horse; when the boy and girl are getting on their bicycles; when the girl is climbing over the bridge (on her bike); and when the people are getting into the car. *Antye* also has a post-contact extended sense of ‘ride’ when used with modes of transport like horses, camels, bikes, etc. (one had to mount a horse or camel before riding it).⁷

So, in the *Bicycle Story*, *antye* is not only used for getting on the horse and bicycle, but also for riding them. For adults, *antye* requires the dative case *ke*, or its pronominal equivalent (e.g. *ikwere* 3SGDAT), to mark the thing that is climbed on(to) or the thing that is ridden. In the adult examples (2a,b), we see that the dative case is used with *antye* whether or not the verb occurs with an AM marker attached.

- (2a) *Re-atherre imerte atherre- nanthe- antye- urreye ante marle*
 3DU(NOM) then two- horse- climb- boy and girl
 still/too DAT ss
 ‘They two, the boy and girl, both then climbed on / rode the horse.’
 (A04, *Bicycle Story*, p. 5)
- (2b) *Kele re-atherre bike-ke ine-mele antye-rl.albe-rre-rlenge.*
 ok 3DU(NOM) bike-DAT get-ss climb-DO&GO-DU.S/A-DS
 ‘Having got their bikes, those two climbed on /rode and went.’
 (A04, *Bicycle Story*, p. 9)

7 As one reviewer rightly points out, this range of meanings is not uncommon in other Australian languages.

An alternative framing for travelling by bicycle, horse or car is to use a basic motion verb (e.g. *alhe* 'go'; *alpe* 'go back'; *apetye* 'come', *aknge* 'take, carry', etc.) and to mark the mode of transport adjunct with the ablative case marker *nge*. This is exemplified in (3).

- (3) *Urreye ante marle pathekele-nge alhe-rre-ke.*
 boy and girl bicycle-ABL go-DU.S/A-PST
 'The boy and girl went by bicycle.' (A02, *Bicycle Story*, p. 1)

So, when considering the child data, the key points to remember are that, in adult usage, the words for 'bicycle' and 'horse' take the dative case when they appear with *antye* 'climb, get on, ride', independent of whether it is marked with AM, and they take ablative case when they appear with basic motion verbs like *alhe* 'go'. Anticipating the evidence for some of the children, if a child interpreted the AM markers' motion semantics as licensing the types of arguments and adjuncts that occur with basic motion verbs, they would use the ablative on modes of transport such as bicycle or horse when AM is added (a case marking which adults consider to be wrong); but we would expect them to use the adult-like dative on 'bicycle' or 'horse' when *antye* occurs without AM.

For eight of the 18 children (44 per cent) we have insufficient evidence to determine their linguistic behaviour. In their telling of the *Bicycle Story*, ideally, a child needs to have used *antye* 'get up on, climb, ride' both with and without AM, and in both cases needs to have included 'bicycle' or 'horse' in the clause. However, to be deemed adult-like, a child would minimally need to include in their telling a clause in which a dative marked mode of transport occurs with the verb *antye* marked with AM. (For the children for whom there is insufficient evidence, some didn't ever use the verb *antye*, others never used AM, and still others didn't use 'horse' or 'bike' in the relevant clauses.)

Of the remaining 10 children, five (28 per cent) showed adult-like usage. Interestingly, this includes the two youngest children in the sample, and we illustrate their usage in (4a,b,c) and (5a,b,c). Not only do they include a dative argument, whether or not *antye* is marked with AM, they also use an ablative case on the mode of transport when the verb is a basic motion verb (*alhe* in (4c) and *apetye* in (5c)).

- (4c) *Marle re anteme alhe-ke [bike-nge] someone-ke unthe-tyeke.*
 girl 3SG now go-PST bike-ABL someone-DAT search-PURP
 ‘Now the girl went by bike to search for someone (to help).’ (C01, *Bicycle Story*, p. 13)

- (5b) *Re-atherre anteme [nanthe- atherrame apurte anteme antye-*
ke]
- | | | | | | | |
|-----------------------|-----|--------|------|----------|-----|--------|
| 3 _{DU} (NOM) | now | horse- | both | together | now | climb- |
| | | DAT | | | | PST |
- 'Now they two climbed on / rode the horse together.' (C02, *Bicycle Story*, p. 5)

- (5c) *Kele family, re-atherre anteme apetye-ke anteme miwetekaye-nge.*
 now family 3DU(NOM) now come-PST now motor.car-ABL
 ‘Now family members, they two came by car.’ (C02, *Bicycle Story*, p. 17)

8 *ikwere* is the expected 3SGDAT form. * is used in examples in this chapter to mark forms that are not acceptable in adult language.

AM. This is demonstrated by examples (6a,b,c), (7a,b) and (8a,b,c). In other words, they have a different argument/adjunct integration (and so a different semantic analysis) when compared to adults.

- (6a) *Marle akweke renhe antye-nhe-ke nanthe-nge.**
girl little 3SG(ACC) climb-DO.IN.PASSING-PST horse-ABL
'The little girl climbed on / rode the horse.' (C06, *Bicycle Story*, p. 4)
- (6b) *Itnareye atherre anteme nanthe-ke antye-ke*
3PLGRP two now horse-DAT climb-PST
'Now they two climbed on / rode the horse.' (C06, *Bicycle Story*, p. 5)
- (6c) *Marle akweke renhe anyente-arenye apetyalpe-ke bicycle-nge.*
girl little 3SG(ACC) one-ASSOC come.back-PST bicycle-ABL
'The little girl came back (to the family) alone by bicycle.' (C06, *Bicycle Story*, p. 14)
- (7a) *Ante they bin pathekele-ke antye-ke*
and 3PL PST? bicycle-DAT climb-PST
'And they climbed on / rode the bikes.' (C12, *Bicycle Story*, p. 9)
- (7b) *He bin bike-nge* antye-rl.alhe-ke,*
3SG PST? bike-ABL climb-DO&GO-PST
'Now she climbed on / rode the bike and went.' (C12, *Bicycle Story*, p. 13)
- (8a) *Urreye ante marle akweke nanthe-ke antye-ke.*
boy and girl little horse-DAT climb-PST
'Little boy and girl climbed on / rode the horse.' (C20, *Bicycle Story*, p. 5)
- (8b) *Urreye akweke re ante marle akweke bike-nge* antye-rl.alhe-ke.*
boy little 3SG(NOM) and girl little bike-ABL climb-DO&GO-PST
'The little boy and girl, climbed on / rode the bikes and went.'
(C20, *Bicycle Story*, p. 9)

(8c) *Marle ante urreye bike-nge alhe-rre-ke.*

girl and boy bike-ABL go-DU.S/A-PST

'A girl and boy went by bike.' (C20, *Bicycle Story*, p. 1)

The remaining two children (11 per cent) wrongly marked the forms for 'horse' or 'bike' with ablative with all uses of *antye*, whether or not the verb was marked with AM. We are unable to determine whether these two children use the ablative only when they use *antye* in the sense of 'ride'. We would need to check what case they use when the verb is obviously used in a 'climb' sense (i.e. would they appropriately mark 'hill' with dative if they were conveying the equivalent of 'the child climbed the hill'). Another, related possibility is that, for these two children, modes of transport regularly draw the ablative case independent of the verb they co-occur with.

In this section, we examined the merging of the main event and motion co-event argument structures in AM marked verbs. In particular, we looked at whether children, unlike adults, treated AM marking as licensing motion-related arguments and/or adjuncts that were not licensed by the main verb stem to which AM is attached. We found evidence that 5/18 children (28 per cent) were adult-like in that only the main verb determined argument and adjunct presence and case marking. We also found evidence that 3/18 children (17 per cent) treat the AM marker as licensing an ablative-marked phrase for modes of transport that parallels the same marking that would be used with basic motion verbs, but which goes against the dative marking that the main verb *antye* 'climb, get up on, ride' licenses. This is evidence of learners attempting to align semantics and argument structure, and mirrors the analyses that other languages like Warlpiri and Kaytetye appear to have settled on. The remaining 10/18 children (55 per cent) did not provide evidence relevant to the question.

Motion prior AM and the 'motion with purpose' construction

Three of the four adults used a GO&DO marked verb in their packaging of the *Bicycle Story* events depicted in Figure 22.7 and Figure 22.8. Neither A04 nor any of the children used this motion-prior AM form anywhere in their stories; however, as we shall see later, they do use another construction – a purposive construction – that similarly signals motion precedes another event.



Figure 22.7: *Bicycle Story*, page 17.

Source: O'Shannessy (2004).

The adult treatments of Figure 22.7 are given in examples (9)–(12).

- (9) *Kele akngeye uthene meye uthene anteme mwetekaye- alhe-ke,*
nge
 ok father BI-AND mother BI-AND now motor. go-PST
 car-ABL

are-ty.alhe-ke arratye urreye rennhenhe arne itere-le ane-rlane-
rlenge
 see-GO&DO-PST true boy 3SG(ACC) tree side-LOC sit-PROG-
 DS

'Now the father and mother went by car and came across the boy sitting against the tree.' (A01, *Bicycle Story*, p. 17)

- (10) *Kele agkngeye ikwerenhe-arle mwetekaye-nge ikwere alhe-ke.*
 ok father 3SGPOSS-FOC motor.car-ABL 3SGDAT go-PST

Imerte re antye-rl.alhe-ke re-atherre alhe-rre-ke,
 then 3SG(NOM) climb-DO&GO-PAST 3SG(NOM) go-DU.S/A-PST

imerte **are-ty.** *ampe* *urreye* *renhe,* *arne* *itere-le* *ane-rlane-*
albe-mele *rlenge.*

then see-GO& child boy 3SG(ACC) tree side-LOC sit-PROG-
 DO-SS DS

‘Her father went to him by car, they two climbed / rode in the car and went. They drove and came across the boy sitting against the tree.’ (A02, *Bicycle Story*, p. 17)

- (11) *Kele* *arraty* *albe-ke,* *mwetekaye* *akweke* *albe-ke.*

ok true go-PST motor.car little go-PST

Arraty **are-ty.** *urreye* *akweke* *re* *ane-rl.* *atnye-ke-arle.*
albe-ke *ane-rleke*

true see-GO& boy little 3SG(NOM) sit-PROG fall-PST-FOC
 DO-PST -DS

‘(They) went in the little car, and came across the little boy who had fallen sitting (against the tree).’ (A03, *Bicycle Story*, p. 17)

- (12) *Kele* *mwetekaye-nge* *anteme* *itne* **albe-ke,**

ok motor.car-ABL now 3PL(NOM) go-PST

urreye *akweke* *renhe* **help-em-ile-tyeke.**

boy little 3SG(ACC) help-TR-CAUS-PURP

‘Now they went by car to help the little boy.’ (A04, *Bicycle Story*, p. 17)

While all four adults mention that family members went in the car, A01, A02 and A03 use *arety.albe* ‘seeDO&GO’ plus a perception complement to encode that, after having gone along, those family members (the rescuers) saw the injured boy sitting by the tree (where the girl had put him). In each case *arety.albe* ‘seeDO&GO’ echoes *albe* ‘go’ used as a main verb in the preceding clause, see examples (9), (10) and (11). By contrast, to encode that the family went to help the little boy, A04 uses a purposive clause involving the purposive verb *helpemiletyeke* (helpTRCAUSPURP) ‘in order to help’ which is a non-finite structure dependent upon the main finite verb *alheke* (goPAST) ‘went’. We will call this a Motion with Purpose construction.

In general, in Eastern and Central Arrernte, the purposive is a complex construction in which a non-finite verb marked with *tyeke* 'Purposive' encodes the event which is the purpose, focus, or intended endpoint result of the main verb action. In the Motion with Purpose construction, the main verb is a motion verb and, depending on the motion verb that is used, can mean 'go to do', 'come to do', 'hurry to do', 'go back to do', 'take/carry to do', etc. Motion with Purpose constructions are of interest in the discussion of AM, because they have been proposed as a source for prior motion AM markers. For instance, in discussing the sources of Arandic AM forms, Koch (2021, 265) writes:

It is assumed that ligatives continue earlier non-finite verb suffixes. The value of the *tye forms was presumably future-oriented in constructions with a motion verb; i.e. a possible Motion with Purpose construction 'go to do' was reinterpreted as 'go and do'.

Elsewhere, Koch (2020, 225) suggests '[o]ne might expect that the [prior] associated motion form derives from a subordinate purposive clause by means of the reanalysis of a (reduced) biclausal structure'. We will see such reduced structures in the children's data.

For Figure 22.7, we can make the following observations about the children's data. No child uses an AM form when describing the events for this page. Only 2/18 children (11 per cent) do not use a clause with a finite motion verb in their packaging of events on page 17. One simply encodes a perception clause using *areke* (seePAST) 'saw' plus a perception complement. The other only provides a clause describing the emotion of the boy (*kangkemele* 'happy').

So, 16/18 children (89 per cent) are like all the adults in expressing a motion event as part of this scene. For at least three children, however, a motion event is the only event they express, and for two others, we are not certain because we cannot hear what they say after their initial motion clause.

While three of the four adults used the AM marked perception verb *are* 'see', only 3/18 children (17 per cent) similarly used *areke* (seePAST) 'saw' for seeing the boy. C10 is the child whose information packaging is closest to that of A01, A02 and A03. This child conjoins two clauses, 'they went by car' and 'they saw (him) sitting by the tree', the first clause involving *albeke* (goPST) 'went', the second involving *areke* (seePST) 'saw' plus a perception complement. As noted above, the motion component of the AM marker

GO&DO used by the adults is a kind of redundant echo of the motion encoded and asserted by the prior clause. C10's iconic ordering of motion clause before perception clause allows the listener to infer motion preceded by seeing.

Eight of the 18 children (44 per cent) are like A04 in using a Motion with Purpose construction. We give four examples in (13)–(16).

- (13) *Itinareye anteme apetye-ke mwetekaye-nge urreye renhenhe help-em-ile-tyeke.*
 3PLGRP now come-PST motor.car-ABL boy 3SG(ACC) help-TR-CAUS-PURP

'Now they came by car to help the boy.' (C01, *Bicycle Story*, p. 17)

- (14) *Itinareye anteme mwetekaye-nge apetye-ke,, help-em-ile-tyeke.*
 3PLGRP now motor.car-ABL come-PST help-TR-CAUS-PURP

'Now they came by car to help.' (C19, *Bicycle Story*, p. 17)

- (15) *Itinareye anteme pick-em-up-ile-tyeke albe-ke.*
 3PLGRP now pick-TR-up-CAUS-PURP go-PST

'Now they went to pick up (the boy).' (C13, *Bicycle Story*, p. 17)

- (16) *urreye akweke re ine-tyeke albe-ke.*
 boy little 3SG get-PURP go-PST

'He (the father) went to get the little boy (who had had an accident).'

(C21, *Bicycle Story*, p. 17)

Examples (13) and (14), which express that the family came by car to help the boy, closely resemble those from A04. The finite motion verb precedes the purposive verb, either with intervening arguments and adjuncts (as with the examples from A04 and C01) or with a significant pause between (as with example (14), where two commas indicate the pause). By contrast, examples (15) and (16) show the purposive verb immediately preceding the finite motion verb *albeke* (goPST) 'went', and they fall together under a single intonation contour (at the end margin of the utterance). This is the type of reduced biclausal 'motion with purpose' construction that Koch posited as a potential source for the development of the priorAM forms.



Figure 22.8: *Bicycle Story*, page 16.

Source: O'Shannessy (2004).

We turn now briefly to Figure 22.8, where A01 and A02 used *arety.alhe* ‘seeGO&DO’ and A03 used *ile-ty.alhe* ‘tellGO&DO’. This scene is the one where, after her long solo bicycle journey, the girl finally arrives back at the family camp, sees her family and tells them what happened to the boy. All four adults use a speech verb to introduce a direct quotation from the girl. Three adults use a form of *ile* ‘tell’: *ilenheke* (tellDO.IN.PASSINGPST) ‘told on the way past’ (A01); *ilety.alheke* (tellGO&DOPST) ‘told, after having journeyed’ (A03); *ileke* (tellPST) ‘told’ (A04). The fourth adult uses *angkeke* (speak/sayPST) ‘said’. A04 is the only adult to simply use the ‘tell’ verb with direct speech, without any indication of the girl having journeyed to deliver her message. See examples (17) and (18).

- (17) *Kele re ile-ty. "Nhakwe- inte-rl. ane-rl.ane-me*
albe-ke atheye ane-me,
 ok 3SG(NOM) tell-GO& "there(DIST)- lie-CONT- sit-CONT-PRS
 DO-PST ?there PRS
arne atnartenge-ke the arrerne-rl.albe-ke. [?Atnye-tye-t-alpe-ke.?
 tree base-DAT 1SG(ERG) put-DO&GO-PST

Arrantherre mape apetye-me renhe ine-tyeke alhe-tyeke."

3PL PL come-PRS 3SG(ACC) get-PURP go-PURP

'She went and told (the family), "I put (the boy) sitting against the base of the tree. You mob come and get him".' (A03, *Bicycle Story*, p16)

- (18) *Family ikwerenhe ... mummy ante daddy ikwerenhe-ke ile-ke*

family 3SGPOSS mummy and daddy 3SGPOSS-DAT tell-PST

"Ampe urreye akweke atnye-ke bike-nge."

child boy little fall-PST bike-ABL

'She told her family, "The little boy fell off his bike".' (A04, *Bicycle Story*, p. 16)

With respect to the children's production for Figure 22.8, 14 children (78 per cent) are like all the adults in including a verb of saying or telling. Of these, only five (28 per cent) include direct quotation of the girl's speech. As for any reference to the girl's (prior) motion, only four children (22 per cent) reference this. No child combines reference to prior motion, a verb of saying and telling and direct quotation. One child has a motion clause juxtaposed with direct quotation, but no verb of saying or telling. Crucially, as example (19) shows, one child uses a Motion with Purpose construction here, paralleling A03's use of *ilety.alheke* (tellGO&DOPST) 'told after having gone along'.

- (19) *Kele re anteme arratye ile- alhe- family ikwerenhe mape.*
tyeke ke

ok 3SG(NOM) now true tell- go- family 3SGPOSS PL
PURP PST

'Now she actually went to tell her/his family.' (C02, *Bicycle Story*, p. 16)

In this example, one could interpret all the arguments as having been contributed by the dependent transitive purposive verb *iletyeke* 'to tell', without any overt evidence of the main verb having provided any arguments (the shared subject argument is referred to using a pronominal which covers S and A roles). The phrase after the finite motion verb refers to the people who were told the news and is an argument of the tell verb. This is the type of structure we presume diachronically preceded the development of the GO&DO marker, allowing the initial verb to be reinterpreted as the main verb, not the dependent verb.

Two further Motion with Purpose constructions – see (20) and (21) – are used for Figure 22.8 by two children (11 per cent), who encode that the family went off to see/find the boy after hearing the girl's message.

- (20) Re anteme nhenhe re anteme family-ke ile-ke,
 3SG now this/here 3SG now family-DAT tell-PST

kele **are-tyeke** **alhe-ke.**

ok see-PURP go-PST

'Now here she told the family (about the bike accident), (she) went to see the family.' (C11, *Bicycle Story*, p. 16)

- (21) Marle akweke re anteme ile-ke
 girl little 3SG(NOM) now tell-PST

"Oh, nhakwe kwenhe bike-nge atnye-ke urreye xxxx".

oh there(DIST) definitely bike-ABL fall-PST boy xxxx

Itnareye, mummy ante daddy itnareye kenhe anteme **alhe-ke** **are-tyeke.**

3PLGRP mummy and daddy 3PLGRP BUT now go-PST see-PURP

'The little girl said, "Oh the boy fell off his bike over there". And now they, the mum and dad, went to see.' (C17, *Bicycle Story*, p. 16)

In (20) and (21), the finite motion verb *alheke* 'went' and the purposive verb *aretyeke* 'in order to see' occur immediately adjacent to one another, at the end margin of the utterance, and under a single intonation contour. However, they are ordered differently: the purposive verb precedes the motion verb in (20), and it follows the motion verb in (21). Informationally, we can see this construction as anticipating the adult uses of *arety.alheke* 'saw (the boy), after having gone along' for Figure 22.7. Where the children project the motion leading to seeing the boy in Figure 22.8, the adults report the seeing of the boy having happened after travelling in Figure 22.7.

Only one adult uses a Motion with Purpose construction for Figure 22.8, A03 (see example (17)). In fact, it is two Motion with Purpose constructions, one embedded in the other, and is part of the direct quotation from the girl.

The relevant complex clause is: *Arrantherre mape apetyeme* [[*renhe inetyeke*] *alhetyeke*] (2PL[NOM] mob comePRES 3SGACC getPURP goPURP) ‘You mob are coming (with me) to go to get him.’

Here, the main finite motion verb *apetyeme* (comePRS) ‘coming’ precedes the purposive *alhetyeke* (goPURP) ‘in order to go’, with intervening material, and the purposive *inetyeke* (getPURP) ‘in order to get’ immediately precedes the motion verb on which it is dependent, *alhetyeke*. Note that of the three verbs in this utterance, only *ine* ‘get’ is transitive and it provides the Accusative argument that immediately precedes it. A03’s use of *inetyeke alhetyeke* ‘to go to get’ is essentially the same as the use of *inetyeke alheke* ‘went to get’ by the child in example (16).

In their telling of the *Bicycle Story*, adults only produce five Motion with Purpose constructions, with at least one from each adult. The example just described is the only one in which the purposive verb precedes the motion verb (and in this case, they are adjacent, under a single intonation contour and at the end margin of the clause).

The Motion with Purpose construction is quite prevalent in the children’s telling of the *Bicycle Story*. In total, there are 33 uses of the construction, and all but one child produces the construction at least once, with 11 children using it two or more times. As we have seen, the ordering of purposive and motion verbs can vary, and there is also variation as to whether other clause material or a significant pause occurs between the two verbs in the construction, or whether they are fully adjacent and falling under the same intonation contour.

In discussing the grammaticalisation of AM in some Pama-Nyungan languages, like Arrernte, Simpson (2001, 205) asked, ‘how in a free word order language could the adjacency required for grammaticalisation occur’. To answer this question, she used a corpus of Warlpiri texts and tallied the counts of the various possible orderings of a particular Warlpiri participle (the *njarla* participle) visàvis the verb it is dependent upon. These are the types of structure thought to be the precursor to some of the AM inflections found in other Australian languages, as well as the associated path compounds of Warlpiri.

The results led Simpson to suggest that ‘we need the notion of preferred or favourite word order’ (2001, 205), and this would provide sufficient conditions of adjacency to allow grammaticalisation to occur. We can

undertake a similar, albeit more limited, count of the orderings of the purposive verb and finite motion verb in the Motion with Purpose constructions that appear in the children's Bicycle stories (Table 22.3).

Table 22.3: Order of verbs in the Motion with Purpose constructions in the children's Bicycle stories.

	ORDERING OF PURPOSIVE VERB RELATIVE TO MOTION VERB			
	Verbs separated by intervening material or a significant pause		Verbs immediately adjacent under a single intonation contour	
Motion Verb	MotVb X VbPURP	VbPURP X MotVb	MotVb VbPURP	VbPURP MotVb
alhe- 'go' (n=22)	8 (36%)	–	1 (5%)	13 (59%)
aknge- 'take' (n=2)	2 (100%)	–	–	–
apetye- 'come' (n=3)	2 (67%)	–	1 (33%)	–
alpe- / alpe-irtne 'return' (n=3)	3 (100%)	–	–	–
bin go (n = 2)	1 (50%)	–	1 (50%)	–
atnarnpe- 'get down' (n=1)	–	–	1 (100%)	–
Total = 33	16 (48.5%)	–	4 (12.1%)	13 (39.4%)

As mentioned previously, Koch proposed that a prior motion suffix like *ty.alhe* 'GO&DO' could have grammaticalised from a previous Motion with Purpose construction. For this to be plausible, we would require a reduced biclausal structure where the dependent non-finite purposive verb would occur immediately before the main finite motion verb with sufficient frequency to allow grammaticalisation to take place. It is worth pointing out that, for prior motion, this ordering of verbs is anti-iconic (the future action precedes the prior motion).

As Table 22.3 makes clear, by far the most common verb that children use in their Motion with Purpose constructions is *alhe* 'go', which accounts for 22 (67 per cent) of the 33 examples. This is not so surprising given that it is the most frequently encountered motion verb in texts (Wilkins, 2008, 144). However, it is relevant since, cross-linguistically, 'go' verbs are 'especially likely etymological sources' for AM markers (Guillaume and Koch 2021a, 15).

Table 22.3 also shows that one possible ordering of elements does not appear in the data – Purposive verb preceding Motion verb with intervening material or long pause between verbs. While this is a possible ordering that occurs within the larger corpus of adult Arrernte texts, it is rare. So, perhaps, to complement Simpson's idea of preferred ordering, we can suggest that there may also be a dispreferred order.

Critically, we find that there are 13 examples where the purposive verb immediately precedes the motion verb under a single intonation contour. While this only accounts for 39 per cent of all examples, it seems significant that all 13 examples with this ordering involve the verb *alhe* 'go' and account for 59 per cent of the Motion with Purpose constructions involving *alhe* 'go'. Further, 12 of these 13 examples appear at the end margin of the sentence, and, in this configuration, the verb *alhe* does not occur with any spatial arguments or adjuncts, while the purposive verb frequently provides its arguments. These would seem to be precisely the conditions which could give rise to the grammaticalisation of associated motion. Obviously, the data here is too limited to say anything definitive, but it provides an interesting avenue for further investigation.

To conclude this section, although children do not use the GO&DO AM marker when telling the *Bicycle Story*, or anywhere else in the child corpus, we do find prior motion expressed by 17 of the 18 children through a Motion with Purpose construction. Moreover, the child data provides evidence that a sufficiently frequent adjacent ordering of purposive verb before motion verb, under a single intonation contour, occurs (at least with the verb *alhe* 'go') to confirm the existence of the kind of conditions that have been predicted for the grammaticalisation of a 'prior motion' AM form out of a Motion with Purpose construction. (That is, at least on the evidence of the *Bicycle Story*, the child's preferred ordering of the Motion with Purpose construction is: [X Verbtyeke alheTENSE].)

Conclusion

Informed by narrative discourse, this study has provided an initial exploration of children's use of forms in the Arrernte AM system and other constructions they use to express a (non-motion) event with a motion co-event, where AM might be expected based on adult packaging of the same events.

As a cohort, the 18 children produced five of the eight core AM forms, preserving key distinctions in the system, i.e. a subset of the core forms which express motion prior to, subsequent to and concurrent with action, return and neutral paths and deictic anchoring. This compares with seven of the eight core forms found in the adult corpus.

Thirteen of the 18 children were found to have produced between one and three AM-marked verbs in their *Bicycle* stories. Eight of the 13 demonstrated a degree of productive use of the system, i.e. using different AM markers or using the same AM marker on different verb roots. Four of the eight demonstrated adult-like productivity in that they used at least two different AM markers in their *Bicycle* stories. A further three children used at least two different AM markers elsewhere in the larger corpus. Three children each used a single AM marker on different verb roots.

Of the eight children whose production it was possible to analyse for treatment of the motion component of AM, five demonstrated adult-like argument structures for the verb *antye* 'to move up on(to) / ride' (most commonly marked with AM by adults and children in the *Bicycle Story*). That is, the action in the verb root rather than the motion in the AM marker determined the case of the NPs in the clause. Resolving whether the main verb or the AM marker governs the case of the arguments/adjuncts of the AM-marked verb is an issue for some child L1 Arrernte learners, and is the type of morphosemantic issue that Simpson observes has to be dealt with in the diachronic development of associated path.

Children produced a 'motion with purpose' biclausal construction, where adults in this study produce the GO&DO AM morpheme. This is the construction Koch (2021) proposed to be a source of the historical development of forms in which the motion occurs prior to the main verb. The well-formed 'motion with purpose' construction common in the children's narratives, to express the same story events for which adults instead use the GO&DO AM form, illuminates the kind of adjacency conditions that Simpson (2001) explored as necessary for grammaticalisation to occur in a free word order language.

In examining which stories and pictures are associated with AM production, this study uncovered elicitation tool characteristics that are more likely to evoke this aspect of Arrernte grammar. Of the five textless picture books, the *Bicycle Story* clearly elicited the most AM, more than the other four stories combined. We attributed this to the plot involving

the protagonists in multiple transitions from motion to stasis and stasis to motion – a consideration for future elicitation tool choice or design. From a comprehension perspective, the children may have a broader system-level understanding of AM compared with the productive capabilities evident in this study. Thus, many questions remain.

This study also gathered important evidence about the frequency of AM use. While AM is an interesting and distinctive feature of Arrernte, both in the consciousness of Arrernte adults and in publications on Arrernte grammar, in fact, its occurrence in discourse is infrequent. In the light of the PhD study, we can say that the definitising function of 3sg pronouns is more ubiquitous than morphemes in the switch reference system, which are in turn more ubiquitous than morphemes in the AM system.

Building on the ACLA2 PhD project, this study confirms several broad conclusions. Children at Ltyentye Apurte are producing basic Arrernte morphosyntax. Investigating more complex grammatical features reveals more variation among the children, and age is not the strongest predictor of complex Arrernte production. Children's Arrernte is closer to adult Arrernte than might have been expected, given adults' concerns for the future of Arrernte, proximity of the community to Alice Springs and the pressure from English.

Acknowledgements

We are grateful for this opportunity to honour Jane Simpson, who has been a wonderful mentor, colleague, friend and role model for us. In this contribution we attempt to draw together two threads of her extensive research interests and contributions: first, her work on the complex morphology of Indigenous Australian languages, in particular, her work on associated path (Simpson 2001, 2004), and, second, her work in highlighting the importance of understanding details of Indigenous children's language use and language practices (Simpson and Wigglesworth 2008; Wigglesworth, Simpson and Vaughan 2018).

Appendix 1

Table A22.3: Form and meaning of the Core Eight AM markers in the Eastern and Central Arrernte to English Dictionary, Revised Edition.

Form in this paper	Interlinear gloss (in AM sense)	Forms in dictionary*	Senses given in dictionary (AM sense is always first sense given)
-ty.alhe	GO&DO	+tye-alheme/ +tyalheme	go and (do something), do something when you get to a place. (p.563)
-ty.alpe	GO.BACK&DO	+tye-alpeme/ +tyalpeme	1. come back or go back and then do something, do something when you get back/home. 2. go away from somewhere or someone and then (do something). 3. keep doing something (?). (pp.563–64)
-rl.alhe	DO&GO	+rle-alheme/ +rlalheme, +le-alheme/ +lalheme	1. (do something) and then go; (do something) before going, go after (doing something); 2. do something quickly and move on (to other things or to another place). (pp.534–35)
-rl.alpe	DO&GO.BACK	+rle-alpeme/ +rlalpeme, +le-alpeme/ +lalpeme	1a. (do something) and then go back somewhere; (do something) before going back, go back after (doing something); 1b. go somewhere and (do something) and then come back; 2. (do something) and then go away; (do something) before going away, do away after (doing something). (p.535)
-intye	DO.COMING	+intye	1a. (do something) while coming towards the person speaking (or towards the main person or place in a story). 1b. come up and (bump or knock into something). 2. (pass, throw or move something) in the direction of the speaker etc., without actually moving towards them. 3 [Younger Speakers] come up and (do something to someone). 4. be doing something since an earlier point in time. (pp.391–92)
-inty.alpe	DO.COMING.BACK	+intye-alpeme/ +intyalpeme	1a. (do something) while coming back; 1b. (something happening) again; 2. (pass, throw, send or move something) back to the person who is speaking (or to the main person in a story). (p.392)

Form in this paper	Interlinear gloss (in AM sense)	Forms in dictionary*	Senses given in dictionary (AM sense is always first sense given)
-irtne	DO.GOING.BACK	+irtne	1. (do something) while going back somewhere; 2a. With verbs that describe things moving: (moving) back (to somewhere); 2b. With verbs that describe moving something: (move something) back (to somewhere), (put it) back.; 3. (do something) back (to someone); 4. get (something) back from someone; 5. go back (to the way it has been before), change back; 6. (a number of things) in a line, in a row. With the verbs aneme 'sit', inteme 'lie' and tneme 'stand' only. (pp.420-21)
-nhe	DO.IN.PASSING	+nhe	Shows that the action of the verb is done while moving relative to some place or thing ... 1a. going past something, going along near something; while passing, on the way past, on the way through; 1b. going towards something, going into something; 1c. moving away from somewhere, moving out of something. 2. (in a position that is) pointing away from something or towards something.; 3. Shows that the action of the verb happens relative to some event or point in time ... 3a. at a particular point in time. 3b. (something happens) in a split second, in an instant; 3c. (something happens) up until a particular event or point in time; 3d. (something starts to happen) at a particular point in time.

Note: The standard citation form in the dictionary adds the present tense morpheme to the end of forms that are deemed to be the second verb in a verb compound.

Source: Henderson and Dobson (2020).

Appendix 2



Figure 22.9a: The *Bicycle Story*, page 1.

Source: O'Shannessy (2004).



Figure 22.9d: The *Bicycle Story*, page 4.

Source: O'Shannessy (2004).



Figure 22.9b: The *Bicycle Story*, page 2.

Source: O'Shannessy (2004).



Figure 22.9e: The *Bicycle Story*, page 5.

Source: O'Shannessy (2004).



Figure 22.9c: The *Bicycle Story*, page 3.

Source: O'Shannessy (2004).



Figure 22.9f: The *Bicycle Story*, page 6.

Source: O'Shannessy (2004).



Figure 22.9g: The *Bicycle Story*, page 7.

Source: O'Shannessy (2004).



Figure 22.9j: The *Bicycle Story*, page 10.

Source: O'Shannessy (2004).



Figure 22.9h: The *Bicycle Story*, page 8.

Source: O'Shannessy (2004).



Figure 22.9k: The *Bicycle Story*, page 11.

Source: O'Shannessy (2004).



Figure 22.9i: The *Bicycle Story*, page 9.

Source: O'Shannessy (2004).



Figure 22.9l: The *Bicycle Story*, page 12.

Source: O'Shannessy (2004).



Figure 22.9m: The *Bicycle Story*, page 13.

Source: O'Shannessy (2004).



Figure 22.9p: The *Bicycle Story*, page 16.

Source: O'Shannessy (2004).



Figure 22.9n: The *Bicycle Story*, page 14.

Source: O'Shannessy (2004).



Figure 22.9q: The *Bicycle Story*, page 17.

Source: O'Shannessy (2004).



Figure 22.9o: The *Bicycle Story*, page 15.

Source: O'Shannessy (2004).



Figure 22.9r: The *Bicycle Story*, page 18.

Source: O'Shannessy (2004).



Figure 22.9s: The *Bicycle Story*, page 19.

Source: O'Shannessy (2004).

References

- Berman, Ruth and Dan Slobin, eds. 1994. *Relating Events in Narrative: A Cross-Linguistic Developmental Study*. Hillsdale: Lawrence Erlbaum Associates. doi.org/10.4324/9780203773512.
- Browne, Emma. 2019. 'Multimodal Tools for Exploring Communicative Practices among Multilingual Students in Remote Central Australia'. *Babel (Journal of the Australian Federation of Modern Languages Teachers Associations)* 54, no. 1/2: 29–33.
- Browne, Emma and Fiona Napaljarri Gibson. 2021. 'Communities of Practice in the Warlpiri Triangle: Four Decades of Crafting Ideological and Implementational Spaces for Teaching in and of Warlpiri Language'. *Languages* 6, no. 2: 1–24. doi.org/10.3390/languages6020068.

- Christie, Michael, Brian Devlin and Catherine Bow. 2015. 'Finding Common Ground in a Digital Archive of Aboriginal Languages'. In *Finding the Common Ground: Narratives, Provocations and Reflections from the 40 Year Celebration of Batchelor Institute*, edited by Henk Huijsjer, Robyn Ober, Sandy O'Sullivan, Eva McRae-Williams and Ruth Elvin, 80–84. Batchelor: Batchelor Press.
- Defina, Rebecca. 2020. 'Acquisition of Pitjantjatjara Clause Chains'. *Frontiers in Psychology* 11: 541. doi.org/10.3389/fpsyg.2020.00541.
- Ellis, Elizabeth Marrkilyi, Jennifer Green and Inge Kral. 2017. 'Family in Mind: Socio-Spatial Knowledge in a Ngaatjatjarra/Ngaanyatjarra Children's Game'. *Research on Children and Social Interaction* 1, no. 2: 164–98. doi.org/10.1558/rcsi.28442.
- Forshaw, William, Lucinda Davidson, Barbara Kelly, Rachel Nordlinger, Gillian Wigglesworth and Joe Blythe. 2017. 'The Acquisition of Murrinhpatha (Northern Australia)'. In *The Oxford Handbook of Polysynthesis*, edited by Michael D. Fortescue, Marianne Mithun and Nicholas Evans, 473–94. Oxford: Oxford University Press. doi.org/10.1093/oxfordhb/9780199683208.013.27.
- Guillaume, Antoine. 2016. 'Associated Motion in South America: Typological and Areal Perspectives'. *Linguistic Typology* 20, no. 1: 81–177. doi.org/10.1515/lingty-2016-0003.
- Guillaume, Antoine and Harold Koch. 2021a. 'Introduction: Associated Motion as a Grammatical Category in Linguistic Typology'. In *Associated Motion: Empirical Approaches to Linguistic Typology*, edited by Antoine Guillaume and Harold Koch, 3–30. Berlin: De Gruyter Mouton. doi.org/10.1515/9783110692099-001.
- Guillaume, Antoine and Harold Koch, eds. 2021b. *Associated Motion: Empirical Approaches to Linguistic Typology, Empirical Approaches to Linguistic Typology*. Berlin: De Gruyter Mouton. doi.org/10.1515/9783110692099.
- Henderson, J. 2003. 'The Word in Eastern/Central Arrernte'. In *Word: A Cross-Linguistic Typology*, edited by R. M. W. Dixon and A. Y. Aikhenvald, 100–124. Cambridge: Cambridge University Press. doi.org/10.1017/CBO9780511486241.005.
- Henderson, John. 2013. *Topics in Eastern and Central Arrernte Grammar*. Muenchen: Lincom Europa.
- Henderson, John and Veronica Perrurle Dobson. 2020. *Eastern and Central Arrernte to English Dictionary*, Rev. Ed. Alice Springs: Institute for Aboriginal Development Press.

- Koch, Harold. 2020. 'Development of Aspect Markers in Arandic Languages, with Notes on Associated Motion'. *Journal of Historical Linguistics* 10, no. 2: 209–50. doi.org/10.1075/jhl.18016.koc.
- Koch, Harold. 2021. 'Associated Motion in the Pama-Nyungan languages of Australia'. In *Associated Motion: Empirical Approaches to Linguistic Typology*, edited by Antoine Guillaume and Harold Koch, 231–324. Berlin: De Gruyter Mouton. doi.org/10.1515/9783110692099-007.
- Kral, Inge. 2012. *Talk, Text and Technology: Literacy and Social Practice in a Remote Indigenous Community*. Bristol: Multilingual Matters. doi.org/10.21832/9781847697608.
- Mayer, Mercer. 1969. *Frog, Where Are You?* New York: Dial Press.
- Minutjukur, Makinti, Katrina Tjitayi, Umatji Tjitayi and Rebecca Defina. 2019. 'Pitjantjatjara Language Change: Some Observations and Recommendations'. *Australian Aboriginal Studies*, no. 1: 82–91.
- O'Shannessy, Carmel. 2004. 'The Monster Stories: Picture Stimuli for Elicited Production'. Unpublished series. Nijmegen: Max Planck Institute for Psycholinguistics.
- O'Shannessy, Carmel. 2015. 'Multilingual Children Increase Language Differentiation by Indexing Communities of Practice'. *First Language* 35, no. 4–5: 305–26. doi.org/10.1177/0142723715609227.
- O'Shannessy, Carmel. 2020. 'How Ordinary Child Language Acquisition Processes Can Lead to the Unusual Outcome of a Mixed Language'. *International Journal of Bilingualism* 25, no. 2: 458–80. doi.org/10.1177/1367006920924957.
- Pakendorf, Brigitte and Natalia Stoyanova. 2021. 'Associated Motion in Tungusic Languages: A Case of Mixed Argument Structure'. In *Associated Motion: Empirical Approaches to Linguistic Typology*, edited by Antoine Guillaume and Harold Koch, 855–98. Berlin: De Gruyter Mouton. doi.org/10.1515/9783110692099-022.
- Panther, Forrest and Mark Harvey. 2020. 'Associated Path in Kaytetye'. *Australian Journal of Linguistics* 40, no. 1: 74–105. doi.org/10.1080/07268602.2019.1703644.
- Poetsch, Susan. 2022. 'Arrernte at Heart: Children's Use of their Traditional Language and English in a Central Australian Aboriginal Community'. PhD diss., School of Literature, Languages and Linguistics, The Australian National University. doi.org/10.25911/3GVT-N878.

- Ross, Daniel. 2021. 'A Cross-Linguistic Survey of Associated Motion and Directionals'. In *Associated Motion: Empirical Approaches to Linguistic Typology*, edited by Antoine Guillaume and Harold Koch, 31–86. Berlin: De Gruyter Mouton. doi.org/10.1515/9783110692099-002.
- Simpson, Jane. 2001. 'Preferred Word Order and Grammaticalisation of Associated Path'. In *Time over Matter: Diachronic Perspectives on Morphosyntax*, edited by Miriam Butt and Tracey Holloway-King, 173–208. Stanford: CSLI Publications.
- Simpson, Jane. 2004. 'From Common Ground to Syntactic Construction: Associated Path in Warlpiri'. In *Ethnosyntax: Explorations in Grammar and Culture*, edited by Nicholas J. Enfield, 287–308. Oxford: Oxford University Press. doi.org/10.1093/acprof:oso/9780199266500.003.0012.
- Simpson, Jane and Gillian Wigglesworth, eds. 2008. *Children's Language and Multilingualism: Indigenous Language Use at Home and School*. London: Continuum. doi.org/10.5040/9781474212144.
- Vuillermet, Marine. 2021. 'A Visual Stimulus for Eliciting Associated Motion'. In *Associated Motion: Empirical Approaches to Linguistic Typology*, edited by Antoine Guillaume and Harold Koch, 201–27. Berlin: De Gruyter Mouton. doi.org/10.1515/9783110692099-006.
- Wigglesworth, Gillian, Jane Simpson and Jill Vaughan. 2018. *Language Practices of Indigenous Children and Youth: The Transition from Home to School*. London: Palgrave Macmillan. doi.org/10.1057/978-1-137-60120-9.
- Wilkins, David. 1989. 'Mparntwe Arrernte: Studies in the Structure and Semantics of Grammar'. PhD diss., The Australian National University.
- Wilkins, David. 1991. 'The Semantics, Pragmatics and Diachronic Development of "Associated Motion" in Mparntwe Arrernte'. *Buffalo Papers in Linguistics* 91, no. 1: 207–57.
- Wilkins, David. 1993. 'Preliminary Report on Central Arrernte Children's Vernacular Language'. For Yipirinya School, Alice Springs. Unpublished manuscript.
- Wilkins, David. 2003. 'The Verbalization of Motion Events in Arrernte'. In *Relating Events in Narrative, Vol. 2: Typological and Contextual Perspectives*, edited by Sven Strömquist and Ludo Verhoeven, 143–58. Mahwah: Lawrence Erlbaum. doi.org/10.4324/9781410609694.
- Wilkins, David. 2006. 'Towards an Arrernte Grammar of Space'. In *Grammars of Space: Explorations in Cognitive Diversity*, edited by Stephen C. Levinson and David Wilkins, 24–62. Cambridge: Cambridge University Press. doi.org/10.1017/CBO9780511486753.003.

- Wilkins, David. 2008. 'Same Argument Structure, Different Meanings: Learning "Put" and "Look" in Arrernte'. In *Crosslinguistic Perspectives on Argument Structure*, edited by Melissa Bowerman and Penelope Brown, 141–66. Hillsdale: Lawrence Erlbaum. doi.org/10.4324/9780203826218.
- Wilkins, David. 2016. 'Alternative Representations of Space: Arrernte Narratives in Sand'. In *The Visual Narrative Reader*, edited by Neil Cohn, 251–79. London: Bloomsbury. doi.org/10.5040/9781474283670.ch-010.
- Wilmoth, Sasha, Rebecca Defina and Debbie Loakes. 2021. 'They Talk *Mutumutu*: Variable Elision of Tense Suffixes in Contemporary Pitjantjatjara'. *Languages* 6, no. 2: 69. doi.org/10.3390/languages6020069.
- Wilson, Aidan, Peter Hurst and Gillian Wigglesworth. 2018. 'Code-Switching or Code Mixing? Tiwi Children's Use of Language Resources in a Multilingual Environment'. In *Language Practices of Indigenous Children and Youth: The Transition from Home to School*, edited by Gillian Wigglesworth, Jane Simpson and Jill Vaughan, 119–45. London: Palgrave Macmillan. doi.org/10.1057/978-1-137-60120-9_6.

This text is taken from *Projecting Voices: Studies in Language and Linguistics in Honour of Jane Simpson*, edited by Carmel O'Shannessy, James Gray and Denise Angelo, published 2025 by ANU Press, The Australian National University, Canberra, Australia.

doi.org/10.22459/PV.2025.22