Alyawarr children's variable present temporal reference expression in two, closely-related languages of Central Australia

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Signed: [Signature]

Sally Dixon
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Abstract

In a small, remote central Australian community, young children go about their daily lives mainly speaking Alyawarr English (AlyE), a new Central Australian contact language. At school they are acquiring Standard Australian English (SAE) as a second language. Much of what they encounter in SAE will seem familiar and much will be obviously different. In between, there will be many subtle differences that are possibly harder to detect, parse and maintain. This study investigates this remarkable bi-varietal language use, considering whether separate ‘codes’ are indeed evidenced, how they can be quantitatively modelled, and what they tell us about the impact of formal similarity between languages and emerging bilingualism.

The use in childhood of multiple closely-related languages is somewhat of a final frontier for several strands of research: child language development, second language acquisition, and creole studies. However, the methodologies common in these fields don’t easily import to the present scenario: for while the assumption of existing, separate codes may be operationally practical (even if theoretically contestable), the presence of overlapping structures (i.e. morphemes that are used in both AlyE and SAE) in the present data set makes code separation on structural grounds problematic. The solution tested here takes a corpus of 50+ hours of naturalistic video recordings of six focus children, and first creates two maximally contrastive, contextually defined data sets: HOME (home, Alyawarr interlocutor) and SCHOOL (school, non-Alyawarr interlocutor).

Each data set is then analysed using the Comparative Variationist method. Three variables of present temporal references clauses were selected: aspect morphology with variants V (e.g. ‘look’), Ving (e.g. ‘looking’), and Vbat (e.g. ‘lookbat’), 1sg subject pronouns (‘I’ and ‘AM’) and verb transitivity marking (-im and unmarked). In both HOME and SCHOOL data, variants, their distributions, respective envelopes of variation and variable grammar (modelled using logistic multiple regression conducted in Goldvarb X) are examined.

The results show that code-separation is evidenced for all three variables, but that the locus of change is not the same in each case. For transitive marking and 1sg subject pronouns, the same variable grammar is deployed in both HOME and SCHOOL data, while non-SAE-like variants are increasingly avoided in the SCHOOL (i.e. -im and ‘AM’) and
thus the envelope of variation for the SAE-compatible variant (i.e. -Ø and ‘I’) expands its range of use on the way to becoming the categorical variant in the children’s SAE. For aspectual morphology, the locus of change is located within the variable grammar where complex patterns of reorganisation are evidenced (e.g. HOME V is strongly associated with ‘stative’ clauses; SCHOOL V with ‘stative’ and ‘habitual’). Additionally, fundamental changes in the envelope of variation (e.g. Ving is not used on transitive verbs in the HOME but is in the SCHOOL) and the range of variants (e.g. Vbat is not used in the SCHOOL) indicate that these remain central considerations in the use of all three variables.

This study therefore breaks new ground in both methodological terms, with the application of variationist modelling to child bi-varietal language use, and in advancing our understanding of the vectors of code-separation in the complex ecologies of the region.
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List of Abbreviations

ABL ablative
ADV adverb(ial)
ALL allative
AUX auxiliary
BAT verb aspect morpheme, most closely with habitual/iterative semantics in child Alyawarr English
DEM demonstrative pronoun
DET determiner
DU dual
EMPH emphasis
EY unknown verb ending
HAV having
ING verb aspect morpheme, most closely associated with progressivity in child Alyawarr English
INTR intransitive
LOC locative
NA ‘na’ discourse particle
OBJ object
P person
PL plural
POSS possessive
PREP preposition
PRES present tense
RECIP reciprocal
SBJ subject
SG singular
SUB subordinating conjunction
TAG tag question
TR transitive marker

Conventions used in transcription and glossing

plain font Alyawarr English and SAE - morpheme break
*italics* Alyawarr-derived morphemes = clitic boundary
**bold font** point of interest/contrast _ used for one-to-many correspondences between original language and free translation
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1 INTRODUCTION

1.1 Context

The setting for this thesis is a small community in the middle of Australia’s arid, central cattle-droving region. A few hours’ drive north of Alice Springs along the Stuart Highway, followed by an easterly turn and another 45 minutes along an unsealed road and you arrive at Ipmangker community. It is a small community of around 100-150 mostly Alyawarr, Warlpiri and Kaytetye people, excised from the surrounding cattle station. Here the children speak a language variety which displays elements of Alyawarr, the first language of their grandparents, Kriol and English. This variety is not immediately comprehensible to native speakers of English. I will refer to it as Alyawarr English, a term decided on after some consultation with adult speakers.

Figure 1-1: Australia showing state borders, capital cities, major cities, elevation, lakes and rivers. [Source: CartoGIS, College of Asia and the Pacific, The Australian National University]
When the children of this community enter formal schooling, they encounter an environment in which Standard Australian English (SAE) is the language of formal assessment, however they will experience various Englishes as the mediums of instruction. During the span of fieldwork for this research, students experienced teaching staff who were first and second language speakers of (Australian) English, as well as speakers of other world English varieties, and Aboriginal English. They were aided in their learning by Teaching Assistants who often speak Alyawarr, and also English, or Alyawarr English.

Figure 1-2: The Northern Territory of Australia, with major highways marked. Communities and towns referred to in this thesis are marked. [Source: CartoGIS, College of Asia and the Pacific, The Australian National University]

To support them on their journey to becoming proficient multilingual adults, there is general accommodation for their L1 in the classroom, including Teaching Assistants to sometimes translate the teacher’s talk. But this language is not formally incorporated as the means or subject of learning (i.e. there are no L1 literature or verbal arts courses, for example). There is little in the way of formal instruction of the structures and patterns
of English, except for what might ‘double up’ in the regular ‘literacy’ focused components in the curriculum. This context is reflective of the situation that many Indigenous students find themselves in, around the Northern Territory and beyond. Outside the school context exposure to SAE is very limited: consequently, outnumbered, the teacher is linguistically ‘immersed’ but the students are not. But this is not systematically or explicitly addressed in the curriculum, pedagogy or even informal classroom practices. In spite of this, and intriguingly, considerable second language learning is taking place in the early years.

1.2 Problem orientation

Childhood multilingualism in Australia is a phenomenon as old as human occupation of the island continent. English, while now the national language, is itself a recent arrival to these shores, brought by colonists from the United Kingdom who arrived in 1788. Prior to this cataclysmic event, some 300+ languages were spoken by Indigenous peoples who have occupied the land for many thousands of years. Today, a small minority of these languages are spoken on a daily basis, and there are vibrant efforts to awaken those languages which are sleeping. In their place, new language varieties have emerged. Contact language varieties such as creoles (Kriol e.g. Schultze-Berndt, Meakins & Angelo 2013; Torres Strait Creole e.g. Shnuka 1991; Cape York Creole e.g. Crowley & Rigsby 1979), mixed languages (Gurindji Kriol e.g. Meakins 2015; Light Warlpiri e.g. O’Shannessy 2013), dialects of English (Aboriginal Englishes (Eades, 2014), and others (Wumpurrarni English e.g. Disbray 2008a; various Queensland contact varieties e.g. Sellwood & Angelo 2013) have proliferated in the many varied, and often imposed, sites of sustained language contact since invasion.

Australia’s present state of linguistic diversity is also the result of long term immigration over the past century, a process that has produced several integrated bilingual immigrant communities in urban centres such as the Italian, Greek and Chinese communities of Sydney and Melbourne. More recent waves of immigration, and refugee

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1 See Meakins (2014) and Meakins & O’Shannessy (2016) for recent comprehensive overviews.
resettlement have brought peoples from the Middle East, and Africa in increasing numbers.

This linguistic diversity is reflected in the general student population: 20% speak a language other than English at home (ABS 2013). However this national figure obscures the vast variation in student language repertoires at the school level: for some remote schools located in Indigenous communities, and for some urban schools with large recent immigrant populations this figure approaches 100%. Many of these children, while exposed to English in the broader community and through media, will first start their acquisition of Standard Australian English (SAE) in the classroom. Across educational jurisdictions, individual schools and classrooms, there are and have been a range of responses to this. For example, across all states and territories schools can usually access special intensive ESL support for children who have migrated under particular visa categories. Several schools in Indigenous communities in the Northern Territory, South Australia and Western Australia have operated as bilingual schools, so students can receive basic education in their first language and then transition to SAE as proficiency develops. Indigenous students who attend mainstream schools (i.e. non-bilingual, mixed cohort of students) have in recent years also been able to access money for ESL support through various state/territory and federal initiatives such as ‘ESL for Indigenous Languages Speaking Students’ (ESL-ILSS).

However, access to these supports is in the first place dependent on being identified as a student who does not bring to school prior acquisition of SAE. Indigenous speakers of 'low profile' contact varieties (i.e. ones for which there is not, for example, a history of description, nomenclature or self-declared speakership) and Aboriginal English varieties very much constitute a ‘hidden’ group of SAE learners (Sellwood & Angelo 2013; Dixon & Angelo 2014). This has several aspects, from inaccuracies in student data collection (Dixon et al 2014; Angelo & McIntosh 2014), to the development and validation of curricula and effective teaching methodologies (Angelo 2012), and the development and

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2 I use the term Standard Australian English here to specifically refer to the variety of English spoken in Australia that is explicitly reinforced in the education system. There is of course all the ‘usual’ variation in English spoken in the community, though sociolinguistic investigation of specific phenomena is still in its infancy.

3 Bilingual schooling is of course not just motivated by a desire to ensure that students learn SAE in an effective manner, but has many other goals including L1 maintenance and cultural continuity (see Disbray 2014)

4 Begun in 1998 and has had various phases (Commonwealth of Australia 2008).

One example of the latter is the slew of proficiency scales in use across the state-based educational jurisdictions. Proficiency scales are multifaceted documents primarily designed for assessment but also to guide educators through the expected pathway for learners of English as a second language, and to enable them to plan appropriate content and instruction. The first of their kind in Australia were published in the early 90s as the *National Languages and Literacy Institute of Australia (NLLIA) ESL Bandscales* (McKay, Hudson & Sapuppo 1994), henceforth NLLIA Bandscales. It is likely that this has acted as a ‘foundation document’ to some extent for all subsequent iterations, so it is important to note that the NLLIA Bandscales were focused solely on ESL students with overseas language backgrounds. It deliberately did not describe learners of SAE as an additional dialect, nor did it purport to have any validity for Indigenous first language (‘L1’) speakers of traditional languages, who are learning Standard Australian English as an additional language at school and who in some ways are similar to immigrant children in terms of the distinctness of the L1 from L2, but are generally learning SAE in profoundly different educational contexts.

Subsequent to the release of these scales, all State and Territory education departments have produced local iterations. For example, the ‘Northern Territory Curriculum Framework: ESL Early Childhood and Primary Learners’ (NTDET 2014), is intended for use with all ESL students regardless of language background or learning context. In general, very little is published about the local developments of these scales in Australia, and so it is difficult to assess the extent to which accommodations to local conditions have been made, and what the nature of these changes might be. In particular, it is generally not clear, nor does there appear to be a public record of how L1 speakers of contact varieties have been accommodated5 (see also Malcolm 2011 for a discussion of related issues in Western Australia).

A notable exception is the ongoing work surrounding the development of specialised scales for Indigenous learners of English as a second language/additional dialect in

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5 The Australian Curriculum documents similarly provide no guidance regarding the potential for different types of ESL learners in their ESL materials
Queensland. This has resulted in the Bandscales for Aboriginal and Torres Strait Islander Learners (Education Queensland 1999/2002) and the subsequent Bandscales for English as a Second Language/Dialect (ESL/D) Learners (EQ 2008) (henceforth ‘ESL/D bandscales’), which is inclusive of the Indigenous students targeted in the 1999/2002 iteration. The project teams responsible for these documents have directly grappled with the need to be both inclusive of Indigenous ESL/D students in ESL interventions on the one hand, and also with how to reflect teachers’ direct experience that Indigenous ESL/D students might travel a different pathway from other ESL students with overseas language backgrounds.

Hudson & Angelo (2014) describe in detail the rationale and iterative process that has unfolded in the production of the two bandscales. In doing so they outline a number of underlying considerations. I want to highlight two that relate the most directly to the issue of whether L1 speakers of contact languages constitute a separate learner cohort (i.e. when learners of the lexifier7 language) to L1 speakers of typologically distinct languages (with respect to the L2). These are the inter-related issues of whether learners of English as an additional dialect require support to separate out their L1 from the L2 (i.e. SAE) target, and if so, which aspects of SAE might be the most challenging and require the most attention (which I’ll refer to as ‘feature transparency’)?

The issue of code-separation has pervaded the modest set of studies relating to second dialect acquisition, as we’ll see in the following section (§1.2) and chapter 2. It has also informed early and influential bi-dialectal school approaches in the Kriol-speaking regions of northern Australia. For example, the Fostering English Language In Kimberley Schools (FELIKS) (e.g. see Berry & Hudson 1997) project in part focused on raising the profile of Kimberley Kriol as a valid and fully-formed language, and utilised comparative analysis of linguistic structures, both as a way of addressing a perceived need for students to ‘separate’ their L1 from the SAE target: a pre-requisite for students to be able to acquire the systems and structures of SAE and thus, for example, effectively ‘code-switch’ between Kriol and SAE8. Similarly, a focus on building increasing levels of

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6 see also the ‘Kimberley Bandscales’ used in Western Australia (Buist et al 2002)
7 The term 'lexifier language' refers to the language that has made a dominant contribution to the vocabulary in the resulting creole or contact language.
8 Confusingly, this process is often referred to by educators as ‘teaching students to code-switch’: confounding the outcome with the underlying language skills needed to achieve it.
language awareness, for both student and teacher (and parents/guardians and other key participants), to raise the profile of contact language varieties (and multiple other outcomes), is a key component of a recent school support/teacher training program run throughout a number of Queensland schools (see Angelo 2006a, 2006b).

Concomitantly, the complex issues of code-separation and feature transparency is addressed explicitly in the ESL/D Bandscales, for example, in explaining the noted tendency for L1 creole speakers to ‘plateau’:

Some students, e.g. students who speak creoles, may plateau at level 3 in listening because of the lack of understanding that the language they speak is not SAE. That is, it may be erroneously assumed by both student and teachers that the students are SAE users and therefore they ‘should’ be able to understand what is being said in the classroom [EB_EP_Levels1-4_Implications, cited in Hudson & Angelo 2014:56]

Or to explain ongoing use of the L1 features (here ‘home language’ (HL)) in classroom contexts:

[The student is] developing awareness (if creole speaker) of differences in language varieties (i.e. SAE v. Home Languages) and needs assistance from teachers to expand these early understandings to avoid the student adapting HL rather than learning SAE [EB_MP_L Level2_Descriptor (cited in Hudson & Angelo 2014:59)]

However, Hudson & Angelo (2014: 56) acknowledge that “thoroughgoing incorporation of transparency beyond ‘mistaken L2 proficiency’ is yet to be accomplished”. That is, beyond being aware that apparent feature transparency interferes with students’ and teachers’ perceptions, we actually know very little about the impact this has on the English that is produced at different stages of acquisition. Do students use their L1 in the first days of schooling and gradually modify it to become more like English? What parts of language get modified first? Are there parts of English that get missed altogether and is this related to how ‘camouflaged’ or ‘transparent’ they are? By providing a rich description of the bi-varietal language use of early school aged children, this thesis aims to make inroads into this complex territory.
1.3 (Closing) the research gap

The point at which the mapping and assessment tools discussed above ‘give out’ in terms of the detail they provide about the L2 language learning pathway of L1 creole speakers is mirrored by a ‘gap’ in the supporting language acquisition literature.

Child speakers of creoles who are tasked with learning the standardised lexifier language in educational settings sit precisely in the rather quiet crossroads of several strands of research. On the one hand the considerable overlap between L1 and L2 features may make their situation comparable to the situation termed ‘second dialect acquisition’ (SDA). However, SDA studies have tended to focus on phonology, because the languages in focus have not had many morphological or syntactical differences to compare. Whereas creoles differ across all levels of language. In this sense, the second language acquisition (SLA) literature offers a broader base for considering, for example, the L2 acquisition of morphosyntax.

Yet, as we’ll see in chapters two and three, contact languages have not received much attention here, possibly because many SLA approaches tend not to focus on the impact of L1 and its differences from L2. By contrast, SDA studies are more concerned with evaluating the potential impact of L1 transfer, and consider the potential bonus from overlapping structures and surface forms, but also the confusion that arises from small, non-communicatively essential differences as well as ‘camouflaged’ forms (Wolfram and Schilling-Estes 1998; Kellerman 1977; Wode 1978; Long 2007) (transparency phenomena by another name). And these concerns apply to creoles as well.

Further, while SLA studies have tended to cover situations with relative synchronic stability in the L1 and L2, some SDA studies have touched on the intersecting issues of language variation and language shift: whether speaking a L1 language with a lot of variation (such as dialects in a state of levelling often have) impacts on the way you approach learning a second, standardised language (Rys, 2007). In contexts of language shift, little is known about how learning the standardised language contributes to the development of new contact languages. O’Shannessy’s (2013) hypothesis regarding the development of Light Warlpiri centres on children reanalysing the code-switching of adults. While there is convincing circumstantial and qualitative description to support
this claim, there is yet to be a quantitative study that models these processes, allowing the testing of hypotheses regarding the shifting functions of morphosyntax.

There is therefore both a practical and a research need for a deeper understanding about the pathway that speakers of contact languages travel on the road to acquiring the standardised L2. I will expand on these issues in greater detail across Chapters 2 and 3.

1.4 Overview of the data and method

Data for this thesis come from the corpus of recordings made for the Aboriginal Child Language Acquisition 2 (ACLA2) project\(^9\) a longitudinal study of the interaction of home and school languages in Australian Indigenous communities. This project has several other field sites, and multiple aims. The design of the recording schedule was focused on capturing naturalistic language use in a range of different home and school contexts. Recordings were made in Ipmangker community, at the school and various home locations, over a period of two years.

From the resulting Ipmangker sub-corpus, I initially began sketching out a rough description of the children’s use of Alyawarr English, and their use of SAE. I quickly became overwhelmed with the degree of variability in the corpus. It was impossible to take even the first step of a ‘traditional’ multilingual corpus and tag clauses as ‘Alyawarr English’ or ‘SAE’. Features that are not part of SAE would nevertheless occur in otherwise English-seeming clauses (and contexts), and SAE-sounding features and clauses were also used at home. This is understandable: as learners of SAE as a second language the children were likely to use some L1 features at times, and as still young speakers of Alyawarr English some ‘backwash’ from SAE is also understandable. But how is the researcher to know what the case is in every clause? There were some clear instances of code-switching, in which a clause was said one way to an Alyawarr Teaching Assistant, and then immediately another way to a non-Alyawarr teacher. But I could not rely on such (infrequent) cases to resolve the fact that many language features seemed common to both English and Alyawarr English, and so could not definitively signal which language a clause or phrase belonged to.

\(^9\) http://arts.unimelb.edu.au/soll/research/past-research-projects/acla2
My first challenge, therefore, was developing an approach that could remain agnostic regarding which features were shared, and which features were contrastive in the children’s Alyawarr English and SAE. Furthermore, because this high degree of variability and density of overlapping language features typified the children’s language use, it quickly became clear that traditional ‘target based’ approaches to second language acquisition (such as error analysis, Ellis & Barkhuizen, 2005) would insufficiently capture the complexity of the task undertaken by these young children. The data demanded an approach that would focus on variability as a phenomenon that is inherent to language change and therefore central to understanding language acquisition.

Such an approach was found in the research agenda pioneered by the quantitative sociolinguistics of Labov (e.g. 1972a), and more recently extended to conduct multiple comparative analyses across time, per the Comparative Variationist Method developed by Poplack and Tagliamonte (1996; 2001). This approach has been used to assess contemporary language use such as the nature of substrate influence in creoles (e.g. Meyerhoff 2009a, 2009b), the degree of overlap in a regionally variable creole (e.g. Walker 2000), and how L2 learner language differs from native speaker data (e.g. Schleef, Meyerhoff and Clark 2011). I have taken the principal components of identifying features that are variable in two (or more) related data sets, applying a (logistic multiple regression) quantitative analysis to determine which factors are conditioning the variation in each data set, and comparing the similarity of this ‘underlying grammar’ across data sets. However, the use of this approach in a context which combines elements of creole and second-language data constitutes an important new application of this methodology.

To address the issue of creating separate sets of ‘Alyawarr English’ and ‘SAE’ data based on formal properties (the problems with which are further explored in section §3.1) I operationalise each language variety on contextual grounds: that is, a HOME data set was compiled of utterances made at home, and to an Indigenous interlocutor. A SCHOOL data set was compiled of utterances made at school, to a non-Indigenous interlocutor. The rationale and details of this approach are further outlined in chapter 4 (§4.5.1).

10 For further discussion of how SAE-centric approaches to assessment fail to capture language learning see Dixon 2013)
Three main language features (or ‘variables’) were chosen as the focus of comparison between these HOME and SCHOOL data sets. These are: aspect morphology, transitivity and pronominal subject expression. Each of these independently meet the basic criteria for variationist analysis (which I detail in Chapter 4 §4.5.2), but it is the combination of these three features that I would like to highlight here. Each of these features differs from the other in the extent to which the same range forms are present in Alyawarr English and SAE. As shown in Table 1-1, present temporal reference has three morphological expressions in Alyawarr English, two of which are shared with SAE. An additional morpheme also occurs in the Alyawarr English 1st singular subject pronoun set, although the additional form ‘Am’ is potentially analogous to the contracted ‘I’m’ form in SAE. Transitivity is variably marked with a verb stem-final suffix -im in Alyawarr English, and not at all in SAE. Since the children in this study bring most of the HOME forms to school with them (i.e. all forms appear in both HOME and SCHOOL data sets), the varying degree to which this occurs will facilitate discussion regarding the relative learnability of different types of language features.

Table 1-1: Three variables and their variants in Alyawarr English and Standard Australian English

<table>
<thead>
<tr>
<th>tense-aspect morphology</th>
<th>Alyawarr English</th>
<th>Standard Australian English</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg Subject</td>
<td>Am~I</td>
<td>I</td>
</tr>
<tr>
<td>transitive marking</td>
<td>-im ~ -∅</td>
<td>-</td>
</tr>
</tbody>
</table>

1.5 Overview of thesis

In the following two chapters I introduce the multiple strands of research that inform the current thesis. In Chapter 2 the focus is on studies of second dialect acquisition, with particular attention to the ways in which speaking a first language that is similar to the second might impact on language acquisition and use. In Chapter 3, I will problematise the methodological challenges that arise for linguists who wish to study multilingual language use of this kind. I argue that the application of structural criteria to label data as either ‘language A’ or ‘language B’ introduces assumptions into the analysis that downplay the role of variable language use in acquisition, and cleanses the data of much
of the complexity which typifies language use in contact situations. As an alternative, I then lay out a plan for the application and extension of the Comparative Variationist method (Poplack & Tagliamonte 2001) to the present data, in order to compare language use in the HOME and at SCHOOL. Following this detailed grounding in the theoretical and methodological issues informing the thesis, chapters 5-8 constitute the three main analysis chapters, each focusing on one aspect of grammar: present temporal reference, transitivity and subject pronominals, respectively. Each of these chapters is presented as a somewhat stand-alone analysis, examining the extent to which particular morphology operates the same way in Alyawarr English and the children’s Standard Australian English. In the discussion chapter (Chapter 9), I synthesise the results of these three grammatical case studies and examine what they tell us about the nature of bi-varietal language use in young children. I also explore the implications for the results on how we understand and model variation, and offer some reflections on the methodology. A final conclusions chapter (Chapter 10) discusses the results in terms of their implications for pedagogy, and lastly situates this work within potential future research programs.
2 SPEAKING A CONTACT LANGUAGE AND ACQUIRING A STANDARDIZED LANGUAGE: ISSUES AND RESEARCH

2.1 Introduction

This thesis sits at the intersection of three areas of linguistic research: second language acquisition, language contact and language variation. Insights from each of these fields inform the present research in different ways. Variationist approaches to language description and language contact (per the ‘comparative variationist method’) provide the main methodological and interpretative framework, and I will detail this in the following chapters. In this chapter I will delve into the vast field of second language acquisition. In particular, I will focus on research that attempts to understand how the similarity between the first and second languages impacts the process of acquisition. Very broadly, this question has been approached from two different perspectives, with seemingly contradictory predictions. First, research into second language acquisition (SLA) has tended to predict that it is easier to learn a second language (L2) that is more like the first language (L1) than not. For example, for a native English speaker it would likely be easier to learn German than Chinese. On the other hand, researchers who examine the acquisition of a second language that is very much like the first, tend to discuss how subtle differences can be difficult for learners to navigate. For example, it can be almost impossible for a native speaker of British English (BrE) to fully acquire Australian English (SAE) even after very long immersion. Individuals in this situation often report no longer sounding completely native to either their family ‘back home’ or their ‘new’ friends (Siegel 2010:60-1). In fact, Haugen (1964: 125) observes that “scholars have agreed it is harder to keep two similar languages apart than two very different ones”.

In the latter case the two languages in question (British English and Australian English) are dialects. A dialect is a language which is structurally close to another language, to the point that speakers of both of these languages can communicate without either having to modify their speech to any great extent – the ‘mutual intelligibility’ criterion (Siegel,
In order for two languages to be mutually intelligible, the degree to which they can differ is somewhat limited. Speakers can cope with somewhat different phonological inventories (i.e. ‘accents’), but beyond this, differences in the lexicon, morphology and syntax become quickly fatal to comprehension. Of course, factors other than the purely linguistic can and do readily interfere with communication, even when the basic linguistic code is largely shared. It may well be that speakers’ own language perceptions and attitudes regarding which ways of speaking are similar to theirs (their ‘psychotypology’, per Kellerman 1977) not only impact on comprehension, but also matter very much in terms of adoption of other dialect features.

Contact languages, such as creoles and mixed languages, are languages that have developed rapidly, in a site of language contact. The resulting variety shares elements with each of the languages that contributed to their genesis (called substrate or superstrate languages depending on the contribution made: grammar versus lexicon, respectively). However, because of the innovation that happens during creole formation, the differences between contact languages and their super-/substrates tend to be greater than between dialects, both in terms of extent and type (i.e. differences in morphology and syntax as well as lexicon and phonology). Mutual intelligibility might be achieved if speakers (usually the speaker of the creole) can accommodate their speech to some degree but there is also ample opportunity for misapprehensions to go unnoticed because the same words may signal slightly different meanings for each speaker. For L1 speakers of contact languages who want to learn one of the super-/substrate languages, does the fact that these languages are replete with shared or partially shared feature sets act as a help or a hindrance to learning, or indeed a bit of both?

The main language spoken by the participants in this thesis is a contact language that I refer to as Alyawarr English. Alyawarr English is a new language that has emerged in the community probably within the last twenty years, and shows evidence of a variety of source languages: Standard Australian English (SAE), Kriol (Schultze-Berndt et al., 2013), Aboriginal English varieties (Koch, 2000a; Malcolm and Kaldor, 1991), and

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1 And potentially resulting in intermediate forms or ‘compromise morphemes’ e.g. Vousten & Bongaerts (1995), or overgeneralisations e.g. Tagliamonte and Molfenter (2007)
2 It has become somewhat customary in Australia over recent years to use the term ‘contact language’ as an overarching term to encompass types of languages that might be further distinguished on linguistic grounds as creoles, mixed languages and dialects. As I have not attempted to determine if Alyawarr English is better understood as a mixed language versus a creole, I prefer the term contact language for its agnosticism in this regard.
Alyawarr, a Pama-Nyungan language of the Arandic sub-group (Yallop, 1977). These languages have contributed different elements to Alyawarr English: verb morphology derives largely from SAE/Kriol, and most nominal morphology derives from Alyawarr. The lexicon is mainly derived from SAE/Kriol with some Alyawarr words also in common usage. Because of this mix of sources, when Alyawarr English-speaking children first hear SAE they encounter a language that has lots of features shared with their own.

(1) He put'm along the shelf

Consider example sentence (1). If an Alyawarr English-speaking child heard this sentence being said by an SAE-speaking teacher, there are a number of ways in which misunderstandings could arise due to overlapping or competing structures. Firstly, the subject pronoun 'he' specifies a male referent in SAE, but is gender nonspecific in Alyawarr English. Secondly, the verb 'put' expresses past tense in SAE (with a 'he' subject), but the same form in Alyawarr English is present tense: past is formed with the pre-verbal auxiliary 'bin' (i.e 'bin put'), and there is no third singular agreement suffix (-s) as in SAE. So an Alyawarr English-speaker could easily interpret this as present tense, ongoing action (as we'll see Alyawarr English does not share the strong SAE preference for active verbs to occur with the -ing suffix in present temporal reference). Thirdly, the contracted object could either mean 'him' or 'them' in SAE. In Alyawarr English it could also be interpreted as a transitive marker, in which case the object of the sentence would be unexpressed (which seems to be a somewhat regular occurrence in AlyE). Finally, 'along' sounds very similar to the AlyE preposition lang. However, the latter can also mean something more like 'alongside' or 'under' in Alyawarr English. In which case, expecting a broader semantic scope, the AlyE recipient might be less sure about the precise location of the object in this case.

It's clear that for AlyE-speakers, learning SAE has elements of the two predictions outlined above. On the one hand there are many similarities that probably put an AlyE-speaker ahead of a speaker of a foreign language. In this example alone 'he', 'put' and 'shelf' are shared lexicon, there is shared use of a preposition rather than a case suffix (although this is not always the case) and constituent order is the same. On the other

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Transcription conventions used in this thesis are discussed in Chapter 4, §4.6
hand, the extent of the differences goes beyond the kinds of phonological contrasts that characterise dialects. There are partially overlapping grammatical patterns and semantics that need sorting out. And in many cases this means ‘reassigning’ existing morphemes to new functions. The example above demonstrates that AlyE-speaking children will have to learn to use the form ‘put’ as the (irregular) past tense form (whereas in AlyE past clauses it will always appear with the preverbal past tense auxiliary bin) while also retaining it as a (non-3sg) present tense form, when speaking English. The following illustrates these various uses of the form ‘put’ in both AlyE and SAE past and simple present constructions:

<table>
<thead>
<tr>
<th>Alyawarr English</th>
<th>PAST</th>
<th>SIMPLE PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>bin V bin put V</td>
<td></td>
<td>put V</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard Australian English</th>
<th>PAST</th>
<th>SIMPLE PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ved patted V</td>
<td></td>
<td>put V</td>
</tr>
<tr>
<td>Ved[^REG] put, ate, hung Vs</td>
<td>puts</td>
<td></td>
</tr>
</tbody>
</table>

In the following sections I will explore the literature relevant to understanding how acquisition might proceed in cases such as these. I will divide the relevant studies into two sections. First (§2.2) I will examine studies in which the languages are more like the British/Australian English dialects described above, since these constitute the kind of contexts to which the bulk of research has been addressed. Following this (§2.3) I will discuss situations in which the languages more closely resemble the Alyawarr English-SAE relationship outlined above. Both of these sections will focus on the linguistic aspects of second dialect acquisition; however I will finish the chapter with a discussion of some of the socio-political factors that tend to prevail in situations where contact language speakers enter formal schooling, and can also play an important role in shaping acquisition (§2.4).

### 2.2 Linguistic aspects of second dialect acquisition

From the earliest studies of second dialect acquisition, a large focus has been on elucidating the limits of this process, even for children. Payne (1976, 1980) and Trudgill (1986) both examined child immigrants who moved to second dialect contexts (respectively, out-of-state newcomers to a suburb of Philadelphia, Pennsylvania USA, and British immigrants to Australia). Several important observations arose from this early work that have guided research interests over the subsequent years. In short, some
features seem to be more readily acquired than others, some features change from the pattern of the first language even if they don’t quite end up exactly like the second dialect, and some features seem relatively intractable for quite some time (Tagliamonte & Molfenter 2007). Why should some linguistic features be more ‘learnable’ than others?

The range of answers put forward in response to this question have not been so different from those seeking to explain the processes of second language acquisition. For example, aspects of the target feature such as salience and rule complexity have been explored in both SDA and SLA research. Similarly, the impact of cross-linguistic influence such as first language ‘transfer’ has been considered (to varying extents) in both SLA and SDA contexts. In order to understand what potentially makes SDA specifically challenging, we first need to take a step back and compare what the task of learning a second language or dialect looks like. Siegel (2010: 137) depicted the difference in these tasks with Figure 2-1. This diagram depicts how a learner of a second language, say a German L1 speaker learning Standard American English (SAmE), starts with no prior knowledge of the target language. The beginning point (‘x’) is at the farthest left point of the path to acquisition (‘z’). By contrast, speakers of British English (BrE) learning SAmE will start very close to the finish point, as depicted by D2. In fact, very little other than phonology, some lexical items and a handful of grammatical rules constitute the gap between x and z. Siegel (2010) also points out that advanced second language learners have probably arrived at the point at which SDA learners begin. This characterises the job of SDA learners as traveling only the ‘last mile’ on the road to ‘full’ acquisition.

What is not quite captured in this diagram is that, in second dialect acquisition, travelling the distance from x to z usually involves tinkering with structures and resources extant in the D1. For example, Standard American English and British English
sometimes differ in the forms used for past tense and past participle. British English has a higher incidence of irregular past/participle forms, as exemplified in Table 2-1, either by means of voicing contrast on the final -(e)d morpheme per (a), or an additional vowel change per (b). In rarer cases, the SAmE past/participle form is the irregular variety per (c).

<table>
<thead>
<tr>
<th>Present</th>
<th>British English</th>
<th>American English</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) burn</td>
<td>burnt</td>
<td>burned</td>
</tr>
<tr>
<td>dwell</td>
<td>dwelt</td>
<td>dwelled</td>
</tr>
<tr>
<td>(b) kneel</td>
<td>knelt</td>
<td>kneeled</td>
</tr>
<tr>
<td>leap</td>
<td>leapt</td>
<td>leaped</td>
</tr>
<tr>
<td>(c) dive</td>
<td>dived</td>
<td>dove\textsuperscript{Past}/dive\textsuperscript{PP}</td>
</tr>
<tr>
<td>get</td>
<td>got</td>
<td>got\textsuperscript{Past}/gotten\textsuperscript{PP}</td>
</tr>
</tbody>
</table>

Moreover, the forms presented above don’t represent a categorical distinction in usage; they are the most frequently used forms in the respective varieties, but both forms are often found. Trudgill and Hannah (2013) point out that the irregular ‘British’ forms are readily found in more formal and literary registers of SAmE. In order for a native speaker of BrE to acquire SAmE norms in this feature, they must first detect this difference in the preferred form (i.e. different rates of use). Secondly, once candidate verbs have been identified, they must essentially re-write the rule for this verb. In this example, the rule for producing the target regular forms exists in the D1, but in other cases new ‘D2’ rules might apply. It is these two tasks that broadly encapsulate the special nature of second dialect acquisition. I will now look at both of them in more detail.

The initial task of a second dialect learner is to detect differences between their first dialect and the second (i.e. which features are in the x-z gap above)\textsuperscript{4}. Just what makes a contrastive language feature ‘detectable’ or otherwise has been a major focus of SDA research, and it has largely been discussed in terms of salience. For researchers focused

\textsuperscript{4} While some linguists make a case for this detection involving conscious processes such as awareness and attention (e.g. Schmidt’s (1990) noticing hypothesis), I intend the term ‘detection’ to be agnostic regarding the degree of conscious awareness.
mainly on phonological variants, characteristics such as the phonetic distance between the articulation of a sound in D1 versus D2 (Trudgill 1986, or similarly ‘articulatory distance’ per Auer, Barden & Grosskopf 1998), and whether D1 and D2 variants exist in continuous or dichotomous relationships (Auer et al 1998) can make the D2 feature more or less salient for D1 speakers (more distant and dichotomous features are more salient). Likewise, for morphological variables the (somewhat reduced) focus has been on measures of ‘perceptual prominence’ (Kerswill and Williams 2002: 84), such as whether morphemes occur as stressed syllables (Bortoni-Ricardo 1985). Moreover, social practices around particular language features are also very important in drawing attention to dialect differences. For example, stigmatisation or stereotyping and representation in vernacular writing (Auer et al 1998) have the capacity to bring awareness to contrastive features and have been shown to be important in dialect acquisition (Kerswill and Williams 2002).

While some feature attributes and speaker behaviour may make prominent particular language features, the other side of the coin is that some contrastive language features remain non-salient or ‘hidden’. It has been proposed that superficial similarity of form and function impedes detection, and subsequently acquisition (e.g. Wolfram and Schilling-Estes 1998: 328-333). This is particularly the case “if the L2 structures are perceptually nonsalient and/or communicatively redundant” (Long 2007: 122). For example, Spears (1982) discusses a distinct use of come in African American English (AAE) where it can be used as an auxiliary verb to express indignation or negative evaluation, as in the following sentence (p854):

(2) We sitting there talking, and he come hitting on me for some money.

In this example, ‘he’ is one of the people already ‘sitting there talking’, so this use of come is not describing motion towards the speaker. Rather, this use of come displays the speaker’s disapproval at being asked (‘hit on’) for some money. The difference between this use of come and its use as a regular main verb of motion could be easily missed by speakers of Standard American English (SAmE), particularly because either interpretation (that the person asking for money was already sitting down or not) is largely immaterial to the larger point being made. These kinds of differences, where the same or similar word form has (some) subtly different functions in related languages,
have been called ‘camouflaged’ language features (Spears 1982), and ‘transparency phenomena’ (e.g. Hudson & Angelo 2014).

The concepts of salience and ‘hiddenness’ are not the end of the acquisition story. The detection of difference is a necessary, but far from sufficient condition for the acquisition of contrastive dialect variants. The new feature (or feature set) and its attendant rules must then be acquired. When it comes to assessing what makes a feature more or less learnable, a range of factors have been explored including frequency effects (type and token e.g. Rys 2007), rule complexity measures (Chambers 1992), and word class (Foreman 2003). In many cases the same hypotheses for learnability have been examined in second language acquisition. By contrast, other factors address more directly the idea that acquiring a D2 variant (or set of variants) involves re-writing (or ‘restructuring’ per Payne 1980: 156) the D1 pattern: that is, when using the D2 it involves eliminating old rules as well as acquiring new ones in their place (Chambers 1992: 695). For this, D2 rule complexity may, for example, matter less than whether or not a feature is differently organised in the D1 and D2.

<table>
<thead>
<tr>
<th>D1 variant(s)</th>
<th>D2 variant(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) One-to-one relationship:</td>
<td>a ——— ——— z</td>
</tr>
<tr>
<td>(b) One-to-many relationship:</td>
<td>a ——— y ——— z</td>
</tr>
<tr>
<td>(c) Many-to-one relationship:</td>
<td>a ——— z</td>
</tr>
<tr>
<td>(d) Many-to-many relationship:</td>
<td>a ——— x</td>
</tr>
<tr>
<td></td>
<td>b ——— y</td>
</tr>
<tr>
<td></td>
<td>c ——— z</td>
</tr>
</tbody>
</table>

Figure 2-2: Possible relationships between D1 and D2 variant sets for the same variable. Adapted from Rys (2007:96-6).

Chambers 1992 choice of terms reflects the dominance in the literature of contexts where D2 learners assimilate to the new linguistic context and abandon their D1.
One operationalization of this concept postulates that D2 variables are easier to learn if they directly correspond to a single variable in the D1. For example, Vousten (1995) found that Standard Dutch speakers who were acquiring the regional Venray dialect, learnt the [i] phoneme faster than the [u] and [y] phonemes. Vousten accounts for this in terms of the speakers’ D1: the [i] phoneme directly replaces a single Standard Dutch phoneme (/ɛi/), whereas the [u] and [y] phonemes map onto a single Standard Dutch phoneme (/œy/). So for [i] there was a one-to-one mapping between the D1 and D2 (as depicted in Figure 2-2 (a)), whereas for the [u] and [y] phonemes there was a one-to-many mapping (as depicted in Figure 2-2 (b)).

Rys (2007) tested the hypothesis that D2 acquisition was easier when the number of competing variants in the relationship between the D1 and D2 approaches 1:1. She found that the many-to-one relationship did impact on learning the D2, while the one-to-many did not. However, other researchers have found the opposite: that acquiring new contrasts is harder than acquiring new mergers (e.g. Trudgill 1986). While these studies have addressed phonology, the number of D1:D2 variants could equally apply to morphology, though I’m not aware of studies that have tested this.

An additional layer of complexity could arise from the extent to which the D2 recycles the D1 morpheme form(s) into a new, more complex set of morphemes; potentially further obscuring the function of the ‘shared’ morpheme in relation to the other forms in the set. As we will see, this is precisely the situation in the present study with regard to present temporal reference verb morphology: the D1 has three forms -ing, -ø, and -bat, whereas the D2 has only the first two.

The acquisition mechanism theorised to underpin such re-wiring, is ‘adaptation’ (Wells 1973) or ‘correspondence’ rules (Auer 1993; Rys and Bonte 2006). These rules allow for the adaptation of existing D1 grammar to produce D2 patterns. This process has been posited as the "basic learning strategy of second dialect learners (Rhys and Bonte 2006: 204). Unlike learners of second languages, learners of second dialects use their first dialect as the base or model for the second. The process of acquisition is really one of gradually changing aspects of their accent or minor aspects of their grammar i.e. gradually modifying the language they already use. We can see this in terms of actual language behaviour since learners of second dialects (D2) present very differently from L2 learners. From the beginning of their D2 immersion, they talk! Due to the mutual
intelligibility criterion, they can and do use their first dialect and navigate occasional misunderstandings as they arise, also using their D1. Learners of second languages cannot use their first language to this extent: anyone who has ever tried to learn a second language knows the frustration of having more to say than one can actually express.

As I noted above, the role of the first language of second language learners has previously taken a much more prominent analytic position in the field of SLA. For example, the ‘contrastive analysis’ program of research sought to describe and predict the L1/L2 pairings that would be most advantageous for second language learning, based on the assumption that similarities between L1/L2 features would facilitate acquisition. However, since “differences between languages alone were found to be inadequate as an explanation of learning outcomes” (Long & Sato 1984: 254) the field has moved on to other causes (in particular the search for universal processes in SLA), though across-group comparisons are still sometimes the focus of study (e.g. Jarvis 2002, Sabourin et al 2006; Ionin & Zubizarreta 2010). While the L1 demonstrably, at times, impacts on L2 acquisition (as phenomena such as L1 ‘transfer’ or ‘interference’) it does not appear to be the global template for the L2. In this way, the acquisition of a second dialect seems to be fundamentally different from second language acquisition: the learner approaches a second dialect as a process of D1 modification or extension, rather than an entirely new linguistic endeavour.

Commensurate with this position, incomplete D2 acquisition has been described as a failure of ‘code separation’. This reflects an understanding that in some contexts, speakers fail to accurately detect differences or assign them to their respective varieties. This raises the possibility that some individuals end up speaking a variety which is itself a bit of mix of D1 and D2 features: an idiolect of sorts. Indeed, it seems that the process of second dialect ‘acquisition’ could also be characterised by the presence of D2 features that are highly resistant to adoption, particularly in adult SDA. The third task for the second dialect learner is therefore to maintain the two varieties as separate codes. Much of the research in this area has examined contexts of human migration, and so there has been a focus on cases of second dialect acquisition that result in language shift. That is, where speakers essentially cease producing the accent or features of their D1 in all contexts. Less is known about the extent to which individuals can function as ‘bi-
dialectal’, switching between contrastive features in a manner that might be similar to bilinguals and their multiple language repertoires.

In this section I have presented an overview of the task of second dialect acquisition. This involves firstly detecting differences between the D1 and D2 (a job that may be helped or hindered by the salience of target features and the extent to which they are camouflaged by surface similarity). Secondly, the new rules must be acquired, a task which may depend on how differently organised the feature is in the D1 and D2 (i.e. whether the same number of forms/range of distinct functions per form etc), and possibly the extent to which the same or similar D1 forms are ‘recycled’ in the D2. Thirdly, over time speakers need to maintain which rule belongs to which variety. Although this acquisition process shares many important factors generic to SLA (and first language acquisition for that matter; for example, rule complexity and input frequency impact on learning in each case), and although L1 patterns do also demonstrably play a role in learning a second language, SDA and SLA are specifically different in the extent to which the D1 acts as a template for D2 acquisition.

2.3 Linguistic aspects of contact languages in acquisition

In this section I will examine studies of language acquisition in contexts where the difference between L1 and L2 goes beyond accent and minimal grammatical items. In these studies the relationship between the L1 and L2 is much more like the relationship between Alyawarr English and Standard Australian English.

In order to establish whether language acquisition in these contexts is subject to processes similar to those characteristic of second dialect acquisition, I will focus specifically on what these studies reveal about 1) the extent to which the L1 is demonstrably the base for L2 acquisition and 2) the extent to which the subsequent development of the L1 and L2 as separate codes (as opposed to one more complex code or language) is evidenced.

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6 Some studies with subjects that demonstrate this kind of bidialectalism to varying extents include Kobayashi (1981), Dyer (2004), Kerswill (1994), Ivars (1994)
Stern’s (1988) study of Swiss-German (SG) speaking children’s acquisition of Standard German (StG), demonstrated that they initially “rely strongly on the SG lexical base, transforming the phonological and morphological surface structure of SG into StG” (p139). He thus likens early acquisition to the development of a new register within the L1. Acquisition of tense morphology proceeds in a more complex manner, however, showing both evidence of systematic derivation from a SG base, and arrays of expressive strategies typical of other learners of German as a first or second language (such as relying on an “do’ aux + infinitive’ combination to express past). Though the second question of whether there is evidence of development of separate codes is not directly addressed by Stern, the final stage of acquisition is mastery of the L2 system; suggesting the acquisition of two separate tense systems.

Fairclough’s (2005) comparative study of Standard Spanish learners of either English or non-Standard Spanish backgrounds reveals similar processes. While learners who speak a non-Standard Spanish variety overall performed better than learners with non-Spanish backgrounds, they also had unique characteristics. For example, in a cloze exercise targeting hypothetical forms, native speakers of non-Standard Spanish systematically produced either the target form or the equivalent L1 form. By contrast native English speakers produced a range of non-target forms, with a “tendency to use indicative forms or to leave blank spaces” (p125). Because the native-Spanish speakers continued to produce L1 forms to some extent throughout the longitudinal study (i.e. post-instruction), Fairclough concludes that their second language acquisition seems to be an “additive process in which the home variety competes with the standard dialect, thus generating a more complex linguistic system” (p131). In other words, these learners “do not seem to differentiate their Spanish as two separate systems” (p131).

In a series of studies of L1 speakers of Caribbean creole varieties leaning Standard English in the mainland United States, Clachar (2004; 2005) demonstrated that speakers of basilectal creole L1s went through an additional stage of tense-aspect acquisition prior to the ‘universal’ processes of second language acquisition (in this case as predicted by the Aspect Hypothesis, which is discussed in detail in Chapters 6 ($6.6$)). At this earlier stage, their Standard English is demonstrably more similar to their L1

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7 Speakers in this category were from a variety of South and Central American countries, as well as native Spanish speakers from within the United States who spoke a non-Standard variety as their L1.
than the patterns predicted by the Aspect Hypothesis (contrary to other L2 learners whose first stage was predicted by the Aspect Hypothesis). Clachar (2004: 163) further concludes that these students “have difficulties building a separate mental representation for standard English because of the blurred boundaries between standard and creole-English”.

The results of these studies appear to support the argument that the L2 of contact language-speakers is built on a L1 dialect/creole base, contrary to other second language learners but like the second dialect speakers described above. In each case it was also asserted that, at least for some time, these learners fail to differentiate between aspects of their L1 and their newly acquired standardised variety.

2.4 Socio-political aspects of SDA

As well as the linguistic factors already discussed, second dialect acquisition also often occurs in contexts with a specific set of social and political challenges. (In this section I use the term ‘dialect’ to cover both dialects and contact languages discussed in sections 2.3 and 2.4 above.) This thesis deals with child learners, so I will focus on how these factors play out within education systems, since for many child SDA learners, the school is the first site of language contact. Of particular relevance are situations in which children bring with them a vernacular (and usually largely unwritten) D/L1 variety, and are exposed to a standardised D/L2 variety in schools. In Australia, regional and remote-living Aboriginal and Torres Strait Islander children often speak a variety of English at home that is not the same as Standard Australian English (SAE), which is the medium of instruction in schools.

In general, there is a lack of knowledge or recognition of these home varieties within Australian schools. The students who speak them have been called ‘hidden’ language learners, and the concept of ‘visibility’ has been useful in illuminating why this is the case (e.g. McIntosh, O’Hanlon & Angelo 2012; Sellwood & Angelo 2013). As we have seen, at a linguistic level, the surface similarity between dialects can complicate the detection of differences by speakers. It can also impede recognition that dialect speakers are in fact not native speakers of SAE, and thus must learn SAE as an additional dialect. Often these varieties are not formally named, and this too impacts on their visibility as
legitimate ways of talking, particularly within populations whose exposure to ‘other’ languages is mainly in terms of foreign languages that come with names and nationalities. Students who speak a dialect other than SAE at home are much less likely than speakers of foreign languages to have their language background formally recorded by schools in enrolment data, and in standardised test data (Dixon and Angelo 2014).

When educators are unaware of what dialectal variation sounds like, it is easy for them to perceive this speech as simply error-laden⁸. Sadly, competing explanations for these language differences are too readily available in the form of narratives of ‘language of poverty’. At times, these misconceptions have resulted in the provision of speech language interventions (developed for children with cognitive language delay) rather than appropriate support (Sellwood & Angelo 2013). Conversely, the perception of closeness between the L/D1 and SAE can lead to a hands-off approach, with the expectation that students will just ‘pick up’ SAE with exposure. As we have seen above, this is out of step with the literature on SDA, which highlights how hard this process can be, especially for adults (McIntosh et al 2012). At the classroom level, when teaching is not underpinned by SLA/SDA pedagogy, standard usage is sometimes explicitly modelled, mainly in the form of correction, although in an ad-hoc and unmotivated way (Disbray, Dixon & Simpson 2013). And schools also bring their own priorities and foci to the mix: Sellwood & Angelo (2013) note that in Northern Queensland creole-language contexts, students’ needs for specific SAE instruction are often framed in terms of ‘literacy and numeracy’ rather than second language acquisition.

Educators can also easily mistake students’ use of a contact language L1 for a traditional Aboriginal language, especially when it is spoken at full speed in the midst of a lively aside or during class breaks. And this can potentially have surprising consequences for how educators assess their students’ progress in SAE. For example, I was once called into the classroom at Ipmangker by a teacher who was keen for me to hear the children speaking their traditional language, Alyawarr. I had previously discussed that I was interested (as were parents) in finding out how much Alyawarr they knew, since I hadn’t observed any children speaking in this language (though it was often spoken to them by older adults). As it turned out, the children were speaking their usual rapid-fire

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⁸ As I will show in the following chapter, even within the research literature error analysis is particularly problematic for the assessment of second dialect acquisition
Alyawarr English. The fact that the teacher ‘heard’ this as Alyawarr (a language radically different from English at every level) could lead the teacher to in fact over-estimate the students’ ability to produce SAE: when students produced slowed-down Alyawarr English, of the kind of short response required in a large part of classroom interaction, they were comprehensible to teachers. This could be interpreted as ‘learner English’ (in contrast to Alyawarr), rather than Alyawarr English (in contrast to faster, more complex Alyawarr English). This could further lead an educator to conclude that if they had come so far without there being an explicit SLA pedagogy in the classroom, then they’d easily learn the ‘last bits’ by exposure alone as well.

Finally, even when educators are generally cognisant of the language backgrounds of their students, this does not guarantee an adequate classroom response (Angelo and Carter 2014). The development of effective pedagogy for supporting second dialect acquisition is an ongoing endeavour across Australian educational jurisdictions (though see Angelo and Carter 2014; Malcolm and Königsberg 2007; Berry & Hudson 1997).

With this thumbnail sketch of the issues in this area, I hope to have demonstrated that the linguistic issues covered above (§2.2 and (§2.3) sit within a broader set of challenges to second dialect acquisition. As with second language acquisition, challenges to second dialect acquisition arise beyond the cognitive demands of language learning per se. While these are not the primary focus of study in this thesis, they are important considerations when building a complete picture of second dialect acquisition.

2.5 Conclusion

In this chapter I have outlined several ways in which the similarity between first and second languages can impact on language acquisition. From the examination of (more-or-less) similar linguistic contexts a set of questions has emerged, pertinent to understanding how Alyawarr English-speaking children go about the task of learning SAE. Firstly, do Alyawarr English-speaking children use this language as a model for SAE? That is, do they start off speaking Alyawarr English and gradually re-write the parts that they detect are different? The corpus used for this thesis can certainly attest to the absence of an initial silent period to the extent that is sometimes characteristic of other L2 learners, particularly children. For like second dialect learners they chat away
to their teachers, and other school visitors, from the first days of school. Does it necessarily follow, then, that the process of acquisition is more like that observed for SDA than SLA? If so, do they experience a similar set of challenges in terms of detecting differences between Alyawarr English and SAE? What makes contrastive features salient, and what keeps them hidden? And finally, can they maintain competence in two separate varieties, or does the process of acquiring SAE result in one mixed language?

I also raised the complexity of socio-political issues that, while backgrounded for this thesis, are usually at the forefront of students’ daily experience as language learners. For educators too, L1:L2 similarity raises additional challenges when their training and support structures have inadequately prepared them for responding to multilingual student populations. There is another group of individuals for whom L1:L2 similarity raises its own set of challenges: linguists who are interested in learning more about the processes of language acquisition and change. Before I formulate a plan to address some of the many interesting questions raised in this chapter, I will examine the need for methodological advancement in this area.

\* It’s also possible that this kind of early interaction is facilitated by teachers who have an ‘ear’ for non-standard SAE speech from having worked in the Northern Territory for some time (this was certainly the case for one pre-school teacher captured in the corpus).
3 THE PATH TO A NEW METHODOLOGY FOR ANALYSING BIVARIETAL CHILD LANGUAGE

Language is then seen as a dynamic process evolving through space and time; ‘leaky’ grammars, variants that fit no system, conflicting native-speaker intuitions - all the problems that vexed previous formulations are now seen as the inevitable consequences of spatial or temporal segmentation of what is really a seamless whole. It follows that to speak of ‘dialects’ or even perhaps ‘languages’ may be misleading; these terms merely seek to freeze at an arbitrary moment, and to coalesce into an arbitrary whole, phenomena which in nature are ongoing and heterogeneous.

—Bickerton (1973: 643)

3.1 Introduction: the challenge of analysing closely-related languages in acquisition

Approaches to multilingual child language typically rely on a core assumption about the languages represented in their data. Specifically, that it is possible to discern the language of each utterance in a data set as L1 or (an attempt at) L2. In contexts where there are significant structural and lexical differences between L1 and L2 (e.g. L1 Japanese; L2 English e.g. Hakuta 1976) this may be a somewhat straightforward activity. The researcher essentially uses the known structures and lexicon of adult L1 and L2 varieties (and in some cases normative descriptions of child language) to assign each utterance to either L1 or L2. Ambiguous cases can easily be excluded without compromising the representativeness of the data set.

In the present case, the utterances of the participating children cannot be so easily assigned and ambiguous cases in fact make up the majority of the data set. There are a variety of reasons for this, not least of which is the lack of description of Alyawarr
English (AlyE) and the likelihood that there is a large degree of structural overlap with Standard Australian English (SAE)\(^1\).

Figure 3-1 depicts this situation. We can be relatively sure of what forms are unique to Alyawarr English, by virtue of the fact that the wealth of descriptive work on SAE provides strong grounds for determining features that are ‘not SAE’ and therefore ‘AlyE only’. (The extent to which standard descriptions of SAE constitute the input and therefore the ‘target’ of the children’s SAE acquisition is an issue I return to below.) For example, the form \textit{minyu} as a first person dual pronoun is not used in SAE (‘we’ serves this purpose), neither are the transitive verb suffix \textit{-im} or aspeutal verb suffix \textit{-bat}. It’s harder to determine which features belong solely to SAE and which features are shared. In the absence of comprehensive descriptive work, the consequence of this structural overlap is that it is not possible to sort utterances \textit{a priori} on structural grounds without also implying a variety of attendant assumptions about the language behaviour of the participating children. I will illustrate how this plays out with reference to data from the current corpus.

**Figure 3-1:** Structural overlap between Alyawarr English (AlyE) and Standard Australian English (SAE)

Sentences\(^2\) (1) and (2) were both taken from recordings of children playing at home and as such could be taken as likely cases of Alyawarr English. However they could also pass

\[^1\] Also, there are many bilingual communities where separate codes might be distinguishable at the lexeme/morpheme level on etymological grounds; however community-wide multilingual practices don’t appear to orient to such separation as a relevant construct. Sometimes this gives rise to nomenclature such as ‘Hinglish’ (Hindi-English e.g. Parshad, Bhowmick, Chand, Kumari & Sinha 2016), ‘Taglish’ (Tagalog-English e.g. Bautista 2004), and ‘Portuñol/Portunhol’ (Portuguese-Spanish e.g. Lipski 2006).

\[^2\] Clauses from the HOME dataset are presented in the Kriol orthography, with traditional language Alyawarr-derived words in italics (this is not to make a claim that they are borrowings, just to give the reader an idea of how words from Alyawarr are incorporated into Alyawarr English). Clauses from the SCHOOL dataset are presented in the English orthography, with free translation only provided if the meaning is likely to conflict with that of a Standard Australian English interpretation. More information on transcription conventions is detailed in Chapter 4 (§4.6)
as unremarkable examples of SAE. Aside from phonology, there are no lexical items or syntactic differences that indicate ‘not SAE’.

(1) Am kliningap, reken.  
    (cleaning up toy plates and meal items)  
    Am klin-ing-ap reken  
    1SG.SBJ clean-ING-ADV reckon  
    ‘I’m cleaning up, (I) reckon.’

(2) En ai go bek.  
    (Moving toy car along ground)  
    En ai go bek  
    And 1SG.SBJ go back  
    ‘And I go back.’

Even many of the most frequently occurring grammatical morphemes appear to be part of Alyawarr English and SAE. For example, the verbal ending *ing* is an aspect morpheme in SAE and occurs frequently in data that appears more Alyawarr English-like. Sentence (3), below, looks like an SAE clause: it is being said to the researcher in a school situation, and contains other structural features that don’t occur so frequently in clauses with Alyawarr English-only features and contexts: in this case, the (contracted) present tense auxiliary ‘s’ and the preposition ‘to’ (pronounced as ‘da’, which is also something native-SAE speakers produce). Sentence (4), seems more Alyawarr English-like: another young girl is playing at home, and uses the 3sg subject pronoun form *im* rather than the standard English ‘it’ (she’s referring to an egg). Therefore the presence of *-ing* cannot reliably be used to determine if a clause is AlyE or SAE.

(3) Tracy goin da Alice Springs.  
    (Talking to researcher at school)  
    [SJD-068:312 Alysha SCHOOL]

(4) Im kukan.  
    (Pointing out that an egg is cooking in a fry pan)  
    Im kuk-ing  
    3SG.SBJ cook.ING  
    ‘It’s cooking.’

Note that here I have relied on the analysis of contracted ‘is’, ‘to’ and *im* ‘it’ as truly contrastive: that is, I have suggested that the former forms (‘is’ and ‘to’) are ‘SAE-only’ while *im* ‘it’ is ‘AlyE-only’. But this is not actually categorically the case in the corpus. Speakers who use ‘is’ also produce zero-auxiliary constructions, and speakers who use *im*, also use ‘it’. It could be that these items are very strongly assigned to separate codes and so they are reliable markers of code-switching. However, because this is both child
and learner data, there are other possible explanations for this variation in addition to code-switching.

First, the absence of a ‘L1-only’ form is not necessarily indicative of an attempt at L2. For example, the verbal transitive marker (-im) is a feature unique to the L1 (since SAE has no transitive morphology), so its absence could potentially be used to indicate an SAE clause. However, doing so precludes the possibility that transitive marking is actually a variable feature in Alyawarr English. In fact there is good evidence that this is the case, as reflected in example sentence (5).

(5) Hu **gat** thet thing wan? … Thisan wen im **gatim** dres.
    Hu gat thet thing wan. Thisan wen im gat-im dres
    Who has DET thing one DEM SUB 3SG.SBJ got-TR dress
    ‘Who’s got that thing one? … This one that has the dress?’

    **(Asking other children who has a particular item of doll’s clothing)**
    [SJD-069:878 & 881 Lenora HOME]

While transitive marking may be a frequently occurring ‘non-SAE’ feature, and therefore potentially very useful as a diagnostic, to assume that any transitive clause without transitive marking is an attempt at L2 is to incorrectly ‘standardise’ the L1 in a way that does not accurately reflect actual usage. If this baseline variability were overlooked, this would result in clauses being over-assigned to the ‘L2’ category. Transitive clauses lacking the transitive marker that occur in the home context would then be interpreted as ‘SAE’ and, by extension, as an instance of code-switching.

Conversely, the presence of a ‘L1-only’ feature, like transitive marking, in an otherwise SAE-looking clause or context does not necessarily rule out that the clause is an attempt at SAE. In sentence (6), Lenora is pointing to an image on the computer screen to indicate which image she would like printed for her collage project. While she produces the transitive marker -im on the verb, she also produces the subject pronoun ‘I’ which is variably used with the ‘AlyE-only’ variant am and also the phrase ‘this one’ rather than the ‘Aly-only’ variant thisan.

(6) I **wantim** this one. **(telling a teacher which computer image she wants printed out)**
    [SJD-039-C:633 Lenora SCHOOL]

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As it is in many contact Englishes in Australia and the Pacific (Meyerhoff 1996).
In learner data like this, the literature, as discussed in Chapter 2, suggests that it is prudent to assume that there would be some cross-linguistic influence\(^4\) such as transfer. L1 transfer occurs when structures from the L1 infiltrate L2 language use, as is evidenced when the L2 productions deviate from standard usage in a way that can be accounted for with reference to L1 grammar. Transfer might occur in phonology, in non-standard usage of L2 forms in ways that can be traced to L1 patterns or semantics, or in the underlying processing strategy used\(^5\) (Liu, Bates & Li 1992). Moreover, the SDA literature gives good reason to anticipate that children’s Alyawarr English could be the template for their acquisition of SAE. As such, use of L1 morphemes, (in addition to more underlying L1 patterns) is also to be expected. If this is the case, then we need a data set that captures this process: so allows for the use of L1-only forms by the children even as they begin to use L2-only forms and doesn’t edit such tokens out as cases of L1 use because of the presence of ‘L1-only’ features.

The presence of ‘L2-only’ forms could be an indicator of an attempt at L2, even in home contexts. For example, the young girls in particular frequently produce speech that appears to more closely resemble SAE than AlyE when speaking as a character or animating a toy, even in the home environment. Example (7) shows a sentence produced by Alysha which she is voicing a small doll talking to another child’s doll. The use of copula ‘is’ and plural -s are two features of SAE that vary with the following ‘Aly-only’ structures in the corpus: zero copula in present tense clauses, and the use of dual (-atherr) or plural (-rmem) suffixes respectively.

(7) Weya mai hai shus? Weya is it?
Weya =s mai hai shu-s? Weya is it?
where =is 1SG.POSS high shoe-PL where is it
‘Where’re my high-heel shoes? Where are they?’
(Speaking as a little doll which she is dressing up)
[SJD-069:945 Alysha HOME]

However, there are other cases that are more ambiguous, and clauses which would otherwise appear to be Alyawarr English can contain features that seem to be ‘SAE-only’. For example, the following sentences were produced by Simon in a home play

\(^4\) I follow others (e.g. Sharwood-Smith & Kellerman 1996; De Houwer 2009:282; Ringblom 2012:143) in using this as an umbrella term to over a range of phenomena such as has been referred to as ‘(forward and backward) transfer’ (e.g. Hamers & Blanc 2000), and ‘interference’ (e.g. Weinreich 1953).

\(^5\) O’Shannessy (2009) provides an exploration of this with reference to an interesting case of mixed language/substrate bilingual acquisition.
recording. Of interest is the doubling up of expressions of locational relationships: he uses SAE-like prepositions with ‘AlyE-only’ peripheral case suffixes. In sentence (8) he uses both ‘with’ and -akert, in sentence (9) he uses both ‘from’ and -they, and in sentence (10) he uses both ‘on’ and -itwew. The research assistant who transcribed this passage found such doubling up to be ungrammatical from the perspective of adult Alyawarr English use. This raises the question of how to classify such clauses on structural grounds when they contain both of the forms which might otherwise (for other speakers and in other contexts) be contrastive? In any case, recall that due to the lack of descriptive work on Alyawarr English and the fact that it still may be in the later stages of development itself, just which forms are ‘SAE-only’ remains tentative.

(8) …theya with gan-akert, with gan.
   theya with gan-akert with gan
   there with gun-HAV with gun
   ‘…there with the gun, with the gun.’
   [SJD-048:328 Simon HOME]

(9) …fram tha rop-they.
   fram tha rop-they
   from the rope-ABL
   ‘…from the rope.’
   [SJD-048:350 Simon HOME]

(10) Na i gat jampan thet ka-itwew.
    Na 3SG.SBJ got jump-ADV DET car-LOC
    ‘No, he’s got to jump on that car.’
    [SJD-048:393 Simon HOME]

Finally, equivalent surface forms in both varieties may mask different underlying analyses in each language. For example, the complete data set contains three forms of 1sg subject pronouns: ‘ai’ (/ʌ>aɪ/), ‘am’ (/ʌm/) and ‘mi’ (/mɪ/) - the variation between the first two is demonstrated in examples (11) and (12). If the school data were analysed using a ‘SAE-target like use’ approach, instances of ‘am’ may be interpreted as the contraction of 1sg ‘I’ and the auxiliary/copular ‘am’. However, ‘am’ also occurs in Alyawarr English, including in contexts where it would be ungrammatical in SAE. Thus, the use of ‘Am’ in the L1 pronominal system would first need to be established in order to determine if it has the same underlying analysis in each speech variety. If there is evidence that ‘Am’ is not a contracted form in the L1, as it is in the L2, and has a

* Which originally come from the traditional language Alyawarr.
different distribution, then its utility as a diagnostic of SAE, in progressive clauses at least, is problematic.

(11) Am hepim im thipthip (playing ‘Guess Who’)

\[
\begin{array}{llll}
\text{Am} & \text{hep-im} & \text{im} & \text{thipthip} \\
1SG.SUB & \text{have-TR} & 3SG.OBJ & \text{bird} \\
\end{array}
\]

[SJD-063:737 Simon HOME]

‘I have the bird’

(12) Ai noim bat arrakert’ (copying another child’s sand drawing)

\[
\begin{array}{llll}
\text{Ai} & \text{no-im-bat} & \text{arrakert} \\
1SG.SUB & \text{know-TR-BAT} & \text{mouth} \\
\end{array}
\]

[SJD-068:202 Alysha SCHOOL]

‘I know ‘mouth’’

Similarly, while the transitive marker mentioned above does not occur in SAE, the object pronouns 3sg ‘him’ and 3pl ‘them’ can be contracted to the verb in precisely the same position and form (i.e. ‘em’). In clauses where no other object is expressed, it can be impossible to tell if this morpheme should be analysed as a transitive marker (and therefore AlyE) or a contracted object (and therefore SAE).

All of these challenges for structural diagnostics have the same source: the multiple possible sources of variation in the data. The presence or absence of a particular linguistic form in a given clause may be evidence of which language is being targeted. But equally it could reflect use of a feature in question being variably, not categorically, distributed in the target language (per transitive marking, discussed above). In such cases variable expression of a feature by children may reflect the children’s acquisition of variable language features. Further, child language systems (L1 and L2) are developing systems (as are adult L2 systems) and as such tend to variably produce features that are categorical in the ‘target’ (so-called ‘Type 1’ variation, discussed further in Chapter 4). So variation in the data may be a feature of the child’s maturing grammatical systems.

To further highlight some of the issues that arise in this kind of data context, I will now explore a number of different studies that have dealt with very similar data. Given the similarity in linguistic data and context, these studies may have provided a methodological template for the present study. However, I will show that the reliance on

\[\text{\[\text{\textsuperscript{7}}\text{This example was ultimately excluded from analysis for reasons outlined in Chapter 4 }\text{\textsuperscript{\textsuperscript{4.5.1}}}}\] }
formal criteria to separate codes entails a number of compromises that I hope to overcome in the present study.

A large body of work describing and analysing various aspects of African American English (AAE) has accumulated over the past thirty years. AAE shares many overlapping structures with Standard American English (SAmE), and contains features distinct from SAmE which have come to be highly visible as markers of AAE (for example, invariant *be*, copular omission etc). Much early descriptive work on AAE focused heavily on these contrastive forms, and the ‘feature lists’ generated from this work have become a widely used diagnostic tool for identifying AAE usage. Feature lists have mostly been generated with reference to adult speech norms, but have been applied to the analysis of child speech (e.g. Horton-Ikard & Weismar 2005). Features included in such lists are often treated as having equivalent SAmE forms, such that an AAE utterance can be easily recalibrated to SAmE by swapping the AAE feature to the SAmE feature. Features that are the same in both languages are seen as ‘overlapping’ and generally not the focus of study. Using this tool, studies of child AAE tend to be restricted to counting the frequency of listed features, and making various interpretations of the decline or rise of frequency over time.

One widely used application of feature lists is the dialect density measure (DDM) (Craig and Washington 2004, 2006), which is calculated by dividing the total number of AAE features by the number of utterances in the sample. When applied to the speech produced by African American children in a schooling context, a decline in the DDM has been interpreted as evidence of greater ‘style-shifting’ to SAmE (Craig & Washington 2004; 2006, Renn, 2010). This interpretation overlooks the other possible sources of variation in the data. Firstly, during the early years of schooling, changes in frequency might be additionally attributable to the continued development of child AAE (i.e. L1) grammar “such that the features come to be used more selectively and in more defined linguistic environments that are compatible with adolescent and adult AAE” (Green 2011:27). In other words, common interpretations of DDM don’t consider

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* In studies of this genre it is generally unclear what the role of acquisition is in this process. By and large ‘dialect shifting’ is treated as a “spontaneous response by African American students to immersion in the SAE of classrooms” (Craig & Washington 2004: 460). The framing of decreased use of dialect features as “learning to dialect shift” (Craig & Washington 2004: 452) rather than as ‘acquiring a second dialect’ seems to presuppose the existence of issues of code-separation, although typically the theoretical implications of the use of this terminology are not explored.
that variation in the data might be due to the ongoing development in the L1, in addition to the acquisition of second dialect features and systems. This is particularly relevant to studies which use language data sourced from ‘free play’ contexts (e.g. Washington, Craig & Kushmaul 1998), where there is likely less situational pressure to attempt SAmE use, and so data collection is more likely to sample L1 use. There may still be variability in this data, but it may be attributable to L1 development, rather than SAmE acquisition.

Secondly, and relatedly, it is not clear how AAE forms that are variably expressed in AAE are treated under the DDM. Green (2011) notes that, for example, there are some environments when zero copula (a robust and noted feature of AAE) is not permitted in AAE, such as following first person singular pronouns. A child might begin producing zero copula constructions such as (13)a, and eventually produce the utterance (13)b (which is the grammatical structure from the perspective of both adult AAE and SAmE).

It is not clear how such situations are controlled for in the DDM since studies using it typically don’t identify such instances of non-salient, non-grammatical L1 use and incorporate them into their analysis. Rather, it appears that the development of the grammatical construction in this case would be counted as a decline in DDM. Since the DDM is actually interpreted as a measure of SAmE use, the decline would be misleading in this case.

(13)  a. *I happy

               b. I’m happy

The use of feature lists and its application in the DDM highlight the limitations in studying child language from a perspective which solely focuses on salient, contrastive L1 forms, and fails to investigate their function within the developing L1 and L2 systems.

Closer to home, there has been a recent surge of interest in the language use of children very similar to those in the present study (e.g. Meakins and O’Shannessy 2005; O’Shannessy 2010; Disbray 2008a; Moses & Yallop 2008). Loakes et al (2013) describe a language context similar to the present study: young children mainly speaking Kriol (an English-lexified contact language) in a remote community where Walmajarri (a traditional Australian language) and SAE are additionally spoken. Their analysis relies
on coding each morpheme as one of these three languages. To do this, they relied on extant grammatical descriptions, as well as assessment based on researcher “familiarity with the languages in the region” (p697), though it is unclear how the latter was systematised. The authors acknowledge a number of challenges to this process, which reveals some inadequacies relevant to the argument being developed here. Firstly, despite acknowledging the problems with feature lists the authors do seem to still rely on categorisation according to the form of words and morphemes. For example, they state: “[t]here are also a number of cases in which Kriol grammatical structure clearly demarcates the form used as Kriol” (p699). They acknowledge that one consequence of this coding method is that it does not capture variation within the Kriol-continuum as all ‘acrolectal-basilectal’ variants were simply coded as ‘Kriol’. I would add that, while the context is quite different to my study (there are no recordings in a ‘SAE environment’ like a classroom for instance), the same cautions apply regarding what the presence or absence of certain features in individual clauses might reliably indicate (as discussed above).

The issue of determining whether particular lexical items are instances of loans into Kriol versus code-switches to one of the other languages was resolved as follows: “words with a Walmajarri phonological structure are counted as Walmajarri words⁹, and words which are spoken with standard English pronunciation…are counted as English” (p699). However, there is no discussion of situations where two pronunciations (either Walmajarri and Kriol or Kriol and SAE) overlap. The authors state that “SAE might be slightly under-represented in the analysis” because of the “lexical overlap between the varieties” (p699) – presumably because potentially overlapping Kriol/SAE words were counted as Kriol. With respect to potential overlaps between Walmajarri and Kriol words, this situation is not discussed. However, one example is possibly revealing: a seven-year old child is talking “almost entirely [in] Kriol” and then uses the “Walmajarri tag question payi ‘is that OK?’” (p702). It is not made clear on what grounds payi is coded as Walmajarri – phonological or etymological – since it is reasonable to assume that its pronunciation would be the same once ‘incorporated’ into Kriol. The phonetic representation of payi is /paɪ/ according to the orthographic conventions used in the

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⁹ Although it has been argued that “phonological criteria are not reliable indicators of loanword integration” (Poplack & Dion 2012: 284) when compared to grammatical criteria, since speakers can and do pronounce non-integrated loans within the bounds of their L1 phonology. In other words, Walmajarri speakers may pronounce nonce borrowings from English in a ‘Walmajarri-sounding’ manner.
paper (Hudson & Richards 1978). The stop-glide structure of this word also satisfies phonotactic constraints of Kriol words where the orthographic representation of the glide is ‘ai’: e.g. bai ‘bye’; bambai ‘later’; pai ‘pie’; dai ‘die’ (Lee 2014). It is not clear if the authors deal with cases like payi as borrowings from Kriol or as an instance of code-switching.

Two further observations of the methodology employed in this study also elucidate the challenges working with the present data set. Firstly, mention is made of the variation within the Kriol ‘continuum’ of structures. However, there is no acknowledgement of the potential for variation within the other languages – Walmajarri and SAE – (both in their documented ‘standardised’ forms and in their actual use in the community) and how this might affect the classification of utterances, since it may result in more analytically problematic, ‘overlapping’ structures. Related to this, while the data is focused on both child and adult language use, it is not clear that any accommodation has been made to the possibility that children use forms and structures in ways that are different from adults. Reliance on grammatical descriptions of adult usage may be of limited utility in categorising components in the lexical and grammatical systems in the speech of young, emergent multilinguals, particularly in cases where a contact language is in the mix. Ultimately the aims and conclusions of Loakes et al (2013) were very different from the present study, so the exploration of their methods is not offered as criticism, but rather as a means to highlight some of the complexities of working with data sets of this type. I am not aware of any other studies that have set about exploring alternative quantitative methods of analysis of such complex data, such as will be developed across the remainder of this chapter.

This section has highlighted some of the limitations and compromises entailed in methodologies that use categorical, formal diagnostics (i.e. based on the appearance or absence of particular items of contrastive morphology) to sort utterances into two separate data sets (L1 and L2). Such formal criteria are typically not attuned to the

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10 There is a small set of studies on several Australian Aboriginal mixed languages, which are spoken in small, remote communities alongside the traditional Aboriginal language from which the mixed language was partly formed. In these studies, structural criteria have sometimes been applied to determine whether utterances are examples of the ‘new’ mixed language, or the ‘traditional’ Aboriginal language. For example, O’Shannessy (2009:423) states that the “diagnostic of Warlpiri is the use of a Warlpiri verb and auxiliary…and the diagnostic of Light Warlpiri is the use of an AE/Kriol verb and Light Warlpiri auxiliary”. In age-graded data collection with children, O’Shannessy (e.g. 2009) has also been able to ask participants to produce either Warlpiri or Light Warlpiri oral texts, and so maintained control over the target of the data set in this way—an approach which more closely reflects the contextual constraint ultimately imposed on the current data set.
fundamental nature of child language as a developing and therefore highly variable, system. The imposition of formal criteria developed from adult speech (e.g. using descriptions of adult native-speaker SAE to determine which child utterances are targeting SAE) (potentially) assumes a false equivalence between forms in child and adult systems. Formal criteria have likewise proved problematic for languages with shared or overlapping lexicon and grammar: the focus has been solely on salient, contrastive forms, and assumptions about their relationship to ‘equivalent’ forms in the local standard English variety. This has resulted in analyses which obscure the functional scope of the forms in question, and their pattern of use (variable or categorical) with respect to other forms in the functional set.

It is the aim of this thesis is to approach child contact-language data in a fundamentally new way. Firstly, I have done away with the methodological starting point of sorting utterances into languages based on formal criteria such as feature lists. Instead I use contextual parameters to separate the corpus into a ‘HOME’ data set, and a ‘SCHOOL’ data set, so each language is operationalised as a set of clause tokens fitting a set of contextual properties. Specifically, clauses in which the child is at home, and speaking to another Alyawarr person are coded as HOME, and clauses in which the child is at school and speaking to a non-Alyawarr person (i.e. a teacher) are coded as SCHOOL. This approach is predicated on the idea that if the participating children do indeed maintain distinct ways of talking (such that we could call them attempts at Alyawarr English and SAE) they will choose one code over another based primarily on who they are talking to and the location in which they are talking. This approach therefore both liberates and challenges the researcher to determine if such code distinctions (L1, L2) do indeed emerge from a systematic exploration of patterns in the dataset.

Secondly, and to that end, I probe the data for patterns which indicate the emergence of separate Alyawarr English and SAE systems, and primarily describe their formal properties in their own right, rather than first considering how they differ from adult standards (although I explore these comparisons as well). This allows us to contemplate the development of the L1 and the acquisition of the L2 as simultaneously operating processes. In the search for a methodology that seeks to 1) elucidate systematicity within language datasets characterised by variation, and 2) at the same time allow for comparison across multiple variable systems, there are several bodies of research which
have served as both theoretical inspiration and methodological guides for this thesis. For the remainder of this chapter I will outline the key studies that have informed the development of a comparative variationist description of early bi-varietal language use.

### 3.2 An overview of comparative work within the variationist framework

Quantitative sociolinguistics—the quantitative study of variable features of language—first emerged in the 1960s and was initially focused on understanding variation produced within speaker populations as a function of socio-demographic factors such as class, race, age, etc. (social variables) and linguistic contexts (linguistic variables). For example, the pioneering series of studies by Labov (1966) demonstrated that variation in the pronunciation of postvocalic (r) in three New York city department stores was a function of various indicators of class stratification, such as race and employee role. From its initial focus on capturing sociolinguistic variation, variationist approaches to linguistics have had several off-shoots that are relevant to the present thesis, methodologically and/or conceptually. These are the study of second language acquisition, creole linguistics (with these two strands having various intersections that continue to be explored), and more latterly in the study of cross-linguistic typology. The common aim across these strands of research is to describe what variable language use looks like in order to better understand how languages are acquired or generated, and as a consequence of the latter, how particular language varieties are related (synchronically and diachronically). I will now look at some seminal work from each field, with a particular focus on the comparative methodology that is used to evaluate the similarity or otherwise between two sets of linguistic data.

#### 3.2.1 Language variation in second language acquisition

The application of the variationist perspective and methodology to the study of second language acquisition has been a relatively recent innovation, with the first quantitative studies appearing in the 1980s. Work in this area has largely occurred at the confluence of the research trajectory originating in the ‘interlanguage’ hypothesis.

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11 For overviews of the development of variationist methodology in L2 acquisition see Bayley (2005) or Preston (1996).
(Selinker 1972), particularly as it regards “the speech of language learners as semi-autonomous linguistic systems, influenced by both the native language and the target language, but fully explainable by neither” (Bayley 1991:1-2). The term ‘interlanguage’ therefore represents and attempt to capture something about the nature of learner speech it terms of it being ‘not yet, but on the way to being the ‘target’ language’. Therefore, the focus of comparison is between the learner language (i.e. interlanguage) and the norms of the ‘target’ language (i.e. L2)\textsuperscript{12}.

Until this point, language learning had “traditionally been viewed as a movement from randomly variable to categorical application of target language rules” (Bayley 1991:1). The consequences of this view are that traditional approaches to second language acquisition have focused on the beginning and end points of acquisition, but not what happens in between. The primary contributions of the variationist perspective on second language acquisition have been 1) to demonstrate that language use during the “randomly variable” period is in fact systematic and 2) to apply quantitative tools for analysing these variable phenomena. In particular, longitudinal (real or apparent) analysis of data “reveals the progress of linguistic change” (Preston 1996:8) though in the individual learner rather than in the speech community.

Variation in the language of L2 learners has been considered along two vectors. Firstly, some analyses consider the variable production of particular linguistic items that are bound to categorical restraints in the target language. For example, Young (1991) examines the variable use of plural -s in Chinese learners of English—a feature that is categorically assigned to count nominals with plural referents by native speakers of English. This type of variability is sometimes termed ‘vertical’ (Corder 1981; Young 1991) or ‘Type 1’ variation (after Rehner 2004), and is contrasted with the complementary terms ‘horizontal’ or ‘Type 2’ variation. This latter type refers to the process of acquisition of features that are themselves variable in the target. For example, Mougeon, Nadasdi & Rehner (2010) examine and compare the use of formal versus

\textsuperscript{12} I make no particular case for the use of the term ‘interlanguage’ over other less theoretically-laden terms such as ‘learner language’ or simply ‘L2’. However I use this term in the context of discussing studies that operate within this interpretive framework.
informal variants in learner and native speaker French. This process is also described as acquiring ‘sociolinguistic competence’ (Bachman 1990)\textsuperscript{13}.

At their core, each of these approaches has a shared set of principles regarding learner language. Firstly, as with variation within native speaker populations, variation in learner speech is understood to be not random, but given to orderly or “structured heterogeneity” (Weinreich, Labov & Herzog 1968: 99–100). This orderliness can be described by looking for systematic correspondences between the choice of a particular form (over another) and other features of the linguistic or social context in which that choice is made. While early studies tended to focus on a single cause variable, it is now well evidenced that there are multiple factors which impact on learner productions, each with varying contribution to the overall probability that one form or another will be used. This has been called the ‘principle of multiple causes’ (Young & Bayley 1996). The contribution of multiple factors can be modeled statistically using a multivariate analysis procedure (such as the logistic, step-wise regression procedure used in this thesis and discussed further in Chapter 4, §4.5).

The types of factors which constrain variation are both linguistic/internal (grammatical, lexical, phonological) and external (social). Internal factors refer to aspects of the immediate linguistic context, such as the presence or absence of other linguistic features in the clause (or recent context, as with priming) that might impact on the choice between one variable form and another. External factors are features of the speaker (class, age, occupation) or discourse context (formal speech, informal talk, classroom interaction, interlocutor) that can be shown to systematically impact on the choice. The job of the researcher is therefore to determine the optimal account of the variable expression of particular linguistic structures by testing principled and motivated combinations of internal and external factors. The set of internal, linguistic factors arrived at through this process is taken as representative of the set of constraints operating on the expression of the variable in a particular variety\textsuperscript{14}: in other words, the ‘variable’ grammar. Acquisition is operationalised as a gradual re-ordering of factors.

\textsuperscript{13} SLA or ‘interlanguage’ variation studies have also looked at intersections of the two. For example, Bayley (1996) looked at t/d deletion in emerging second language speakers and native speakers of English. In the learner cohort t/d deletion was more likely to occur if it had the grammatical status of past tense marker; in the native speaker cohort t/d deletion is more likely when the morpheme is not a regular past tense marker. Bayley (1996) found that learners with more contact with native speakers were subject to the native speaker variable rule and t/d deletion was more frequent on past tense morphemes.

\textsuperscript{14} For this reason, the terms ‘factors’ and ‘constraints’ are often used interchangeably.
over time (e.g. as variants acquire new functions or new variants are integrated into the system); eventually conforming to the parameters of categorical or variable use (or a combination of both\(^{15}\)) of the feature in the target language. Or, when the initial variable grammar closely reflects the target (potentially because of positive L1 transfer), then the main observable differences over time may be simply the frequency of use of a particular L2 form (Bayley 2005).

The notion of ‘speech community’ as a cohort of speakers sharing the same grammatical norms is a concept robustly quantified and demonstrated in variationist sociolinguistics studies (e.g. Guy 1980; Labov 1989 for a review). Likewise, in SLA studies, learners have been shown to differ in terms of the constraints which constitute their variable grammar at different levels of proficiency (e.g. Young 1991). Learners at different levels could be thought of as ‘communities of shared L2 proficiency’. As we’ll see in detail in the following section, Bayley (1994) demonstrated that the main difference between higher and lower proficiency learners’ marking of past tense was overall frequency of marking (higher proficiency learners used the past tense more often than low proficiency learners), while the underlying variable constraints remained constant. That is, the same sets of factors impacted on the use of past tense marking in both proficiency groups. Thus, the analysis of the variable grammar can reveal shared systematicity underlying differences in frequency. Much work has also been devoted to exploring whether speakers of the same L1 constitute a cohort with respect to their acquisition of a given L2, particularly in terms of shared L1 transfer effects (see also Bayley & Langman 2004). Generally, though, variationist accounts of acquisition proceed cautiously regarding this question, and have methods for examining data sets for group dynamics prior to the application of statistical models that assume such cohesion (Bayley & Tarone 2012).

Before we go further I will make two points of clarification regarding the terms ‘interlanguage’ and ‘variation’. Studies notionally within the field of interlanguage description range from those that acknowledge the potential for systematicity of the interlanguage system (at a given point in time) but operationalise their descriptions from a ‘target’ perspective: e.g. using performance-assessment approaches such as

\(^{15}\) Features that are variable in the ‘target’ are likely to have some categorical constraints as well. The grammar of a feature can therefore be said to consist of the sum of variable and categorical constraints. The focus of acquisition studies discussed in this section tends to centre on the set of variable constraints. I will discuss below (§3.2.3) recent studies that have more directly incorporated the set of categorical restraints into comparative work, and have informed the present thesis.
standardized achievement tests, suppliance of target forms in obligatory contexts, and grammaticality judgement tasks (by the learner) to assess learners’ L2 achievement\textsuperscript{16}. At the other end of the scale are studies which attempt to describe the interlanguage systematicity on its own terms (e.g. asking questions such as ‘what is the learners’ system of negation’) and often tracking changes in this system over time\textsuperscript{17} (real or apparent\textsuperscript{18}). Similarly, the term ‘variation’ is used both broadly to mean any kind of difference (e.g. ‘variation/difference’ between native and L2 speakers) and in Labovian sense of ‘different ways of saying the same thing’ (Labov 1972a: 271). That is, for a given linguistic variable (e.g. past tense marking, negation, plural marking) there are multiple variants, and the study of variation is the examination of the choice between variants and the constraints on these choices. In both cases, it is the latter sense that is intended here, though reference to studies of interlanguage and variation more broadly defined are made when warranted.

I will now examine each of the types in more detail, with an emphasis on the foci and principles which are relevant to the present study.

\subsection*{3.2.1.1 Studies of ‘type 1’ or ‘vertical’ variation}

As stated above, studies of ‘type 1’ or ‘vertical’ variation examine the variable use, by language learners, of language features that are categorical in the target language. Comparisons are therefore made between as set of learner (i.e. ‘interlanguage’) data (or multiple sets across different proficiency levels), and traditional grammatical descriptions of the target language. The chief methodological contribution of variationist approaches to second language acquisition is the capacity to model multiple sources of variation in interlanguage data (e.g. L1 transfer, universals, stylistic context (i.e. formal or conversational modes) or any number of the “fifty some-odd categories” identified by Preston (1986)), and determine which of these factors contribute to the

\textsuperscript{16} These methods are common in SLA research, though not without criticism. The short-comings of such methodologies are examined in Long & Sato (1984)

\textsuperscript{17} While the fact of change over time is indisputable, the rate of change is an open, empirical question (likely to be dependent on a range of contextual factors, such as the method of instruction, exposure to the L2, individual motivation etc). Each researcher must determine an appropriate time-frame for repeated sampling given the context of their data and the nature of the participant cohort.

\textsuperscript{18} ‘Real’ time refers to studies which re-sample the same participants over time. ‘Apparent’ time studies sample from groups of different proficiency levels (e.g. ‘high’ or ‘low’ proficiency) as a more time-efficient way to capture the acquisition process.
greater proportion of variability with respect to the others (or not at all). This in turn has the potential to contribute to theory development and testing. To illustrate, I will discuss Bayley’s (1994) paper on past-tense marking by Chinese learners of English as a second language. The specifics of the study—past tense marking—are not directly relevant to this thesis and are therefore only briefly and uncritically presented. However, it will serve to illustrate the main features of the variationist method in the context of language acquisition.

Bayley (1994) is interested in morphological marking versus non-marking, but not whether ‘standard’ morphology is chosen, so past tense marking is defined as all instances of tense marking (on verbs with past temporal reference) including those which are incorrect (e.g. regularised forms such as ‘runned’, or non-standard forms such as ‘I seen him’) in standard American English. The overall rate of past tense marking in the corpus was about 38%, as indicated by the ‘input’ in Table 3–1. A number of different explanations for this were then tested, operationalised as ‘factor groups’ within the statistical model. ‘Verb type’ is a measure of phonetic salience: the different ‘factors’ (i.e. suppletive, copula etc) capture the types of change different verbs undergo in order to mark past tense onto the bare verb form. The main aim of this study was to compare this salience predictor with the effect of ‘aspect’ (that is, whether a verb is perfective or imperfective), since (first and second) languages learners have been shown to mark aspectual rather than tense distinctions (per the Aspect Hypothesis discussed further in Chapter 6, §6.6). Preceding/following segment were also included, to control for the effect of processes such as consonant cluster reduction, though I will not discuss them further.

The results of the multivariate analysis (conducted in VARBRUL) are presented in Table 3–1. Verb type (i.e. phonetic salience) is ordered first, which reflects the fact that this factor group has the highest range (i.e. the difference between highest and lowest probabilities). Range can give some indication that this factor makes the largest overall contribution to the variability between zero and overt past test marking, when compared to the other factors in the model. The probabilities, also called ‘factor weights’ are measures of the strength of factor weights within a group, relative to the

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19 Verbs that have the same form in present and past e.g. put were excluded. See Bayley (1994:161) for further details
20 As does the order in which the statistical procedure selects factors for inclusion.
other factors in the group” (Bayley 1994:169). Bayley (1994:169) further illustrates this point:

In a binary factor group…where factor a has a value of .75 and b has a value of .25, a rule is approximately three times as likely to apply when a is present as when b is present.

Aspect is also chosen as a significant constraint. This is likely to arise from perfectivity prototypically associating with past temporal reference. Bayley also notes that the L1 Chinese pattern of perfective marking (with the -le clitic) converges with this typological universal. So there is potential for L1 transfer effects to additionally account for the greater rate of past marking on perfective verbs in this corpus.

<table>
<thead>
<tr>
<th>Table 3-1: Past tense marking in Chinese-English Interlanguage. Partial adaptation from Bayley (1994:170)</th>
</tr>
</thead>
<tbody>
<tr>
<td>input Total N</td>
</tr>
<tr>
<td>Verb type</td>
</tr>
<tr>
<td>Suppletive</td>
</tr>
<tr>
<td>Internal vowel change + suffix</td>
</tr>
<tr>
<td>Internal vowel change</td>
</tr>
<tr>
<td>Copula (except is)</td>
</tr>
<tr>
<td>Replacive</td>
</tr>
<tr>
<td>Weak nonsyllabic</td>
</tr>
<tr>
<td>Weak syllabic</td>
</tr>
<tr>
<td>Modal could, would</td>
</tr>
<tr>
<td>Preceding segment</td>
</tr>
<tr>
<td>Vowel</td>
</tr>
<tr>
<td>Liquid</td>
</tr>
<tr>
<td>Obstruent</td>
</tr>
<tr>
<td>Following segment</td>
</tr>
<tr>
<td>Pause</td>
</tr>
<tr>
<td>Obstruent or liquid</td>
</tr>
<tr>
<td>Aspect</td>
</tr>
<tr>
<td>Proficiency</td>
</tr>
<tr>
<td>High</td>
</tr>
</tbody>
</table>

The ‘Proficiency’ factor group also shows that learners with higher overall proficiency in English are about twice as likely as their lower-proficiency peers to mark past tense.

21 NOTE: the original analysis contains significant external factors ‘Social Network’ and ‘Interview Type’ which are not included here.
However, Bayley points out that work within the variationist sociolinguistic tradition has shown that a speaker can vary in overall rates of use of a feature, yet still share the underlying constraints on its use (per Guy 1991). Therefore, the next step in Bayley’s analysis is to split the data into two groups of learners; those with high overall proficiency in English, and those at lower levels to see if there are more fundamental, underlying differences. The above analysis is then run again, on each of the new data sets. Drawing from the traditional variationist work on dialectal variation, Bayley sets out a number of possible outcomes of the analysis, and their attendant interpretation for the model of SLA they support: specifically “whether second-language acquisition involves repeated restructurings…or whether it proceeds gradually along a multidimensional continuum” (p167):

If second-language acquisition is characterized by restructuring, the results of VARBRUL analyses of longitudinal data or the results for speakers of different levels of L2 proficiency should show that different factor groups constrain rule application and/or that the same factors have substantially different effects for low- versus high-proficiency learners. On the other hand, if acquisition proceeds gradually along a multidimensional continuum, with each factor group representing a single dimension, then once a rule has entered the grammar, both factor groups and individual factors within groups should have very similar effects on the performance of speakers at different stages of acquisition. (Bayley 1994:167-8)

Thus, in addition to overall rates of past tense marking, the focus of the comparative analysis is whether the same factor groups are found to be significant for each group of learners, and, when this is the case, whether there is the same order to the factors within the factor groups (demonstrated by the order of probabilities). Bayley finds just such a case: despite the increase in overall marking among the high-proficiency learners, both groups demonstrate consistent effects of Aspect and Verb Type (phonetic salience), as demonstrated by both these factors achieving significance, and sharing the same order of factors. The results for verb type are reproduced in Table 3-2, and show that the ordering of the factors remains more or less the same in two groups (differences are

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22 Proficiency groups were determined based on scores on the Test of English as a Foreign Language (TOEFL) exam. The use of independent proficiency tests to create a global picture of language acquisition is very common across different approaches to SLA.
reported as ‘non-significant’) indicating that “for both groups the more salient verb types…favour marking, whereas the less salient types…disfavour marking (p171-2). This is despite marking overall increasing from a rate of 28% for lower proficiency learners to a rate of 54% for higher proficiency learners.

Moreover, the percentage point gains (shown in the right-most column) indicate that highly salient verb types lead the acquisition process. For higher proficiency learners, marking on suppletive verbs has reached 80%, reflecting a gain of +37, while marking on the less salient verbs progresses at a much slower rate (with gains of only +11 for modal verbs, for example).

Bayley (1994:176) concludes that this gives strong support to the prediction that L2 acquisition of past tense conforms to a ‘variable rule model’ wherein “acquisition, or movement toward target language norms, consists of adjusting the input probability” without perturbing “the uniformity of the abstract patterns of variation” (citing Labov, 1972a: 121). Detecting and then comparing the variable rules underlying differences in usage frequencies is therefore a powerful way to elucidate how acquisition is actually proceeding.

### 3.2.1.2 Studies of ‘type 2’ or ‘horizontal’ variation

In addition to acquiring the set of categorical grammatical rules of a language, such as that articles go before nouns in English, learners whose goal is to sound as native-like as possible must also become competent with a plethora of variable linguistic features. In contrast to the previous section (‘type 1’ variation), here variable production is part of

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Note that these are not exactly the same as the factor levels presented in the previous table. The motivations for restructuring the data are discussed in Bayley 1994.
the ‘target’ of acquisition as they are grammatical features for which native speakers alternate between two or more forms, in certain linguistic or social contexts. Therefore, studies ‘type 2’ or ‘horizontal’ variation compare interlanguage and native speaker (i.e. ‘target’) data, however unlike with the studies discussed in the previous section, the native speaker data is also variable. This typically requires sampling the native-speaker as well as the learner population, since variable language features don’t tend to feature in standard descriptive grammars.

As Clark & Schleef (2010: 299) set out (as do other papers in the Polish studies cited in the following paragraph), this type of acquisition is quite complex, requiring attainment of the following for a given variable:

- similar frequencies of variation as found in the target language community
- similar social and linguistic constraints on variation as found in the target language community, and
- similar social judgements on variation as found in the target language community.

To explore how this kind of type 2 variation has been approached in acquisition, I turn to a set of studies, by Meyerhoff, Schleef and Clark, (Meyerhoff & Schleef 2012; Schleef, Meyerhoff & Clark 2011; Clark & Schleef 2010) investigating the acquisition of sociolinguistic competence by teenage Polish immigrants in the United Kingdom. Again, it is the general method, rather than the specifics of the studies that are relevant. They investigate pronunciation of the ING variable, as it alternates in unstressed positions between velar, i.e. walking /ɪŋ/, and alveolar, i.e. walkin’ /ɪn/. This involves comparing usage rates and underlying constraints in the speech of Polish-born teenagers now living in London (N=21) and Edinburgh (N=16) with their locally-born peers (Edinburgh N=21; London N=24). They test a number of different linguistic and social factors, motivated from the set of literature exploring variation of this form in different native-speaker and learner contexts.

After Mougeon, Rehner & Nadasdi (2004), they propose four logical possibilities in terms of how the speech of Polish immigrants might relate to that of the locally-born teenagers (Schleef et al 2011: 207):
1. migrant adolescents could adopt the same distribution of variants as their locally-born peers;

2. migrant adolescents could show variation that reflects the same underlying constraints operating on the variation of their locally-born peers, but the strength of these constraints may differ or the strength of individual factors within those constraints may differ;

3. migrant adolescents could reinterpret the variation producing patterns of variation radically divergent from their locally-born peers; and

4. migrant adolescents could eliminate the variation and show categorical use of one variant or another.

Each group of learners resembled their respective native speaker community in terms of the baseline frequency of use of the variable: Edinburgh Poles, like Edinburgh natives, used the apical variant to a greater extent than London Poles. However, when the pattern of variation is addressed at a deeper level, the results show that in fact a mix of the first three outcomes is the case for both the London and Edinburgh data: both contained a only single shared constraint (between native-speakers and Polish immigrants) (hypothesis 1), plus several reinterpreted constraints (i.e. with different hierarchies within factors) (hypothesis 2) and several factors which were not shared at all (hypothesis 3). This mix of factors suggests a complexity of processes operating on the acquisition and use of variable grammar.

The authors observe that this concurs with other research showing that teenage and adult L2 learners behave quite differently from child L1 learners who tend to “replicate variable input with variable output” (p226) from very early on in acquisition. They observe that L2 learners “in a situation of language contact do not have access to the same depth and breadth of information about the nature of the variable that an L1 learner does” (p227). They also propose that it could be related to differing capacity to extract variable rules from the input, such that children have a greater capacity to perform this task. I will return to discussion of these issues below (§3.3.2).

Moreover, while the learners did not particularly resemble native speakers, they also did not particularly resemble one another (i.e. London-based and Edinburgh-based Poles),
suggesting that there is not a universal strategy used in acquisition of this variable. A similar lack of generalizability, though across linguistic features rather than groups of learners is demonstrated in the work of Mougeon, Rehner and Nadasdi (2004), who looked at a number of sociolinguistic variables in a French-immersion context in Canada, and found results differed (from hypothesis 1 to 4 above) depending on the variable in question.

In a similar vein, but with a focus on the acquisition of L1 variable rules, Smith, Durham and Fortune (2007) compare the variable use of phonological and morphological variables by young Scottish children and their caregivers. The aim of this study is to elucidate how variable rules in the input are replicated by children. In order to do so, the authors perform the same suite of analyses on both the adult and child data, and finally compare the results from both.

These studies are clearly methodological descendants of the studies of type 1 variation discussed in the previous section (§3.2.1.1). In order to make some comparison about the variable grammar, the authors cross-check several components including the overall frequency of variants, the set of constraints on variation (i.e. factor groups) and the extent to which these are shared, and the hierarchy (of factors) within shared constraints and the extent to which these are shared. I will now discuss the application of this methodology to a rather different type of data set.

### 3.2.2 Comparative Variationist work & creolistics

A central motivation for the development of variationist sociolinguistics has been to “present a model of language which could accommodate the paradoxes of linguistic change” Tagliamonte 2006:4). So far I have discussed the concept of linguistic change in terms of the processes of second language acquisition (i.e. changes in the L2 over time) and involving comparisons between sets of learner and native-speaker data. Another strand of research applies the same fundamental variationist principles to change over time at a community level, in its exploration of the genesis and relatedness of contact languages. Following the pioneering work of Labov (1966) demonstrating that synchronic variation may be the engine of diachronic change, contact languages have become somewhat of a “proving ground” (Long & Sato 1984: 265) for the variationist
framework given the linguistic heterogeneity, multilingualism and fast rate of change so characteristic of these contexts. This research has had two main applications: in discerning the relatedness of (contemporary or historical) contact varieties, and for determining substrate effects on contact language grammar. I will now discuss each in turn.

Under the research agenda termed ‘comparative sociolinguistics’, historic relatedness between language varieties is examined through the prism of shared variable patterning of variable features (as described in the previous two sections). When applied to a comparison between a variable linguistic feature in Language A and its putative source Language B, shared patterning is grounds for confirmation of this proposed relationship. This methodology has been applied to the question of the historical roots of contemporary African American Vernacular English by comparing variable features in that variety with American English, various world Englishes, West African languages and a number of intermediary examples of Black Englishes from slave recordings, among other sources. Although a number of different linguistic features have been investigated in this now significant body of research, I will focus on studies of tense/aspect features as they will have the most thematic relevance to the present study. In particular, Poplack & Tagliamonte’s (1996; 2001) studies of past temporal reference and Walker’s (2000; 2010) studies of present temporal reference have served as templates for the chapter addressing tense/aspect morphology.

These studies are function-form (rather than form-function) in that they section off a functional space for investigation e.g. ‘present/past temporal reference’ conceived of as clauses referring to events in the past/present. Then, the formal means of expressing this temporal frame are identified; these are the variants of past/present temporal reference. For example, Walker (2000) identified 5 forms/constructions involved in present clauses: V, -s, be V-ing, do and will\(^4\) in corpora of historical English varieties.

This approach to the variable selection accords with the trend in variationist linguistics away from a very “strict definition” of variables and their variants:

\(^4\) e.g. V: "You know where that hill is out there, don’t you?"; V-s: "I pays all my bill up just like that"; be V-ing: "Cause he be knowing everything"; do: "We does take the cotton leaves"; will: no example given (Walker 2000:126).
a variable had to have, at a minimum, two variants – or ways of saying the same thing. But subsequent extension of the approach to features above phonology have wrestled with the applicability of such a definition to morphological, syntactic, and discourse variables. (Tagliamonte 2006: 70-6)

It is now acceptable that “the most we will be able to say is that the proposed variants can serve one, or more generally, similar discourse functions.” (Sankoff & Thibault 1981: 208).

Walker’s study also differs from the studies discussed in the prior sections, in which the variables each had only two variants examined (respectively, past marked or not; velar or alveolar ING). As with the previously discussed studies, the patterning of each form is then modelled through the same binomial multivariate procedure, however this is done by selecting a ‘focus’ variant and comparing against a linguistically meaningful combination of other variants. For example, when be V-ing is the variant in focus, it can be analysed against the data for all the other variants (i.e. V, -s, do and will) combined, if the choice being modelled is be V-ing against any other present temporal reference form. When this is repeated for multiple language corpora, the patterning of be V-ing in different language varieties can be compared and assessed. An example of the type of results this yields is presented in Table 3-3. Adapted from the results in Walker (2000), this shows that be V-ing patterns very similarly in the present temporal reference clauses of Samaná English (SAM), African Nova Scotian English (ANSE), and recordings of ex-slaves from the southern United States (ESR). In each data set the overall rate of be V-ing use is very low (around 0.5-1%), as indicated by the ‘input’ probability, and Lexical Aspect and Sentential Aspect are common constraints to all three varieties. The same ordering of constraints is present in these factor groups as well.

Table 3-3: A comparison of three independent variable rule analysis of factors contributing to the occurrence of V-ing in Early African American English. Adapted from Walker (2000:140)

<table>
<thead>
<tr>
<th>variety</th>
<th>SAM</th>
<th>ANSE</th>
<th>ESR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total N</td>
<td>2819</td>
<td>3149</td>
<td>411</td>
</tr>
<tr>
<td>input</td>
<td>.045</td>
<td>.079</td>
<td>.104</td>
</tr>
<tr>
<td>Lexical Aspect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonstative</td>
<td>.82</td>
<td>.84</td>
<td>.69</td>
</tr>
<tr>
<td>Stative</td>
<td>.17</td>
<td>.19</td>
<td>.32</td>
</tr>
<tr>
<td>Range</td>
<td>65</td>
<td>65</td>
<td>37</td>
</tr>
<tr>
<td>Sentential Aspect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punctual</td>
<td>.83</td>
<td>.82</td>
<td>.82</td>
</tr>
<tr>
<td>Durative</td>
<td>.73</td>
<td>.65</td>
<td>.50</td>
</tr>
<tr>
<td>Habitual</td>
<td>.26</td>
<td>.20</td>
<td>.42</td>
</tr>
</tbody>
</table>
The specific findings regarding the historical relatedness of these varieties are not relevant here. But there are a number of methodological innovations that are important. First, multiple variants have been handled by collapsing all but one of the variants (the ‘application’ variant) into a single ‘non-application’ group. This gives the pattern of variation of a particular variant with respect to all other variants. Second, Tagliamonte (2012:166) and Wolfram (e.g. 2000:47) raise the issue that in order to do this kind of historical comparative work, the fundamental challenge is finding the right variable or ‘diagnostic’:

A “diagnostic” is a feature that can establish correspondences between varieties because it reveals the underlying mechanism of the grammar. An ideal diagnostic is one that functions in a nontrivial way in one variety while simultaneously functioning in a different nontrivial way in another variety. (Tagliamonte 2012:166)

From the speaker’s perspective, the variable must be similar enough in each variety that they can make “interlingual identifications” (Weinreich 1953:7) between elements in the respective grammars so that transfer between superficially similar structures can occur (Torres Cacoullos & Travis to appear; Heine & Kuteva 2005). From the researcher’s perspective variables which are analytically useful are those which retain some differences between the two varieties: these kind of differences have been called ‘conflict sites’ (Poplack & Meechan 1998: 132). Further, in order to pinpoint shared historical relationships as the most probable cause of shared patterning, variability that is alternatively or additionally attributable to universal processes of contact-induced change (such as patterns common across the formation of creoles, for example) needs to be ruled out as a diagnostic, or at least ruled secondary. Additionally, variable features that are common throughout multiple possible source languages are not good diagnostics for homing in on one particular source over another. This is a point I will
return to throughout this thesis, in terms of choice of variables and the possible interpretations of the resulting analyses of their variable use.

A further methodological advancement comes from the extension of the basic ‘three levels of evidence’ (Poplack & Tagliamonte 2001: 92) that are common to the different applications of variationist comparative work so far discussed: (i) statistical significance (same factors selected as part of the model), (ii) relative strength (factors groups are ordered in the same way, indicated by the range & order they are put into the model in the statistical procedure), and (iii) shared constraint hierarchies (order of factors within the factor groups, indicated by the probability weights). Meyerhoff (2009a: 303) offers interpretations for each of these three lines of evidence when applied to language contact:

(i) Where the same factor groups are significant constraints on a variable in the model and in the replica varieties, let us call this **weak transfer or replication**;

(ii) Where the same factor groups are significant in both model and replica, and the ordering of these factor groups is the same in both model and replica, let us call this **(strong) transfer**;

(iii) Where the same factor groups are significant in both model and replica, and the ordering of these factor groups is the same in both model and replica, and the factors within groups have the same ranking in model and replica, let us call this **calquing**.

In reverse order, scenario (iii) describes the wholesale adoption of a source language variable into the new variety. Scenarios (i) and (ii) offer two different degrees of what Meyerhoff terms ‘transformation under transfer’.

While, these criteria offer a systematic basis for assessing the contribution of different source languages in traditional post-colonial contact situations, they have also been discussed in the context of dialect contact/global diffusion of quotative *be like* in English varieties (Buchstaller 2014), in dialect convergence scenarios (e.g. in Faroese & Danish, Knooihuizen 2016), and in the acquisition of sociolinguistic variables discussed above, among others (e.g. Davydova & Buchstaller 2015). In these studies, the tendency for
patterns (i) or (ii), but not (iii) to prevail echoes the transformative tendency noted by Meyerhoff (2009a).

A final methodological point: Meyerhoff illustrates the application of these criteria with a comparison of variable subject expression in Bislama, a contact language of Vanuatu, and one of its possible source languages, Tamambo. Interestingly, this does not involve a comparison of shared morphemes (in similar functional roles), but rather an alternation between overt subjects (encompassing both NP and full-form pronouns) and either zero subjects (for Bislama) or pronominal clitics (for Tamambo). As the variationist approach has been applied to features beyond the phonological, particularly morphosyntactic and discourse features, variables occupying the same “ecological niche” (Meyerhoff 2009a: 306) have become acceptable objects for comparison (Sankoff & Thibault 1981; Tagliamonte 2006: 74-6).

3.2.3 Variationist Typology

A further application of variationist methodology is developing under the name of ‘Variationist Typology’ (Torres Cacoullos & Travis to appear; Torres Cacoullos & Travis 2017). This approach is concerned with investigating patterns of variable language use across languages, such that cross-linguistic similarities and differences can be detected in ways beyond mere presence versus absence, or even differences in overall rates of use of a particular feature. From this, criteria for distinguishing contact-induced influence from cross-linguistic tendances can be drawn. While the general method of detecting constraints (by the methods described in foregoing sections) and comparing them across data sets remains (in this case different languages, such as English and Spanish), under this approach greater emphasis is given to differences in the variable context as a measure of difference, and as a locus of contact-induced change.

The variable context (also called the ‘envelope of variation’) refers to the sum total of linguistic contexts in which a particular feature might occur:

… any variable form (a member of a set of alternative ways of “saying the same thing”) should be reported with the proportion of cases in which the form did occur in the relevant environment, compared to the total number of cases in which it might have occurred. Unless this principle is followed, it is possible to prove any theoretical preconception by citing isolated instances of what individuals have
been heard saying. Speech is perceived categorically, and linguists who are searching for an invariant, homogeneous dialect will perceive even more categorically than most. The problem is most severe in the study of non-standard dialects. (Labov 1972b: 94) (Emphasis in original).

It is the analyst’s task to determine where a feature is never used, and also where it is always used, and exclude tokens containing these contexts from analysis. We often hear no more about these excluded contexts (if they are included at all in publications) since the focus is on the conditioning of the variable within this envelope of variation. However, in comparing variable features across languages, differences in the variable context are one area in which languages with very similar patterns of variability can none-the-less differ. For example, Torres Cacoullos & Travis (to appear) find that while the variability between expressed and unexpressed subjects in Spanish and English is subject to remarkably similar set of variable rules, their incidence of occurrence is very different in spoken-language corpora: 97% of Spanish tokens occurred within the variable context, while only 47% of English tokens did. Further, the envelope within which the variation is possible is very different. In Spanish, only Wh-interrogative structures and emphatic constructions fall outside the envelope of variation, but null subjects are variably permissible everywhere else. In English, null subjects can only occur in prosodic-initial position (outside of coordinate clauses). This is a ‘conflict site’ (Poplack & Meechan 1998: 132) between Spanish and English and can be used as a diagnostic: if the higher rate of subject expression in prosodic-initial position deceases over time in the Spanish of Spanish-English bilinguals, this implicates contact-induced change (i.e. influence from English) as the cause, since it indicates “a tendency toward the prosodic-initial position restriction for unexpressed subjects in English” (Torres Cacoullos & Travis to appear).

A close examination and comparison of the rates of variation and variable context of both L1 and L2 data sets (in addition to the comparison of the variable grammar) will be incorporated into the analysis presented in this thesis, as an important means to determining whether code-separation is occurring.
3.2.4 Summary

I have examined a number of different types of comparative work that has taken place within the variationist framework (summarized in Table 3-4). Common to all these approaches is the need to evaluate the similarity between two (or more) varieties which are (at least, purportedly) related via processes of acquisition or shared historical development. While the presence of shared surface forms and comparison of their distribution rates certainly tells us something about relatedness, comparative variationist approaches take these facts as merely the starting point. Following Weinreich, Labov & Herzog’s (1968:188) postulate that “not all variability and heterogeneity in language structure involves change; but all change involves variability and heterogeneity”, each study investigates the underlying variable grammars as the locus of change and, consequently, the site of comparison.

Table 3-4: Summary of variationist studies involving comparisons between data sets (‘varieties’)

<table>
<thead>
<tr>
<th>VARIETY 1</th>
<th>VARIETY 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type 1 variation studies</strong> (e.g. Adamson 2009; Young 1993)</td>
<td>‘advanced learner L2’ variable use of categorical target pattern</td>
</tr>
<tr>
<td>‘beginner learner L2’ variable use of categorical target pattern</td>
<td></td>
</tr>
<tr>
<td><strong>Type 2 variation studies</strong> (e.g. Schleef et al (2011); Mougeon et al (2004))</td>
<td>‘L1’ native speaker cohort data</td>
</tr>
<tr>
<td>‘L2’ cohort of second language learners of L1 variety data</td>
<td></td>
</tr>
<tr>
<td><strong>Creole Studies</strong> (e.g. Meyerhoff 2009a, 2009b)</td>
<td>‘Replica’ language creole data</td>
</tr>
<tr>
<td>‘Model’ language ‘traditional’ or substrate’ language data</td>
<td></td>
</tr>
<tr>
<td><strong>Comparative Creole</strong> (e.g. Walker 2000; Poplack &amp; Tagliamonte 2001)</td>
<td>‘Language X’ e.g. African Nova Scotian English; Bequia ‘Hamilton’ talk</td>
</tr>
<tr>
<td>‘Language Y’ e.g. Samaná English; Bequia ‘Paget Farm’ talk</td>
<td></td>
</tr>
<tr>
<td><strong>Variationist Typology</strong> (Torres Cacoullos &amp; Travis to Appear)</td>
<td>‘English’ native speaker data</td>
</tr>
<tr>
<td>Spanish native speaker data</td>
<td></td>
</tr>
<tr>
<td><strong>This study</strong> ‘L1’ child Alyawarr English i.e. their first language</td>
<td>‘L2’ child-learner SAE i.e. their second language</td>
</tr>
</tbody>
</table>

In fact for this approach there can be additional data sets, for example, that of Spanish-English bilinguals, whose norms (in either one of their languages) are then compared to monolingual patterns.
The present study involves language data of a somewhat different nature from the studies so far discussed. Variety 1 is children’s Alyawarr English, a contact language, and the children’s L1. Variety 2 is children’s SAE, a source language for Alyawarr English, and the same children’s L2 (being learnt in a formal environment). While the following analyses will consider the variable use of both categorical L2 features (i.e. ‘type 1’ variation) and variable L2 features (i.e. ‘type 2’ variation), in each case the main comparison is not between the children’s SAE and that of native SAE-speaking children, or other groups of ‘advanced’ learners. Rather the main comparison will be between the patterns in the children’s Alyawarr English and their attempts at SAE (although I do also discuss adult Alyawarr English and SAE as ‘targets’). By contrast, the first languages of the speakers in the type 1 & 2 studies discussed above are not the main focus of analysis, though they do sometimes make an appearance to the extent that L1 transfer becomes a possible explanation for a particular pattern in the data. I will now further elaborate on some of the reasons for this different research design, and consider some of the ways in which the comparative approach will be extended in the process.

3.3 Unresolved questions and opportunities for further synthesis

In this section I will raise some of the core theoretical questions surrounding the acquisition of closely-related languages, and discuss them in terms of how the methodological advancements discussed above might be brought to bear on their resolution.

3.3.1 The role of the L1: issues of code separation and transfer

As we have seen in this chapter, most comparative variationist work within the field of second language acquisition involves comparing learner data to other (more or less proficient) learner data, or to native speakers. The role of language learner’s first language in the acquisition process has been considered to a modest extent in interlanguage variationist studies. For example, Samar (2003) compared patterns of auxiliary contraction in English and Persian (much like with the methods of Variationist Typology), but added to this a comparison with the speech of Persian learners of English. She was able to show that the learners showed patterns of
contraction more like the ‘target’ English than the L1 Persian, concluding that L1 transfer had not occurred in this case.

In Chapter 2, I described how studies of second dialect acquisition focus on the L1 as the starting point or template for the L2. As such, L2 acquisition is often seen as a process of ‘separating out’ the L1 from the L2. To approach this issue within a variationist framework, the question can be reformulated as follows: in contact/standard language situations, is the ‘best fit’ model of children’s variable L1/L2 language use one of a single, highly variable linguistic system, or one of multiple, coexistent systems? In systems that share a variety of surface features (such as the L2/interlanguage of L1 contact language/dialect speakers), the comparative variationist methodology allows a way of developing an analysis at a level deeper; by modelling the systemic use of those shared features, and thus providing a comparable set of data from which to determine whether surface features are carrying the same functional load in each variety. Further, if variability is indeed a sign of systems in change (per Weinreich, Labov & Herzog (1968) cited above)—and in this context ‘change’ is second language acquisition—then this procedure is well calibrated to capture the most subtle differences between varieties. As such it is well suited to detecting emerging differences at the early stages of second language acquisition.

3.3.2 What drives ‘transformation under transfer’ in L2 acquisition?

As noted above (§3.2.2) the reorganisation of constraints on a given variable in the context of its transference from a substrate variety into a creole has been termed ‘transformation under transfer’ (Meyerhoff, 2002; 2009a). The tendency for some degree of transformation of underlying constraints has also been noted in the acquisition of sociolinguistic variables (discussed in §3.2.1.2 above). As an observed feature of transfer (both in terms of creole formation and second language acquisition), the question naturally arises: what drives such transformations? Meyerhoff (2009a:313) suggests that:

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26 This wording is borrowed from Walker and Sidnell (2011: 40) who use this framing to explore a somewhat different case of linguistic variability: whether community norms of language use across multiple sites on the Caribbean island of Bequia constitute separate village lects, or a single complex Island variety. While the context is different, the analytic ‘problem’ has obvious similarities.
the process of transferring—or replicating more generally—patterns from the model to the replica language may be sufficiently cognitively demanding that speakers cannot replicate (or perhaps do not care if they replicate) the linguistic details of the model in the replica language.

This quote specifically refers to situations where the replica language is a creole, and as such depicts non-replicating norms developing across a ‘in-group’ community of speakers as the new creole emerges. When this explanation for transformation is applied to SLA contexts, it must be noted that learners have less agency regarding the extent to which they can ultimately settle on transformed structures: if they want to be comprehensible to native speakers, they must ultimately replicate target usage. To the extent that some transformations (in the ‘interlanguage’ grammar) may prevail, these should not significantly impede communication and meaning making with native speakers. In this way, L2 learners are likely to experience a specific pressure to continually revise transformed structures in a way that might not apply to participants in community-wide creole development.

When we consider the factors that shape transformation across such different linguistic contexts, additional possible explanations for transformation arise. In her examination of the global diffusion of quotative be like, Buchstaller (2014:117) observes that while a surface form may be quite easily borrowed, the underlying social and linguistic constraints are subject to more complex determinants. Specifically: 1) the “functional equilibrium within the accommodating system”, such that new forms generally have to fit within (and thus disturb to some degree) extant functional systems, and so are shaped by what already exists locally; 2) “social and ideological factors…[which are] arbitrary, conventionally determined, and highly culture specific”, such that new forms are deployed to local ends, and 3) global forces of change that “apply cross-linguistically to forms which share the same semantic-pragmatic constraints”, or in other words, universal trajectories of linguistic change. Taken together, these components can to some degree account for differences between resultant variable systems across the post-diffusion landscape.

In expanding the study of quotative be like to examine second language learners, Davydova & Buchstaller (2015:461) found that German learners with prolonged
exposure to English actually “closely [match] native speaker grammars”. In isolating an instance where transformation under transfer has not occurred—a negative case—the authors consider several further factors which might illuminate transformation processes as a whole. Firstly, unlike the cases of diffusion of be like into existing English varieties (which is subject to the multiple factors discussed in the preceding paragraph) the German learners taking part in the study are “acquiring an entirely new linguistic system by trying to replicate established patterns in the [English] input” (Davydova & Buchstaller 2015). Secondly, exposure and learning context plays a role in mediating the kinds of constraints that can be transferred. For example:

high context or “tacit knowledge” (Meyerhoff and Niedzielski 2002), such as the social meaning of [be like]…does not transfer well without sustained face-to-face interaction. (Davydova & Buchstaller 2015: 453)

In their study of Polish adolescents in Edinburgh and London (described above) Schleef et al (2011) also note that, in addition to possible reduction of cognitive capacity post-childhood, adolescent and adult learners do not “have access the same depth and breadth of information about the nature of a variable that an L1 learner does…perhaps…simply because they get much less exposure to the language than little children do before they (must) start producing” (226). So while transformation of L2 structures is evidenced in early L2 learning, both motivation to replicate L2 norms and prolonged exposure are proposed as necessary (thought not sufficient) conditions for the gradual amelioration of transformed structures into target structures. The motivation to ultimately replicate (rather than transform) target structures distinguishes L2 learners from participants in creole formation, and members of speech communities experiencing diffusion.

A further consideration is that of the variable itself. Are some variables more transferable (i.e. learnable without interim transformations, when the motivation is there to do so), or conversely, transformable than others? Echoing some of the research covered in the previous chapter, Davydova & Buchstaller (2015) argue that the range of evidence amassed within SLA research regarding the learnability of a (usually categorical) L2 feature, applies to variable features as well. In particular they point to frequency, high form-function correlation or ‘schematicity’, ‘iconicity’ and ‘sociocognitive salience’ (p463) as features contributing to a variable’s learnability or
wholesale transfer. For variables which don’t meet these criteria, the result is “constraint systems that are significantly altered and/or reinterpreted” (p463).

This discussion of transferability has so far related to transfer in the context of creole formation (‘transfer’ of substrate features into the creole), and L2 acquisition of sociolinguistic variation (‘transfer’ of target features into the interlanguage). Somewhat as yet uncharted territory for exploration of the principle of ‘transformation under transfer’ is how it might apply to SLA more broadly (i.e. type 1 acquisition) and, in particular, what does transfer and transformation look like in creole-standard language acquisition contexts?

I have outlined above (§3.3.1) the case for taking the L1 as the starting point or model for L2 acquisition when these two varieties are typologically close. As such this thesis will make direct, quantitative comparisons between the L1 and the L2 language use of a single group of participants, rather than between a L2 group and native speakers of that language (though there will also be qualitative comparisons to SAE and adult Alyawarr English). Therefore, the transfer or transformation of the L1 (into the L2) is more relevant than the transformation of ‘target’ native speaker norms into the L2. This difference is depicted in Figure 3-2. The squares represent the varieties produced by language learners (i.e. their first language ‘L1’ and their ‘L2’ learner language or interlanguage produced on the way to full, target-like proficiency). The circle represents the ‘target’ of that learning (i.e. native speaker data).

Figure 3-2: Different comparisons of the linguistic repertoire of language learners

![Diagram showing different comparisons of linguistic repertoire for L1 (AlyE), L2 (SAE), and T2 (Native speaker SAE)]
This thesis, then, is an opportunity to explore the principle of ‘transformation under transfer’ in a novel, though hopefully complementary, way. As above, features that are transformed from the L1 into the L2 are the features in the process of acquisition: but here transformation evidences the nature of this change in process, rather than ‘noise’ in the system (per Schleef et al’s (2011) conceptualisation of transformation as a by-product of task complexity). Conversely, features that are transferred into the L2 without any transformation now represent zero acquisition, rather than complete acquisition (to the extent that these features are contrastive in both AlyE and SAE). As we will see, in exploring factors that impact on transformation of a L1 variable into its more target like L2 pattern, the discussion will largely focus on a comparison of the variables themselves, and what makes one more ‘learnable’ that the other.

### 3.3.3 Impact on the L1

Studies of second language acquisition of closely-related varieties tend to be primarily concerned with L2 attainment. This is particularly true of work that is focused on children within formal educational settings. The focus on general school performance, and the role of L2 learning within this, tends to sideline consideration of the ongoing impact on the (dialect/contact language) L1, now formally in contact with the ‘standard’ L2 (perhaps for the first time for child speakers). These questions are particularly of interest in situations where the L1 contact variety might still be in development, or creolisation, at a community level, since children’s leaning of L2 features may ‘wash back’ into their L1 and potentially contribute to the further development of that language, including decreolisation. In other contexts, the exposure to L2 English at school has been described as having a disruptive effect on the development of the L1 for individual speakers (Montrul (2010) discusses this with respect to L1 speakers of Spanish in the USA, for example), so it seems reasonable that this possibility be explored in creole contexts too. The comparative variationist method is ideally placed to explore the possibility of L2 ‘wash back’; the modelling of variability in this method is essentially rich language description and provides the basis for tracking the stability of the system over time.
3.4 Research Questions, Variables and Predictions

For the rest of this thesis I will attempt to chip away at the need for more rich description of bi-varietal (creole + standard) language use by applying the comparative variationist method to three elements of present temporal reference clauses\(^2\): tense-aspect morphology, subject pronominals, and transitivity marking. These variables have been chosen because of how they differ in their L1:L2 relationship as shown in Table 3-5. Tense-aspect morphology has three variants in AlyE and only two in SAE (which does not share the V-bat variant). Alyawarr English subject pronouns indexing 1sg referents have two variants (what I call the ‘AM’ and ‘I’ variants, though the precise phonological realisation of these is discussed in Chapter 6), while only ‘I’ is found in SAE (though with the added complication that contracted copular/auxiliary ‘am’ produces a phonological unit that is often identical to the ‘AM’ variant). Finally, transitive marking is variable between overt (\(-im\)) and unexpressed (\(-ø\)) in Alyawarr English, whereas SAE does not mark for this (though again, contracted 3sg/3pl pronominal objects can produce identical phonological output). Therefore, tense-aspect morphology represents a 3:2 relationship, 1sg pronominal subjects represent a 2:1 relationship, and transitive marking represents a 2:0 relationship (if we count the null form as a variant).

<table>
<thead>
<tr>
<th>Table 3-5: Three variables and their variants in the participating children’s Alyawarr English and in native L1 speakers’ Standard Australian English</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>aspect morphology</strong></td>
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<tr>
<td>------------------------</td>
</tr>
<tr>
<td>V<del>Ving</del>Vbat</td>
</tr>
<tr>
<td>1sg Subject</td>
</tr>
<tr>
<td>transitive marking</td>
</tr>
</tbody>
</table>

The following suite of research questions will be explicitly addressed. The first two questions cover the examination and comparison of L1 and L2 language use. This is performed through quantitative statistical modelling and constitutes the main analytic focus of the study. Research questions three and four will also be addressed but using

\(^2\) I discuss the motivations for this choice in Chapter 4 (§4.5.2)
different means. Comparisons to adult Alyawarr English are limited by the modest amount of corpus data (described in chapter 4 §4.4.2). Comparisons to Standard Australian English involves examining the formal descriptions of English but not quantitative comparisons. Likewise, to assess the possibility that the children in this study are showing patterns of L2 use similar to other L2 learners of English, I rely on examination of existing literature on the subject.

**RQ 1.** In present temporal reference clauses, what are the systems of tense-aspect morphology, pronominal subjects and transitive marking in the children’s L1 (Alyawarr English) and their L2 (SAE)?

a) What are the HOME and SCHOOL repertoires? I.e. what are the range of forms (i.e. variants) in each context and their frequencies?

b) What is the envelope of variation in HOME and SCHOOL contexts?

c) What speaker-related factors (specifically age) best account for the variation in choice between the main forms in each context?

d) What factors in the immediate linguistic context (i.e. the clause) best account for the variation between the forms in each context?

**RQ 2.** Are the two varieties (L1:Alyawarr English and L2: SAE) comparable for each variable investigated (tense-aspect morphology, pronominal subjects, transitive marking)? Specifically:

a) Are the HOME and SCHOOL repertoires the same? I.e. are the variants the same in each context and do they appear in similar frequencies?

b) Is the variable context the same in both HOME and SCHOOL contexts?

c) Are the probabilistic constraints the same, per the ‘three levels of evidence’ proposed by Poplack & Tagliamonte (2001: 92): (i) statistical significance, (ii) relative strength and (iii) shared constraint hierarchies.

**RQ 3.** For each variable investigated (tense-aspect morphology, pronominal subjects, transitive marking), how do the children’s L1:Alyawarr English and L2: SAE systems compare to the ‘target’ systems for each variety (i.e. the target for L1 is ‘T1:adult Alyawarr English’ and the target for L2 is ‘T2: native speaker SAE’)? Are there other explanations (such as universal patterns of acquisition) for the variable grammar?

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28 I discuss the formation of L1 and L2 data sets more thoroughly in Chapter 4 (§4.5.1)
RQ 4. Putting together the quantitative analysis (RQs 1 & 2) and the qualitative analysis (RQ3) what does this tell us about the nature of bi-varietal language use in young children? Specifically, is code-separation evidenced and can we relate this to aspects of variable detection (such as salience/transparency) and of the variable relationships (i.e. how similar the L1 variable is to the ‘target’ variable).

Specific predictions for each variable and their patterns of conditioning are addressed in their respective chapters. However, as a general principle the ‘null’ hypothesis—that there is no difference between home and school data sets in terms of variants, rates, envelop of variation and variable conditioning—evidences that children simply use Alyawarr English in the classroom, and make no attempt to change their speech to more SAE-like. We will not find this. Instead we will see a range of differences between home and school data sets evidencing that code-separation is advancing for all three variables. The manner and degree to which variables in the school diverge from the home data will be examined in fine-grained detail (per research questions 1 and 2). The prediction is that as exposure to SAE increases, we expect to see further differences between the home and school, and that these differences make the school data look more like SAE (and less like Alyawarr English). Complicating this is the possibility that, over time, the children’s use of Alyawarr English is also impacted by exposure to SAE - a ‘wash-back’ effect. This is therefore quite different from other situations of language contact, wherein people are speaking very different languages and cross-linguistic influence might be more unidirectional. By expanding our conceptualisation of contact-induced change to incorporate early bi-varietal language use, this study has some important insights into how we view this phenomenon. I will explore this in some detail in the discussion chapter (§9.3). Before we launch into answering these questions, the following chapter provides some further contextualising material, describing both the speech community, the process of data collection, and some preliminaries to the analysis.
4 DATA & METHODOLOGY

4.1 Introduction

In this chapter I first give some detail about the history of the field site (§4.2) and the range of language practices occurring within it (§4.3). I then describe the data collection process and building of the Ipmangker corpus (§4.4). In section §4.5, I outline the procedure for applying the quantitative variationist method to the present corpus, which (in addition to the description of other variationist studies given in the previous chapter) will be useful reading for those unfamiliar with the variationist method. In this section I also detail how the two HOME and SCHOOL data sets were formed (§4.5.1). Finally, there is a note on the transcription conventions used throughout this thesis (§4.6).

4.2 Field Site

The setting for this thesis is Ipmangker Community1, a small Aboriginal community on the Eastern fringe of the traditional lands of the Alyawarr people, in Central Australia. The community is located 175kms south of Tennant Creek, approximately 30kms east of the Stuart Highway (see map in Figure 1-1 and 1-2). It is a small community of approximately 90-100 residents, which has grown up from the camp of Aboriginal workers on Murray Downs station, from which the community lands were excised in the late 70s (see below).

When using the term ‘community’ to refer to Ipmangker residents, it must be stated that this is a somewhat porous construct, and is used loosely here. Superficial evidence of this is the extent to which the population of Ipmangker fluctuates as individuals who can ‘belong’ to the community may spend several weeks, months or even years residing in nearby communities and towns (see §4.2.4 below). As well as this, there is a constant stream of visitors from other places. Marriage also brings in other linguistic and social

1 Also written as ‘Imangara’, ‘Imangarra’ (NT Placenames register), or ‘Imangkerr’, and known as Murray Downs.
systems in a more permanent way. In short, it is a site in constant contact with other sites.

At a deeper level of analysis, it is a site that highlights the utility of the structurationist perspective that rejects presenting societies as bounded systems, and instead focuses on the temporal and spatial connections which order social life (e.g. Giddens, 1984 - reprinted as 2013). Cultural norms or social ‘structures’ are created recursively, at once shaping and being reinforced by the behaviour of individual agents. Individual agents act in a knowledgeable manner with regards to social structures: they have both “discursive consciousness” which they can articulate and explain to some extent, and “practical consciousness” which is demonstrated in actions, although it cannot necessarily be explained in words by the agents themselves (Giddens, 2013: 42). Their ability to monitor their actions for the outcomes they produce also affords them the ability to transform their behaviour and thus, by degrees, the social structure.

With this in mind, the most fixed aspect of Ipmangker as a community is its physical location: a site where people come together for extended periods and social norms are created and recreated. Of course, the fact that this community lies on Alyawarr country, and is therefore associated with specific dreamings and lineages is also fairly fixed and is likely, at least for now, the substantive reason for the dominance of Alyawarr as the language of residents (both as a traditional language, and the traditional language that features in the new variety Alyawarr English). However, Ipmangker is a ‘speech community’ to the extent that communicative norms that are specific to the identity of residents have developed. Ipmangker is also a place where language use is undergoing rapid transformation. Alyawarr English may therefore be the result of a very recent set of convergences. The task of this section is therefore to sketch the temporal and spatial connections which continue to influence the individual trajectories of community residents. For our purposes, these influences are meaningful to the extent that they contribute to the changing and variable linguistic practices exhibited by the young people.

To that end I will first describe the key ‘moments’ in post-contact history, for, being so recent, it is very much a living history. I will then give some description of the community as I observed it over my visits there. I would like to state that I do not
present these notes as a work of ethnography or history. They are my subjective, ‘outsider’ impressions, aimed at giving an equally ‘outsider’ audience a sense of place. No doubt, Alyawarr people tell their own story very differently.

### 4.2.1 Early contact period

The first European incursions into the country surrounding Ipmangker Community took place in 1860. Stuart documents frequent encounters with Aboriginal people as he travelled through Alyawarr and Kaytetye country². It is also possible that Alyawarr people had prior news of the white newcomers from the Eastern side of their territory (present day Western Queensland), due to the earlier pastoral expansions there (Bell 1993: 61). In 1878, Charles Winnecke charted the Sandover River, running right through Alyawarr country, providing an overland route from Alice Springs to Queensland (Hartwig 1965). The next European forays into the heart of the continent were prompted by the construction of the overland telegraph line connecting Adelaide and Darwin. It was built in the early 1870s with telegraph stations set up in Alice Springs, Barrow Creek and Tennant Creek. Over these early days of European invasion, encounters between Aboriginal and Europeans were often violent. The most comprehensive compilation of the various recorded episodes of pacification parties, kidnappings and murder can be found in Hartwig (1965).

The first pastoralists arrived in the area in the 1880s, bringing Alyawarr, Kaytetye and Warumungu people into sustained contact with Europeans. The first lease of ‘Murray Downs Station’ was held by a joint venture— one of the investors in this enterprise was the Hon. David Murray MLC, an Adelaide-based Scottish wholesaler cum politician who, presumably, lends his name to the lease title³. Over the next fifteen years the station, though stocked, changed hands several times, before eventually being abandoned in 1896⁴, as were several other stations in the area, as a result of the combined assault of economic depression, drought and attacks by Aboriginal people (Carment 1991). Hartwig (1965) reports that during this period there were significant Aboriginal

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² Stuart’s diaries are available in electronic format at https://ebooks.adelaide.edu.au/s/stuart/john_mcdouall/journals/index.html
³ This information sourced from a brief historical worksheet compiled by the Alice Springs School of the Air, and later collaborated by the current owner/manager of Murray Downs Station, Mrs Lynne Leigh. I have not been able to verify this information from original source material, or other secondary histories.
⁴ See Footnote 3
camps located on all cattle stations in the area, as well as at the established telegraphs stations, where rations were also distributed.

4.2.2 Station days

Pastoral expansion in Central Australia resumed in the early 20th Century, and it is the violence that accompanied this period that survivors and their descendants refer to as ‘the killing times’ (Bell 1993). In particular, the Coniston massacres have been well documented, and were living memory of Kaytetye people recounted as part of their native title submission (Koch, Koch, Wafer & Wafer 1981). Bell (1993) records similar observations regarding the continuing and complicated legacy of these times.

With the continual despoilment of land due to the running of cattle, Aboriginal people in the centre grew increasingly dependant on government rations. In addition to station work, mining and army work during the war were two further sources of employment (and rations), but nonetheless, the increasing number of displaced persons living on the fringes of the burgeoning township of Tennant Creek troubled the European administration. The state had tried various reserves, missions, and forced relocation to new Aboriginal settlements of Yuendumu (est. 1946) in the west and Warrabri (now Ali Curung) (est. 1954) in the East (Bell, 1993; see also Nash 1984 regarding the history of reserves in the area of Tennant Creek). The land for the latter was excised from the Murray Downs lease.

The lease for Murray Downs Station was taken up again in the 1920s, and continued to change hands several times over the rest of the 20th Century, until the current owners took it over in 1979. Many of the older residents of Ipmangker worked on Murray Downs station throughout their young and adult lives. The men worked as stockmen: drilling bores, erecting fencing and herding cattle. The women worked as domestics at the homestead: cooking, cleaning, sewing and the range of other duties required to keep the station and home camp going.

The recollections of one older woman in her 60s (born in the 1950s) begin when her family were camped along the river bank, only a few hundred metres from the

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5 And earlier further east (Hagen & Rowell 1978)
6 See Footnote 3
7 See Footnote 3
homestead. Later, the camp was moved further back from the homestead and away from the river, closer to the site on which the community now stands. She was witness to significant events in the station’s history, such as when a fire razed the homestead to the ground at Christmas time, 1963. One year the river broke its banks and swept away the entire camp, ‘dogs and all’ (L. Dobbs, personal communication, Oct 2010).

4.2.3 Ipmangker Community

In 1989 the land for Ipmangker community was excised from Murray Downs Station, and it is now formally designated as a Community Living Area (Rennie, Hogan, Gregory, Crouch, Wright & Thomas 2016). This is a type of land tenure that was created in 1989 to deal with a number of communities whose option to gain title over their traditional lands (via the Land Rights Act or Native Title) was extinguished by a pastoral lease. In particular, Community Living Areas addressed situations like Murray Downs/Ipmangker community, where there was continuity between the early Indigenous cattle station workers and the current resident population. The 1989 legislation offered a way for communities to formalise residency arrangements and offered a secure form of tenure. It was a prescribed area under the Northern Territory Emergency Response Act 2007 (subject to the 5 year compulsory lease provision) (CLC 2012).

The school was established in 1983 (Wigley & Wigley, 1990). For some years this consisted of a “silver bullet” caravan complex that served as both the schoolroom and teacher’s accommodation. Today the school consists of two main buildings plus an ablutions block, and out door play areas. Two teacher’s houses are also on site.

Key Dates (Post-contact) Summary

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1860s</td>
<td>First European explorers move through Central Australia</td>
</tr>
<tr>
<td>1881</td>
<td>First lease of ‘Murray Downs Station’ held by Musgrave Range and Northern Territory Pastoral Land Company. Over the next fifteen years the station was stocked, though the lease changed hands several</td>
</tr>
</tbody>
</table>

* REF: http://www.clc.org.au/articles/cat/community-living-areas/
times, before eventually being abandoned in 1986.

1921 The lease for Murray Downs was granted to H.H. Pepperell. The lease changes hands several further times throughout the 20th century.

1956 Land excised from Murray Downs Station for Warrabri (now called Ali Curung) community.

1979 Current owners, the Leigh family, take over the lease at Murray Downs Station.

1979 Excision of land of the station granted to Alyawarr people still living on the station.

1989 Ipmangker Community formally designated a ‘Community Living Area’

2011 Four street names approved for Ipmangker community

2011 Internet rolled out across the community

4.2.4 The Community Today

In the 2011 census (ABS, 2011) there were 89 Aboriginal people recorded as residing in Ipmangker (and 6 non-Indigenous, who were likely the station operators). Like the Aboriginal population all over Australia, it is a young demographic, with 80% of people under the age of 30. As of my fieldwork period (2009-2011) most of the residents are Alyawarr people. There is also one senior Kaytetye man, and a family with Warlpiri ties. Close family relationships extend to nearby Ali Curung (a mixed Warlpiri, Warumungu, Alyawarr and Kaytetye community 30kms to the west), Canteen Creek and Epenarra, as well as across the Alyawarr hearland including Ampilatwatja (a mainly Alyawarr community of 350 people, 110 kms to the south-east) and Arlparra (also known as the Utopia homelands, 120 kms to the south) and as far afield as Alpurrurulam (300 kms to the west, close to the Queensland border). Travel to and from these other locals is reasonably frequent: including for the purposes of sports weekends, heritage and land council work (e.g. mapping sites, governance meetings), clinic visits and personal visits. Two women who have married in to the community are from the Kimberley, WA, and their families have spent some several extended periods
visiting back there. Ipmangker is therefore a community within a larger network of communities with a great deal of shared cultural and linguistic practices.

As of 2011, there were 12 separate inhabited dwellings at Ipmangker, and a few sheds. Each household is the main residence of one extended family unit. According to the 2011 Census (ABS, 2011) 79% of these dwellings were in need of at least 1 extra bedroom. Each house has a veranda and yard, and several have bough shelters. Most of the home recordings took place in the bough shelter of one particular house (occupied by the great-grandmother of some of the focus children), although other shady spots around the community were also utilised. During one field trip there were considerable renovations being undertaken on several of the homes, during which time the occupants would shift around into other premises. As of 2011, 9 of the houses have broadband internet as part of a trial run by Swinburne University investigating internet use in remote locations (Rennie et al 2016).

Today the station runs with fewer hands than it did in the early days when the Aboriginal population provided the main workforce in the burgeoning pastoral industry across the Territory. The men of Ipmangker community take on seasonal labouring and stockman work at the station, although there is not full-time work available. Ipmangker Community residents still interact on a daily basis with the station owners and managers via the small store run by the station. The store is a for-profit business (as opposed to community-run stores that operate at other locations such as Ali Curung) and provides basic groceries, fuel, as well as a range of homewares, appliances, clothing and other goods requested by community residents. Since the Federal Government Intervention in the Northern Territory these retail transactions have taken on a greater level of administration, which requires the station manager to be more intimately involved in the financial affairs of community residents. The station store also caters to the occasional passers-by, and the station also provides short-term donga-style accommodation to visitors to the community (such as school support personnel). It also maintains a landing strip, which is sometimes used by government visitors.

The small government primary school is set off from the community, just a short walk through the scrub. It caters to children from ages 4 to 12, with two multi-aged classes: lower primary (5-8 years old) and upper primary years 8-11 years). It is a 'two-teacher
school’ (with additional teaching assistant positions, see below), although over the period of my field trips staffing allocation varied somewhat (see below). There were around 30 children officially enrolled and attendance levels vary mainly depending on residence in the community. Most children who are residing in the community attend school on a daily basis, sometimes with the encouragement of the teacher-principal and the teaching assistant (TA) bringing the school ‘Troopie’ (a type of 4WD people carrier) to collect them. The school also hosts a Mobile Preschool, which operates sporadically and relies on centralised support delivered out of Tennant Creek.

Students must live away from the community to attend secondary school. The closest secondary school is Tennant Creek, but many of the young people opt to board in Darwin. In the 2011 census, 13 Indigenous adults then residing in the community reported having completed year 12 (ABS 2011).

English is the main language of instruction at the school. There is not currently an Alyawarr language or culture program of any variety. According to community members there have at times been such programs, and the elders have participated by coming to the school, telling stories in Alyawarr, and going on bush trips with the children. The school has also reportedly had Alyawarr literacy materials, such as readers, although the staff during my visits were unaware if they were still held by the school. I occasionally supported some one-off cultural/language lessons during my visits, and provided the schools with some Alyawarr resources.

During my field trips there were different staff each time:

**Preliminary trip, Sept 2009:** One teaching principal was residing on site in the department house, and a second teacher was travelling in daily from Ali Curung.

**Field trip 1, May 2010:** One acting-teaching principal was living on site, teaching upper years. The other non-permanent teacher was living in Ali Curung and commuting daily as the lower primary teacher. The teachers holding permanent placements at Murray Downs were working in Tennant Creek⁹. Prior to their departure they had been at Murray Downs school for approximately 12 months. In the immediate wake of their

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⁹ The NT Education Department has a system that allows permanent positions to be held for extended periods while a teacher takes leave or is seconded to other roles.
secondment to Tennant Creek, the school was staffed with a series of casual teachers out of Ali Curung and Tennant Creek. It is quite common in the Northern Territory for teachers to stay at schools for relatively short periods of time.

**Field trip 2, Oct-Nov 2010:** One acting principal was living in Ali Curung and commuting in most days. A married couple were residing in the newly built teachers’ house on site. One was the upper primary teacher and the other was the lower primary. The non-permanent teacher from May’s trip was now acting in an adjunct position, giving release time and supporting extra literacy classes. She was residing on site, but frequently commuted to Ali Curung to teach there.

**Field trip 3, May 2011:** New permanent teachers had been in place since the beginning of the year. They were residing on site, and one was the Teaching Principal in charge of the upper years class, and the other teaches lower primary. Another teacher was residing in the other house and providing release support at Murray Downs school and at Ali Curung. This arrangement lasted for the whole year, and new staff arrived in 2012.

In the context of such as small school, this brief description of the comings and goings of school personnel already indicates that the students of Murray Downs primary school experience educational delivery of a fairly inconstant variety. The students must constantly become accustomed to new faces at the front of the room, both in day-to-day teaching and specific support personnel. The main source of continuity in the classroom is therefore the presence of teaching assistants (TAs). The teaching assistants in Murray Downs school are all Indigenous residents of the community who have achieved or are in the process of achieving formal qualification through in-service training provided by the Batchelor Institute of Indigenous Tertiary Education (BIITE) office in Tennant Creek. A support person from BIITE visited the TAs and worked with them on a regular basis, to enable them to complete assignments and gain certificate-level qualification. At the time of the field trips there were three community members working as TAs, at different levels of qualification, and these remained consistent over all my visits. In the recent past this number has been much higher.
4.3 Language Use

Language use in Ipmangker is highly dynamic. The language spoken on a daily basis by most people under the age of 30 (80% of the population) is Alyawarr English. The main traditional Australian language spoken is Alyawarr, but it is also possible to hear Kaytetye and Warlpiri being spoken by older people. Other Arandic languages and even Warumungu may also be brought in by visitors at special events. Work crews from Ali Curung may have the odd younger Warlpiri speaker.

Alyawarr English, the first language of the children in this study, is spoken by people under the age of around 30 years. While I have above described Ipmangker as well-networked into a larger set of communities (many of which have Alyawarr as the traditional language), there is anecdotal evidence that Alyawarr English is a language that has germinated locally in Ipmangker. One research assistant described a couple of funny incidents where family telephoning in from Utopia (another Alyawarr-speaking area) would attempt to speak in a more Ipmangker “style”, much to the bemusement of the call recipient. She was also fairly adamant that people did not speak Alyawarr English in neighbouring Ali Curung (a large community with several languages) or Ampilatwatja (a community where Alyawarr is still strong). However, there has been little investigation of the extent to which non-traditional languages are spoken in these communities, or in the more distant traditional Alyawarr communities where young people have been said to have switched to a contact language, such as Lake Nash, Epenarra (Moses & Wigglesworth 2008) and Canteen Creek. Nor has the possible relatedness of such varieties to Alyawarr English been formally evaluated. It may well be that across these sites, and indeed possibly extending out of Alyawarr country into Tennant Creek (per ‘Wumpurrarni English’ described by Disbray 2008a,b), the use of English-lexified varieties constitutes something of a continuum.

The 2011 census figures (ABS 2011) reveal an interesting pattern of language identification: all Ipmangker residents were reported as speaking an “Australian Indigenous Language” at home, and none reported speaking “English only”. “Australian Indigenous Language” might refer to Alyawarr, in which case the receptive proficiency of the children is thought sufficient to qualify them as language ‘speakers’ (I have not observed anyone under the age of 15 able to have a conversation in straight Alyawarr,
though the receptive capacity appears to be high). Alternatively, residents are identifying their variety of English as a ‘modern Australian Indigenous Language’, which, although matching the perspective I take, seems unlikely to me since it was always placed in the realm of ‘English’ rather than ‘Alyawarr’. I infer this from discussions in which I asked about whether the children in Ipmangker speak Alyawarr: the response from adults would universally state ‘no, they just speak English’ (referring to the variety I’m calling Alyawarr English). This should not be understood as speakers not recognising the difference between SAE and AlyE: when this was the focus of discussion SAE could be referred to as ‘whitefella English’ to draw the comparison. 17 people reported speaking English “not well or not at all”. It would be interesting to know if this clustered around young children or older people, or some demographic feature unrelated to age. Most people (73) reported speaking English “well or very well”.

Several varieties of Standard Australian English are spoken by non-Indigenous health workers, teachers, station managers and other community visitors, as well as community members themselves. Several of the teachers over my visits have also spoken either English as a second language, or other national Englishes (such as South African English) as a first language. In addition, there are two sisters from Halls Creek who have married in to the community whose first language is Kimberley Kriol.

### 4.3.1 Demographic diversity

It is not possible to assign one language to any particular community site or activity. Strict domain-based separation of language doesn’t occur in this multilingual community. Instead, it is more instructive to look at the demographic spread of language ability and usage observed so far, and compare this to the institutions and activities in which individuals take part.

#### 4.3.1.1 The elders (60+ years)

Most people in Ipmangker are Alyawarr, and some can also claim Kaytetye heritage. As stated above one male elder can and does speak both languages. And Kaytetye is also understood by at least some of the other older people, who also report a passive knowledge of other Arandic languages and some Warumungu and Warlpiri. Warlpiri is also spoken by at least one senior man. There are about ten older people living
permanently at the community. Their main language of interaction is Alyawarr. The senior women speak almost purely in Alyawarr amongst themselves, with minimal switching into English.

Alyawarr is also used by the elders to communicate with middle-aged speakers, who may or may not talk back in Alyawarr (see below). Younger people and children are also frequently addressed in Alyawarr.

All of the older people can speak varieties of Australian English (as an L2), or potentially what has been called Central Australian Aboriginal English (e.g. Koch 2011) or ‘cattle station English’ (e.g. Harkins 1994; Muhlhausler 2008) learnt in early life on the station (i.e. prior to the advent of formal schooling). This is used to talk to outsiders (like me), and presumably when taking part in community representation described above. It is also sometimes directed at children. It shares features with Alyawarr English (such as transitive -im, and past tense bin) but I have not made a comparative study of this variety versus Alyawarr English. I am relying here on reports of younger research assistants who describe their speech as restricted to ‘young’ people.

The head research assistant on this study is an older (65+ years) Alyawarr-speaking woman. I have observed her using her most standard English when speaking to me, and also with the station manager, and a shop-keeper in Alice Springs. Despite her reasonably high command of English for these interactions, she has also on one occasion requested me to approach a shop-keeper on her behalf in Alice Springs (possibly for non-linguistic reasons). This research assistant almost visibly relaxes when she switches to her variety of English. This also occurs when talking to me, after we came to know each other for some time. In these instances, her speech changes in several ways. There is no longer a distinction made between gender in third person singular pronouns. Likewise the first person plural ‘we’ becomes minyu. The locative preposition la is inserted, and past tense bin is used. Again, I have not made a close comparative study, so I am not sure of the extent to which the features of the older people’s English overlaps with what I am calling Alyawarr English. But these impressions give some picture of the context.

I have observed many instances of use of this kind of English with children, including switching between English and Alyawarr. For example, the senior research assistant
mainly speaks in Alyawarr to the children but does sometimes switch to English in specific circumstances. In one instance, the research assistant was reprimanding two boys who had been teasing a young girl in her care. She berated the boys in Alyawarr and then switched to English: ‘You can’t tease her, she your aunty’. I believe the elder speakers have fairly limited literacy in any form of English and none in Alyawarr.

4.3.1.2 The middle-aged (30-60 years)

This demographic cohort is distinguished by age and by the fact that they tend to be people with children who are in high school or above. They are most likely to be grandparents if they had children themselves. Individuals in this group have been observed speaking mostly Alyawarr with older people, although on my first visit to the community I observed a short conversation where the elder co-researcher spoke Alyawarr, and her middle-aged interlocutor spoke Alyawarr English. Alyawarr English and standard English are also part of the language repertoire of this group. It is my impression at this stage that they are probably the most balanced Alyawarr/English bilinguals in the community, having grown up with Alyawarr as a first language, and learning English to a high standard from a young age. I have not had any opportunities to observe how this age-group speaks amongst themselves or with other age groups.

There is perhaps more variation in the individual language repertoires within this group, whose lives have been characterised perhaps by a less cohesive range of life and linguistic experiences than the lives of the older people. Some are identified as stand-out cases. For example the son of the senior research assistant, who lives mainly in Utopia, was noted for his curious and life-long refusal to speak Alyawarr: ‘he never speaks Alyawarr, only English’.

4.3.1.3 Young adults (20-30 years)

This age-group contains the parents of the target children in the ACLA project (children born in 2004)\(^\text{10}\). I have had most opportunity to observe the women in this group who are the mothers and aunties (mother’s sisters) of several of the target children. They speak fairly Standard Australian English with me. Their main speech variety appears to be Alyawarr English, though it differs from that used by the younger children in the

\(^\text{10}\) Although some of the focus children are actually being raised by grandparents or great-grandparents.
extent to which Alyawarr lexical items (especially verbs and attendant morphology) are used. I have not made a close analysis of these people’s talk, so I have only a few recordings and some impressionistic data to rely on.

One research assistant was in this age group, although she sadly passed away after the fieldwork was completed. She spoke Standard Australian English with me, but used Alyawarr English in most other daily interactions in the community. It is with this woman that we decided on the name ‘Alyawarr English’. She excelled at transcribing the children’s speech, and was very good at giving standard Australian English equivalents of Alyawarr English features. As with all people in this age group it has not been possible to assess Alyawarr productive proficiency, although it appears to be reasonable, as does comprehension. She displayed literacy in English, but was not familiar with the Alyawarr or Kriol writing systems (the latter was sometimes used by me to transcribe Alyawarr English).

4.3.1.4 Teenagers and young singles (13-20 years)

Single women in Murray Downs often live with a married older sister and spend a lot of time engaged in parenting duties. Another research assistant was 20 years old at the time of the first field trip and was very adept at recognising the voices of the youngest children on my recordings. She speaks Alyawarr English amongst the other young women, although she did speak large stretches of Alyawarr with the senior research assistant. The senior research assistant is her grandmother and they are very close and affectionate. The senior research assistant spoke to this young woman mostly in Alyawarr.

In one recording an older teenager enters the room and attempts to get one of the younger children to leave with her. She speaks mainly in Alyawarr English, although perhaps because she is aware of the camera she does say, loudly, in a closer approximation of SAE which is particularly achieved through pronunciation: “You gotta go now. We’re going back home”. This is quickly followed by “Mpa kwik wan” (Come quickly!). And then, through clenched teeth “yu gat libim walypela-kenh” (You’ve got to leave those Whitefella’s things).
4.3.1.5  Children (5-12 years)

Primary school-aged children all speak primarily in Alyawarr English at home. Some can speak Alyawarr, for example, short stretches of Alyawarr were produced during one early recording when one girl was attempting to tell a story based on the pictures in a wordless storybook (‘The monster story’). The senior research assistant initially feeds the child lines, and then leaves the room. The children then proceed to telling the story repeating, chorus-like, short fragments of what the research assistant has prompted earlier. The following phrases were chorused:

- arengk akely ‘small dog’
- arelh akely ‘small woman’
- robot arlkw ‘big robot’
- nhenh arelh ‘this (is a) woman’
- apmer ‘camp’

As well as heavy repetition of these story-related phrases, the discussion also segued into a demonstration of ‘Alyawarr’ use by pointing to various objects and using an Alyawarr demonstrative to introduce them: nhenh crayon ‘this is a crayon’.

This segment of recording demonstrates that the children do have a repertoire of Alyawarr nominals and adjectives, as well as some demonstratives. Further, they use the correct Alyawarr NP constituent ordering of nominal-adjective and their pronunciation was standard Alyawarr. But the fact that none of the children produced more than a two-word utterance of the kind noted above, and relied on Alyawarr English verbs to advance the story they were constructing, is suggestive of a productive proficiency in the language that is well below their levels of passive comprehension. This small sample is representative of the level and Alyawarr awareness and productive proficiency that I observed over subsequent years.

It is also worthwhile pointing out that NPs of this nature, using many of the above-noted lexemes, also occur as part of Alyawarr English. So although it is very clear from the context that the children are trying to ‘speak Alyawarr’, they are drawing on the Alyawarr elements of their main language to do so.
Children are often directly spoken to in stretches of Alyawarr, although it was around children that the senior research assistant spoke the most of her variety of English, compared with the speech she directed to other age groups. Children thus appear to have a high passive comprehension of Alyawarr. During several (non-recorded) conversations with parents and grandparents about children’s language use we discussed areas in which children might be stronger or weaker in their knowledge of Alyawarr. The general consensus was that children’s knowledge of bush tucker terms was probably pretty good (i.e. age-appropriate). But this was immediately challenged when one adult picked up a discarded string of ntyerrm ‘bush bean’ and pointed out that the children call these ‘bush beans’ and not ntyerrm, despite being such common bush tucker, and one which is particularly favoured by children. This was remarked upon by all adults who observed this behaviour as something of an anomaly.

During the same conversations I asked about how the children in Amperlatwaty speak, having been previously told that this community was the ‘heartland’ of Alyawarr country. All the adults commented on how the children in Amperlatwaty speak Alyawarr really strongly. One mother (who is also a co-researcher for the project) commented that she observed her own children teasing some children from Amperlatwaty for the way they talked when they went there for a sports weekend.

School is the main site for children’s SAE use, and mainly in interactions with teachers – there is still plenty of Alyawarr English used in the classroom in peer interaction. Another notable occasion for use of SAE is in play, when voicing characters such as dolls, or figurines or sometimes during role-play. Very young children have not been shy to speak to me (in the community, at the store, at the school) and often do so using lexemes/structures that are Alyawarr English. Whereas children of older primary school age are more likely to attempt SAE in conversation with me. Children are also exposed to English through television, films (played on DVDs at home) and music.

4.3.1.6 Babies, infants, pre-schoolers (0-5 years)

The speech of four year olds was the focus of recordings and transcriptions on the preliminary field trip. These children and their younger siblings appeared to be speaking the Alyawarr English, and had not been recorded displaying the kinds of code-switching noted for the older children. Alyawarr English appears to be acquired as the single
productive language, although passive comprehension of Alyawarr is clearly high and developed from birth.

Pre-school aged children receive much less, and less-sustained, input in SAE than the older children. Their days also differ from the older children in that they still spend a lot more time being cared for by the older people, and thus continue to have sustained input in Alyawarr. While this doesn’t appear to result in a lot of Alyawarr clauses being spoken, it is likely to result in a substantial passive if not active Alyawarr vocabulary. For example, one infant (aged 1;8) was just starting to speak during the period of the preliminary field trip. She was recorded speaking in the Alyawarr English (e.g. *lilan kam!* 'little one come!' and also observed using Alyawarr-originating words (e.g. *aylpaty* 'milk' – when asking for her mother’s breast) (although these may also be fully borrowed into Alyawarr English).

As noted above, there are two mothers who are originally from Halls Creek. While no description has been made of their language use (parental input being outside the scope of this study), it is possible that Kimberley Kriol is also a significant influence on some of the children, elements of which could easily spread through the child group. The presence of these two women possibly accounts for the use of the verb *baabay* 'sleep' by the young boys. This verb has been noted in Kimberley Kriol (E. Gray, Kimberley Kriol speaker, personal communication, 16/9/2009) and in the Kriol spoken by the Gurindji at Kalkarindji (F. Meakins, personal communication, 16/9/2009), but not in the north-eastern Arnhem land Kriol (G. Dickson, personal communication, 16/9/2009). Although it has also been heard in Tennant Creek, among speakers of Wumurrarni English (S. Disbray & J. Simpson, personal communication). The speech of these two women may prove to be an interesting influence on the speech of the young children, and through them the whole community.

At the conclusion of my preliminary field trip, when it became clear that the children were primarily speaking Alyawarr English, there appeared to be a general consensus amongst the adults in the community that the children would use more sustained Alyawarr when playing with *nyetyengenyenty* ‘cubby houses’. However, over the subsequent field trips this turned out not to be the case, and it became clear that Alyawarr English was the primary language for peer-to-peer interaction.
4.3.2 Language Attitudes

Alyawarr is very important to the older people in the community. They readily expressed their desire that children speak the language. At my first meeting with the senior research assistant on the project several months before I began fieldwork, she initially stated that the children of Ipmangker speak Alyawarr. During the intervening period she reported to a mutual friend that in fact she was now noticing that the children were speaking a lot of English. This sad revelation continued when it came to transcribe the recordings. It was clear that the children were speaking Alyawarr English (referred to by all as 'English'), which, while incorporating a lot of Alyawarr vocabulary, is not Alyawarr.

Curiously, during the transcription process it became clear that at times the senior research assistant was ‘hearing’ Alyawarr as the language of many utterances, when in fact the child had spoken Alyawarr English. This resulted in her suggesting as the transcription an Alyawarr sentence that was prosodically akin to the Alyawarr English utterance, but not semantically related. My suspicions were confirmed when both of the other younger research assistants transcribed the same utterances as Alyawarr English. This may have been a result of an interaction between hearing loss and the artificial nature of the audio recording. It remains unclear whether the main co-researcher ‘hears’ more Alyawarr being spoken in real interactions.

Whatever the case, the disappointment of learning that children were not speaking Alyawarr as the recordings were viewed led to a quest to find situations which would demonstrate the children’s ability to produce Alyawarr. Hence the suggestion to record the children making cubby houses noted above.

While individuals of the parental generation did not explicitly state a desire that their children speak Alyawarr, there was a lot of interest in finding out how much Alyawarr their children actually knew. Several parents of older primary children have been very keen for me to observe and/or record language in the school classroom to see how their children speak. Everyone seemed very happy with the idea of using our computer game language assessments to see what areas of Alyawarr vocabulary may be stronger (e.g. ‘bush tucker’, as described above).
Several personal reports from linguists and anthropologists who work in the area have suggested that Ipmangker people have always been proud of their learning and control of English. I never received any negative comments about English itself or in relation to the decline of Alyawarr.

While Alyawarr English is referred to as ‘English’, it is clearly recognised as different from SAE. In a recording that features a number of primary school children [SJD:003], one child has been asked to read out a story. Another child suggests how she is to do this by stating: “Talking waitpela way” (‘talking whitefella way’). During discussions with the research assistants while transcribing, there was some initial self-effacing disparagement of ‘the way we talk’. I simply remarked that I thought it was really interesting and sounded “great” and after that there didn’t seem to be any shame about accurately transcribing the Alyawarr English and discussing it in terms of its usage in the community.

4.4 Data Collection

4.4.1 Method

Variation theory is concerned with the language produced by speakers in everyday interactions. As such, it is necessary to capture data that best reflects the language used in such contexts. The traditional variationist method for obtaining such language samples is the ‘sociolinguistic interview’ (Labov 1966, 1984), wherein an informal conversation takes place between two people, the interviewer and the consenting participant. The interviewer is generally known to the participant, and a speaker of the same language variety/-ies. They invite the participant to share autobiographical stories as a means of distracting them from focusing on their speech. The goal is to collect ‘unmonitored’ speech, considered to be as close as possible to the vernacular, which is “the most systematic data for linguistic analysis” (Labov 1984:29).

In the present context, the sociolinguistic interview was not a realistic method for the collection of language data. The participants in this study are children aged between 5-8 years, who do not engage in the kind of lengthy conversation about one’s life that adults might be expected to perform and do with a sense of ease and informality. This is not a
verbal activity that the participating children typically engage in and it was hard to imagine a way that such a performance could be achieved.

Other studies of child language variation in young children have encountered similar problems in other settings, and have, like the present study, instead used recordings of children at play (in both home and institutional settings), taking their naturalistic and spontaneous utterances produced in these contexts as the primary linguistic data (e.g. Tagliamonte & Molfenter 2007, Roberts 1997).

Data for this thesis come from the corpus of recordings made for the Aboriginal Child Language Acquisition 2 (ACLA2) project (http://arts.unimelb.edu.au/soll/research/past-research-projects/acla2), a longitudinal study of the interaction of home and school languages in Aboriginal communities. This project has several other field sites, and multiple aims. The design of the recording schedule was focused on capturing naturalistic language use in a range of different home and school contexts. Archiving and permissions protocols for the corpora built under this project are managed by the Chief Investigators Prof. Jane Simpson (The Australian National University) and Prof. Gillian Wigglesworth (University of Melbourne).

In July of 2009, I undertook an initial introductory visit to Ipmangker with Samantha Disbray, who had participated in the first ACLA project, recording children in Tennant Creek (see Disbray 2008a). Disbray is a personal friend of Linda Dobbs, one of the senior women at Ipmangker who was enthusiastic about the project. I returned in September to conduct a preliminary field trip. The aims of this trip were to conduct a few recordings with age-relevant children, and transcribe them, so that parents and other participants could have a better sense of what the project would entail. It was also during this trip that two research assistants who were able to assist with transcribing emerged. The three main field trips were then conducted over the next two years, at six-monthly intervals:

Field Trip 1: April-May 2010 (5 weeks)

Field Trip 2: Oct-Nov 2010: (7 weeks)

Field Trip 3: April-May 2011 (4 weeks)
4.4.2 Corpus description

During each field trip I made at least 2 video recordings of each focus child at home, and at least two at school. Each recording was around 60 mins long and about half of this was usually transcribed. The Ipmangker corpus now consists of 50+ hours of naturalistic video recordings of six focus children aged 5-8 (plus their relatives and classmates who happen to appear, with permission, ‘in the frame’).

There are also recordings that form a small sub-corpus of adult Alyawarr English speech. One of the research assistants allowed me to (audio) record several episodes of her telling a story to her son using a wordless picture book\(^\text{11}\). The several Alyawarr English-speaking teaching assistants and pre-school teachers also appear in the school recordings, speaking in both Alyawarr English and SAE. From this some tentative observations about the use of Alyawarr English by adults are made in later chapters.

Recordings of the children made in the pre-school and school follow the normal routines of the day. As such the corpus contains recordings of a variety of school activities: literacy (e.g. reading from texts, talking about texts, writing practice, phonics activities, sight words recitation), numeracy (e.g. counting games, maths worksheets), science (e.g. learning about trees, volcano making), music, art, and various other informal interactions. The corpus also contains recordings from a number of ‘bush tucker’ excursions within areas surrounding the school. Recordings in the pre-school contain some formal interactions, such as the ‘welcome’ activity (involving discussion of the day’s date and weather), but given the play-based pedagogy of pre-schooling, the corpus also records much informal teacher-student interaction.

In the home context, recordings were typically made in small groups (3-4 children) around a set of toys provided by the researcher (detailed in the following section). The provision of interesting new toys was largely a logistical hack: it made the children more likely to stay within the range of the video camera. The corpus does contain some recordings in more spontaneous contexts (at the cubby house, at the basketball court) though these are in the minority and required re-positioning the recording devices more often.

\(^{11}\) There are some restrictions on the use of this material since the tragic death of this woman. For example, I no longer use the recordings themselves, but rather work from transcriptions.
4.4.3 Equipment

The basic recording kit consisted of:

Video camera: Canon Legria HF21 High Definition digital camera, usually placed on a tripod off to the side of the play area.

Radio/lapel mics: Sennheiser ew100 G2. This consists of a small lapel mic that was clipped to the child’s t-shirt, and a transmitter pack (about the size of a deck of cards) that was attached to the waistband of their trousers/shorts. The receiver plugs directly into the Zoom H4 unit.

Audio recorder: Zoom H4n recorder, on a mic stand. Recording input from the built-in mic and also from the radio/lapel mic (using an XLR input jack).

Toys: For the recordings at home it was necessary to provide the small group of children being recorded with a set of toys to play with. This was primarily done with the aim of keeping the children in the one spot, to allow recording to take place - normal play activities can involve a good deal of roaming around the community. For this purpose I always took several kits of toys, including a couple of new ones for each trip. These included:

Doctors dress-up kit
Cooking/food kit
Cash register/shop kit
‘John Deere’ station machinery figurines
‘Medieval Battle’ figures
Small dolls with changeable clothes
Meccano set
‘Guess Who’ game

Wordless picture books: At each field trip I recorded each of the children telling the story from a wordless picture book. Sometimes this elicited more SAE-like speech and
sometimes Alyawarr English. For this purpose I used a series of culturally-relevant books created by Carmel O’Shannessy for her work with children at Lajamanu (Northern Territory) associated with ACLA, and focusing on a new mixed-language variety\textsuperscript{12}. Data collected in these activities was ultimately not used in any of the statistical analyses carried out in this thesis as narrative text production often contains its own internal temporal structure that would make determining the temporal and aspectual semantics difficult without specific study of the way this genre is constructed by the children (see for example, Disbray 2008a).

\section*{4.4.4 Processing and transcribing}

The raw video was first backed up and then imported into iMovie and saved at a more manageable size (in .m4v format) for transcribing. The superior-quality audio recordings from the Zoom H4 (both internal mic and signal from the lapel mic) were synced to the video using Audacity. The two separate signals (internal and lapel) were merged to create one single audio file, but the separate signals were also retained so that if, for example, the child wearing the lapel mic moved away from the Zoom H4 unit and the camera followed the child, the competing ‘noise’ from the ZoomH4 unit could be ‘switched off’ by switching to the ‘lapel mic only’ signal. The transcribing software ELAN allows this to happen very easily, by switching to a different master media file. Transcribing in ELAN was done with both the superior audio recording and the video displayed. Initially I would run through the recording in ELAN and transcribe what I could, or at least enter the fields where speech was occurring. This was later added to and checked by one of the research assistants, Ms G Kelly (now deceased) or Ms Michelle Dobbs. Both of these women speak Alyawarr English, and were intimately familiar with the speech of young children in the community being mother/aunty to several young children.

\section*{4.5 Application of the variationist method to the corpus data}

In this section I will detail the steps taken to apply the variationist method, as examined in Chapter 3 (§3.2), to the current corpus data. One of the innovations used in this thesis is the creation of a L1 and L2 data set based on contextual rather than formal

\textsuperscript{12} They are available at her website http://www-personal.umich.edu/~carmelos/research.html
criteria. Justification for this was given above (§3.1) and here I describe the procedure (§4.5.1). Following this, I provide an overview of why the variables present temporal referent, subject pronouns and transitive marking were selected (§4.5.2). Finally, there are three sections (§4.5.3-§4.5.5) addressing how several components of standard quantitative variationist methodology has been applied to this unique corpus data.

4.5.1 Forming the L1 and L2 data sets

In Chapter 2 (§2.1) I detailed the difficulty in determining which language a particular clause belongs to in a corpus that contains both a contact language and its standardised source language. For the reasons outlined above, I have decided to resist using structural definitions, and have rather opted to sort clauses in the corpus using contextual criteria. Data were coded for a variety of contextual situations, delineated primarily in terms of the addressee (Alyawarr, non-Alyawarr), location (home, school)—see Figure 4-1 below. Additionally, the data from several specific interactional contexts were assigned sub-category status, since there were grounds for suspecting the language use may be more varied in terms of code choice in these contexts. For example, on one particular field trip the recordings of the children telling the story of the wordless picture books tended to contain a higher density of English-like structures13.

It is hypothesized that these base and sub-contexts fall somewhere along a continuum of language use. The context hypothesized to be the most representative of an extreme end of language use has been called the ‘base context’. There are two base contexts: ‘HOME’ and ‘SCHOOL’. The base contexts, as extremes, are predicted to be most likely to show contrasting systems of internal variation. Because of this, in the analysis which follows, special focus has been given to the base contexts. Clauses assigned sub-contextual status were excluded from the main analysis presented in Chapters 4-6 of this thesis (i.e everything that is in a ‘sub-context’ category was excluded). In short, each language (Alyawarr English and SAE) has been operationalised as a set of clause tokens fitting a set of contextual constraints (‘home/Alyawarr interlocutor’ and ‘school/non-Alyawarr interlocutor’ respectively). To the extent that these contextual constraints are adequate and HOME and SCHOOL data sets truly represent distinct linguistic entities that we can

13 This was designated SB1, for though it took place at home, the fact that SAE seemed to be the language in use (rather than AlyE), puts it with the other SAE sub-contexts.
refer to as Alyawarr English and SAE, then systematic variation that is detected within and different between each data set will be taken as evidence that the children are using two different grammars.

**Figure 4-1:** Classification of clauses into social context categories, in order to form the two main HOME and SCHOOL data sets, which are taken as representative of the children’s Alyawarr English and SAE respectively.

**NOTES:** Although SB1, SB5 & SB6 take place at home, the children appeared to be using SAE so it was classified with the ‘school’ sub-contexts attempting to capture SAE use. Likewise HS2 reflects use of more Alyawarr English like features in the classroom (when talking to fellow students) and so falls within the data set attempting to capture Alyawarr English.

RE: SB5. The young girls in the corpus universally spoke as other characters using speech that used a higher density of SAE features (either when voicing black or white dolls or in role-playing where they were the actors).
4.5.2 Variable selection

Temporal reference was initially determined as the main variable of study for several reasons. Firstly, it is a compulsory feature of most clauses, so expressions of temporal reference would likely be abundant in the data. Secondly, I had already determined from preliminary grammar analysis that there were different, but overlapping, morphological features involved in the expression of temporal reference in Alyawarr English and SAE. So this would be a site for variability across codes, as well as within codes. This kind of variable—which differs structurally from one variety to another—has been called a ‘conflict site’ (Poplack & Meechan 1998:132). In determining the language of origin of components of mixed languages, the conflict site is where the relevant grammatical structure differs between the source languages. The extent to which a grammatical structure in the mixed language resembles one source language (but not another), a determination regarding the origin of the structure in question can be made. In order to determine whether the children in the present study are producing two different grammars, the site of investigation needs to also be a potential source of conflict (between the HOME and SCHOOL data sets). To the extent that we know how these variables operate in the input varieties (i.e. adult Alyawarr English and SAE) then we might infer a direction of influence over the emerging grammar in each case.

Once the clauses consisting of each base context were extracted, these were examined to see which temporal reference type would provide the largest amount of data. I was surprised to find that the classroom environment as a general rule seemed to provide students with little opportunity for the production of complete SAE clauses. Getting enough school clause tokens for analysis required the transcription of many more hours of recording than the home data, and even then, there is a large difference between the number of clause tokens gleaned from each context. Present temporal reference clauses were the most common in the school data, and so this was chosen as the focus of analysis and comparison. In coding for temporal reference, particularly in the school data, I examined the context of each clause carefully, in order to not be too influenced by the form of the verb. I was particularly sensitive to the noted tendency for early L2
learners of English to use temporal ‘anchors’ such as adverbs (‘yesterday’ ‘always’) and leave verbs unmarked (Klein 1995, Long & Sato 1984).

| Table 4-1: Three variables and their primary variants in participating Alyawarr children’s Alyawarr English (HOME), and SAE (SCHOOL), and in native-speaker SAE. |
|-------------------------------------------------|---------------------------------|------------------|
| tense-aspect morphology                         | HOME                            | SCHOOL           | native-speaker SAE |
| 1sg Subject                                     | V~Ving~Vbat                      | V~Ving           | V~Ving            |
| Am~I                                            | Am~I                            | Am~I             | I                 |
| transitive marking                              | -im ~ -Ø                        | -im ~ -Ø         | -                 |

In addition to aspect morphology, transitive marking and subject pronominals have been examined since the relationship between the systems in the HOME and SCHOOL differ for each of these. As noted above (§1.4 and §3.4), and shown again in Table 4-1, Alyawarr English and native-Speaker SAE have different numbers of variants for each variable. In the children’s SAE data, captured by the SCHOOL data set, the number of variants is at least 2 in each case, and so this allows for comparative variationist analysis of each variable.

4.5.3 Variable-rule analysis

There are several guiding principles of variationist analyses that both reflect a theoretical stance regarding the nature of variability in natural language and have methodological consequences for proceeding with quantitative analyses. I will highlight two here.

Firstly, the ‘principle of accountability’ (Labov 1972a: 72) holds that features of interest must be examined within the context of the other linguistic forms that comprise that functional set. In the current thesis this means that all forms of present temporal expression must be examined before the complete story about each particular form can be understood. The functional system (e.g. present temporal reference) is the ‘variable’ and the multiple formal expressions of that system (e.g. in this case, three verbal morphemes -ing, -bat and -Ø are analysed quantitatively) are the ‘variants’.

Secondly, each form (or variant) within a functional system will have contexts in which only one form occurs virtually all of the time. The job of the analyst is to carefully examine the corpus to locate these sites of categorality, and exclude them from the
variable rule analysis. For the purposes of the statistical analysis, categorality is actually
defined as a feature occurring with an incidence of fewer than 5% or greater than 95% (Guy 1988:132). In the cases of the present corpus, where there has been no prior
description of the L1 in question, this calls for a period of language description and exploration: “a long series of exploratory manoeuvres” (Labov 1969: 728–729). This process has been called ‘circumscribing the variable context’ (e.g. Tagliamonte 2006: 13) and is reported on in each analysis chapter.

The procedure for modelling variation used in this thesis is logistic multiple regression conducted in Goldvarb X (Sankoff, Tagliamonte and Smith 2005).

4.5.4 Longitudinal and cross-sectional design

The lack of longitudinal data has been called one of the greatest problems in the study of child language acquisition. Doughty and Long (2003:3) state that “longitudinal studies of children ... are distressingly rare; the vast majority of SLA studies are cross-sectional, with serious resulting limitations on the conclusions that can be drawn on some important issues”. While cross-sectional study design is quite common and profitable in traditional explorations of sociolinguistic variation, variationist SLA studies are moving in the direction of more longitudinal design (Bayley and Tarone 2012). The modelling of variation over time allows for close examination of the staging of language acquisition and change. The present corpus has been designed as both cross-sectional and longitudinal - as shown in Table 4-2. However, the main analyses presented in the following chapters in fact combines the data into one group. This was unfortunately necessitated by the low overall token counts once the relevant exclusions were applied (I describe this process in detail in the relevant chapter sections). As a result, while potential age effects are still discussed in some detail (particularly for transitive marking), they are not included in the multivariate analyses. The corpus does, nevertheless, retain the potential to be analysed in this way for other more frequently occurring variables (such as phonological features).
Table 4-2: Number of tokens per speaker at each age point, present temporal reference clauses only

<table>
<thead>
<tr>
<th></th>
<th>Lower Primary 5:0-5:5</th>
<th>5:6-5:11</th>
<th>6:0-6:5</th>
<th>6:6-6:11</th>
<th>7:0-7:5</th>
<th>7:6-7:11</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dylan</td>
<td>105</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Lenora</td>
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<td>275</td>
<td>131</td>
<td>502</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alysha</td>
<td>86</td>
<td>113</td>
<td>146</td>
<td>345</td>
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<td>161</td>
<td>172</td>
<td>444</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deanna</td>
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<td>54</td>
<td>128</td>
<td></td>
<td></td>
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<td>242</td>
</tr>
<tr>
<td>Simon</td>
<td>102</td>
<td>135</td>
<td>139</td>
<td>376</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>170</td>
<td>95</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Ramona</td>
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</tr>
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<td>365</td>
<td>485</td>
<td>498</td>
<td>593</td>
<td>236</td>
</tr>
</tbody>
</table>

4.5.5 The individual and the group

It was noted in Chapter 2 (§2.2.1) that sociolinguists have gone to some efforts to explore and defend the concept of a ‘speech community’; that is, a cohort of speakers whose variable use of a particular language feature or set of features conforms to the same set of constraints and social norms (Labov 2007: 347). In the language acquisition context a cohort of speakers or ‘speech community’ could be a group of learners at the same level of acquisition. This might be particularly evident for language features given to reordering of constraints over the process of acquisition, as we saw in Chapter 3 (§3.2.1.1). Therefore, it is important that a group of speakers tendered as the sample be shown to behave in a similar manner with respect to variable usage of a feature.

Traditionally inter-speaker variability is explored prior to conducting statistical analyses. In particular, the focus is on outliers; individuals who behave quite differently from the rest of the group. Once identified, the analyst may investigate that individual’s linguistic history as a means of explaining their divergent patterns of use. One procedure for detecting outliers, usually unpublished, is to cross-tabulate each of the individuals in the sample by each of the factor groups (Tagliamonte 2012:131): each individual speaker’s use of the variable should mirror the group pattern. For example, if

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14 Emerson’s birthdate was not recorded, though he was in the lower primary class during the recordings taken of him. When data is discussed in terms of age effects, his data is generally excluded (as noted in the relevant sections).
the use of aspectual morpheme -ing is favoured by durative clause contexts across the pooled sample, then the data of individual speakers should reflect this pattern too. This is the procedure that has been undertaken for the three variables in the present study. This exploratory work confirmed that there is sufficient inter-speaker consistency for the factors ultimately found to significantly constrain variation, so we can be sure that these factors are operating for all the children in the sample.

4.6 Transcription conventions

Throughout this thesis clause tokens taken from the HOME data set will be presented using the ‘Kriol orthography’, a widely-used orthography developed for creoles in the Northern Territory and the Kimberley and later also applied to mixed languages in the region (Schultze-Berndt, Meakins & Angelo 2013). Lexemes that are historically from Alyawarr will be transcribed using the orthography developed for that language and formatted in italics (see Moore 2012), since this expresses the phonemic patterns of those words more accurately - this is not meant to imply that there is code-switching since these items seem to be fully incorporated into the Alyawarr English of the children in most cases (see examples (1) and (2)). This dual system of transcription will also allow the reader to see clearly instances in which Alyawarr lexical items and morphemes have been incorporated into Alyawarr English15. Interlinear glossing follows the standards set forth in the Leipzig Glossing Rules16.

(1) …fram tha rop-they
    fram tha rop-they
    from the rope-ABL
    ‘…from the rope’ [SJD-048:350 Simon HOME]

(2) Na i gat jampan that ka-itwew
    Na i gat jump-an that ka-itwew
    no 3SG.SBJ got jump-ADV DET car-LOC
    ‘No, he’s got to jump on that car’ [SJD-048:393 Simon HOME]

Tokens taken from the school data set will generally be presented using standard English orthography. Although when morphemes associated with Alyawarr English

15 There are also instances in which the young girls in particular use clauses that are more ‘SAE-like’ in a home context. Since these have been excluded from analysis (discussed in section §4.5.1) I will not discuss possibly representation in transcription.
16 https://www.eva.mpg.de/lingua/resources/glossing-rules.php
appear in these clauses they will be transcribed in the Kriol orthography (e.g. the transitive marker -im in example (3)), and those associated with Alyawarr are presented in italics, as in HOME clauses.

(3)  I wantim this one.  *(telling a teacher which computer image she wants printed out)*  
     [SJD-039-C:633 Lenora SCHOOL]

4.7  Conclusion

In this chapter I have provided an overview of some of the historical and present-day context in order to situate the reader in the daily language practices of Ipmangker community. This small but highly networked community is connected to the multilingual world around them by bush track and satellite dish. The result of these multitudinous past and present influences has been the emergence of Alyawarr English in the community, sometime within the last 20 or so years. In order to document this unique variety, the ACLA2 project took the decision to record naturalistic speech in a variety of home and school contexts. In order to describe the use of this language as well as use of SAE, I have developed an innovative means to separate the data into two datasets: HOME (representing Alyawarr English) and SCHOOL (representing SAE). This has involved the cautious application of contextual criteria, that resulted in the exclusion of data from 'sub-context' categories. Finally, I have explained how the principles and processes of the quantitative variationist method is applied in the following chapters. With this chapter concludes the preliminary portion of this study. We now turn to the analysis chapters, to find out if the focus children are indeed using two separate grammars: Alyawarr English and SAE.
5 Variation in Tense-Aspect Morphology: Preliminary Considerations

5.1 Introduction

Immediately striking to those familiar with Australian contact languages is the use of the verbal suffix -bat in the children’s speech. As we’ll see below, this is a well-attested feature of Kriol spoken in the Kimberley region, and across to the Northern Territory varieties. Having already been attested as far south as in the speech of Wumpurrarni English-speaking in Tennant Creek (Disbray 2008a) its occurrence in this corpus possibly evidences the ongoing diffusion of certain features originating in the contact varieties spoken further north and west1.

However, as discussed in the introduction, the presence of the same morphemes, even in the same functional domain, does not necessarily imply an equivalence within that functional system. In the present data set, -bat varies with two other verb forms in the expression of present time2: the unmarked form V, and verbs marked with -ing. There are a number of possible explanations for the relationship between these three forms (which I will henceforth refer to as V, Vbat and Ving). It could be the case that Ving and Vbat are functionally equivalent forms but vary in use due to some categorical restriction. For example, they may both mark imperfective aspect with Vbat restricted to transitive clauses, and Ving restricted to intransitive clauses. Example sentences (1) and (2) seem to provide evidence of this: In example (1) the verb is marked with a transitive marker (although the object is elided), and also with the -bat suffix. By contrast, in example sentence (2) the speaker is explaining why the frypan and egg are currently unattended (by way of warning the interlocutor to leave it alone), stating that ‘the egg is cooking’. This intransitive use is marked with -ing.

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1 While the origins of this feature in early pidgin varieties has not been well investigated, several key descriptions of Aboriginal English use further south of the present site do not attest to this form, suggesting that southward diffusion is the most likely, though perhaps arguable, explanation (e.g. Harkins, 1988 on Alice Springs Aboriginal English; Koch 1985).

2 These forms are also used in past and future temporal expression.
(1) **Im kukimb**at  
Im *kuk-im*-bat  
3SG.SBJ cook-TR-BAT  
‘She’s cooking (it)’  
(referring to Deanna, who is ‘cooking’ a toy fried egg in a fry pan)

(2) **Im kuing**  
Im *kuk-ing*  
3SG.SBJ cook-ING  
‘It’s cooking’  
(referring to the fried egg & fry pan she is cooking on a pretend stove top)

However, there does not appear to be any such transitive contrast in example (3). While in this example the *-ing* suffix is clearly the more frequently used form, the same verb root ‘sleep’ is produced with both *-ing* and *-bat*. This raises the possibility that there might indeed be semantic or other differences between Ving and Vbat (or they are in free variation).

(3) *Antyeny janggul*…(1.0)…*Antyeny janggul silip*ing…(0.5)…Thei bin silip…(0.5)…Silip*bat* na. Janggul. Janggul tri…(0.7)…*Antyeny iya*. *Antyeny-rnem silip*ing…(1.2)…*Antyeny-rnem silip*ing.  

*Antyeny jungle*…(1.0)…*Antyeny jungle sleep*ING…(0.5)…They PAST sleep…(0.5)…Sleep*BAT* now. Jungle. Jungle tree…(0.7)…*Antyeny here*. *Antyeny-PL sleep*ING…(1.2)…*Antyeny-PL sleep*ING.  

‘It’s the little dude’s jungle…Little dudes sleeping in the jungle…They were asleep…Sleeping now. Jungle. A jungle tree…Little dude here. Little dudes are sleeping… Little dudes are sleeping.’

*talking to himself as he plays with little toy soldiers (‘antyeny’)*  

[SJD-063:405-8 Simon HOME]

When we look at the data in the *school*, the picture becomes even more complicated. In example (4) Tiffany tells Lenora to stop colouring in the page in front of them: the verb takes the *-bat* form. She then alerts the (non-Indigenous) teacher to this proscribed activity and switches to the *-ing* form. Similarly, in example (5) a young boy in his first days at pre-school is telling the teacher that one of the other children was kicking (something). His choice of *-bat* ending is corrected by an older student, who reproduces
his verb as kicking. These examples suggest other possibilities: that the home Vbat is the functional equivalent of the school Ving³.

(4) Don’t colourimbat!...He’s colouring it
(to fellow student and teacher, respectively)  [SJD-044-B:200-2 Tiffany SCHOOL]

(5) Simon: Hey! Shaun bin kickimbat!
Teacher: What?
Deanna: kicking  [SJD-019-B:104-7 SCHOOL]

In order to examine these possibilities (and others), I will apply the Comparative Variationist method, outlined and developed in the preceding chapters. Recall this first involved separating the corpus on the contextual grounds described in detail in Chapter 4 (§4.5.1), resulting in two main data sets to analyse: home and school. In this chapter I will first discuss precisely what is meant here by the terms ‘present tense’ and ‘present temporal reference’ (§5.2) and provide descriptions of the present temporal reference systems of relevant languages: English (§5.2.1), Australian contact varieties (§5.2.2) and Alyawarr (§5.2.3). The purpose of this overview is to determine how the forms V, Ving and Vbat seem to be operating in other languages, in order that the current data can be investigated for similar patterns.

Following this, I will make a brief digression to discuss some of the other interesting verb forms that were used by the children in present temporal reference clauses (such as verbal -s), but in numbers too infrequent to permit statistical analysis (§5.3). I then return to a thorough description of the variable in question (‘present temporal reference’) and I note some types of clauses that were excluded a priori from analysis (§5.4). The remainder of the chapter contains discussion of the set of factors included in the statistical analysis (§5.5). I give the reasoning for their inclusion, and predictions for how they are likely to impact on variant selection. Once these preliminaries are concluded (§5.6), I present the results of the quantitative analysis in the following chapter (Chapter 6).

³ These two example sentences will be excluded from analysis: (4) because the speaker is addressing her talk to a fellow student, and (5) because the clause is doing past temporal reference. As we’ll see, the use of –bat in clauses addressed to teachers in the classroom is minimal.
One of the foundational principles of variationist linguistics is an acknowledgement of the common asymmetry between form and function in natural languages. The realm of temporal reference is a case in point. The English ‘simple present’ form can be used in clauses with a variety of temporal reference frames: e.g. ‘Mary leaves tomorrow’ has a future reference point. Conversely, there are several constructions which can broadly be used to refer to events in the present time: ‘I’ll go now’ (will go), ‘She’s eating it all up’ (is Ving), ‘I like you’ (V), ‘Astrid loves you’ (Vs). In this thesis I adopt the term ‘present temporal reference’ as a functional gloss for clauses in which the event is situated in the present (i.e. at the time of the utterance).

Within a given language, there may be multiple verb forms or constructions that can be used with present temporal reference, although descriptive grammars can tend to lean towards a 1:1 form-function analysis. With that in mind I will now examine some of the descriptive work on English (§5.2.1), various Australian contact varieties (§5.2.2), and Alyawarr (§5.2.3). While the extent to which the nature of asymmetry between morphological markers of present tense and the expression of present temporal reference has not often been explored in detail, I will summarize some of the main hypotheses regarding forms that appear to express present temporal reference in each language, and appear in the present corpus.

5.2.1 Present temporal reference and aspect in English

There are several forms or constructions in Standard Australian English that can be involved in the expression of past, present or future temporal reference, though as I have flagged above, these forms are not necessarily exclusively aligned with one function. The verb form often called the ‘present tense’ (e.g. Huddleston & Pullum 2012) (V/V-s4) or simple present is also used to refer to states or events in the past (such as the ‘past evidential’ use e.g. “I hear we’re getting some new neighbours” (Huddleston & Pullum 2012: 131)) and future (such as the ‘present futurate’ e.g. “There is a solar eclipse on Tuesday” (Huddleston & Pullum 2012:131)), as well as those which are true

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4 The distribution of verbal -s in English will not feature substantially in the analysis that follows, so I will not detail its formal contrasts and functional scope (compared to V) here.
of the present and some extended period into the future (e.g. ‘John has a broken leg’; ‘Australia is a democracy’) and indeed of all time, or outside of temporal considerations (e.g. ‘Five times two is ten’; ‘Cannons go “boom!”’; ‘Birds fly’). This form can also be used for habitual events that may not be taking place at the moment of speaking (e.g. “I see a movie every week”; “Paola eats here often”). The actual use of the simple present to express present temporal reference is quite limited (Huddleston & Pullum 2012): with present states (e.g. “I want that one”; “I see your point”), and certain performative verbs (e.g. “I promise I’ll be there”; “I recommend the steak”) and commentary contexts like sports telecasts (e.g. “Johnson gets the ball, runs, shoots, scores!”).

In addition to the simple present forms, the expression of present temporality is also performed by the construction: be.PRES + Ving\(^5\). The verb form in this construction is often called the progressive (Huddleston & Pullum 2012), and the meaning commonly attributed is that of imperfect aspect, specifically duration or continuation (Comrie 1976), or “event in-progress” (Dowty 1979:133). In contrast to the simple present, the choice of progressive often has the impact of focusing on the limited duration of a particular event or state, as demonstrated in example sentences (6) and (7) (the right-hand sentences imply that the activity is temporally limited):

(6) We live in Munich \hspace{1em} vs. \hspace{1em} We are living here for now.

(7) Simon surfs \hspace{1em} vs. \hspace{1em} Simon is surfing

In English the relationship between tense, verb forms and aspect is complicated by the interaction between lexical aspect and verb form. Specifically, the ‘default’ aspevtual readings of verbs in present tense and the present progressive are different depending on the stativity of the verb (Olsen 1997). States in the simple present tend to be interpreted as temporally unbounded, and their progressive-marked counterparts have a temporally bounded semantics (per example sentence (6) above). Dynamic verbs in the present progressive are similarly temporally bounded, but this tends to have the reading of a “single ongoing situation” (Olsen 1997: 167), and dynamic verbs in the simple present have an ‘habitual occurrence’ interpretation (Olsen 1997). This contrast is illustrated in example (7). Further, some achievement verbs in the present

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\(^5\) In addition, there is a range of modal and auxiliary constructions that are not substantially relevant to present concerns, but see Huddleston & Pullum 2012:108-115 for a comprehensive account.
progressive can have a specifically iterative meaning in particular pragmatic contexts (Olsen 1997:169), as exemplified by sentence (8).

(8) Alfonse is coughing

These intersections between lexical aspect and verb form are summarised in Table 5-1. The emphasis on ‘default’ semantics (i.e. the meaning that arises in simple clauses) responds to the fact that the addition of aspectual operators, or particular contextual environments can further impact on the aspectual reading of the whole clause. One approach to this sees clausal elements changing the lexical aspect of the verb. For example, a fundamental component of Olsen’s (1997) thesis is an exploration of the ways in which specific classes of verbs can change lexical aspect assignment. Activities can become accomplishments with the addition of a goal location in the clause (e.g. Mary runs > Mary runs to the shops).

<table>
<thead>
<tr>
<th>lexical aspect class</th>
<th>Verb form/construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>states</td>
<td>simple present: V/V-s</td>
</tr>
<tr>
<td></td>
<td>progressive: be.PRES + Ving</td>
</tr>
<tr>
<td>dynamic verbs</td>
<td>‘temporally unbounded’</td>
</tr>
<tr>
<td>achievements</td>
<td>‘habitual occurrence’</td>
</tr>
<tr>
<td></td>
<td>[per ‘dynamic’]</td>
</tr>
<tr>
<td></td>
<td>‘iterative’ interpretation is possible depending on verb</td>
</tr>
</tbody>
</table>

Verbs denoting states (which are unmarked for telicity and dynamicity in the Vendlerian sense) can be used in both telic and dynamic senses with the addition of particular operators (like an agentive subject), as illustrated in the examples (9) and (10) from Olsen (1997:39). Note that the aspectual semantics change from one of temporally unbounded or timeless in (9) to habitual in (10).

(9) That rich Illinois soil grows great corn. (state)

(10) Ted grows great corn from that soil. (accomplishment)

Under this type of approach, the progressive itself can constitute a lexical aspect-changing device: “(present) states in the imperfective be Ving form favour dynamic interpretations” (Olsen: 1997:165), for example, ‘I’m loving that dress on you’. The use of the progressives on states is a controversial subject in the aspect literature, with some arguing that it only arises as a kind of special case (e.g. Comrie 1976). However, data
from actual real language usage shows evidence of ‘stative + ing’, also with stative interpretation, as in the following example (11):

(11) She is not currently needing any type of life support. (WBEZ radio news, 2-1-94, cited in Olsen 1997: 165)

In summary, there are two forms used in the expression of present temporality in English that are relevant to this thesis: the simple present and the present progressive. While their names imply some uniformity regarding their function, in fact the forms intersect in complex ways with lexical aspect to produce an aspectual reading of the entire clause in SAE. This array of possibilities, from the default reading in minimal clauses to a number of other possible interpretations once additional aspectual operators are included, suggests that in a quantitative corpus analysis of English the relationship between verb form, lexical aspect, and whole-clause or sentential aspect will be probabilistic (i.e. with rates of occurrence between 5%-95%). That is, for example, stative verbs will sometimes appear in the form V and sometimes Ving, and stativity will probably favour the former (rather than categorically constrain it). Similarly, both V and Ving will occur in each type of sentential aspect clause, in varying degrees. This is indeed the finding of several recent corpus analytic studies (e.g. Walker 2000; Poplack & Tagliamonte 2001). Statistical models can explore which types and combinations of operators (e.g. adverbs, agentive subjects, expressed goals) best account for choice of a particular verb (i.e. V/Ving) form over another.

5.2.2 Present temporal reference and aspect in Australian contact languages

This section contains an overview of the present temporal reference systems in a variety of Australian contact languages, with a focus on the aspectual contrasts.

5.2.2.1 Kriol

Kriol is an English-lexified creole spoken in northern parts of the Northern Territory, Australia. Present temporal reference can be expressed with a verb phrase that is minimally composed of an uninflected main verb. Added to this may be pre-verbal modal/aspectual auxiliaries (such as oldei ‘continuative’, olwei(s) ‘habitual’), phrase and voice markers (see Schultze-Berndt et al 2013). Past and future time reference are primarily indicated by temporal auxiliaries bin and ‘l respectively (other markers of
modality also have future time reference), and so present time is expressed by the absence of either of these forms. Verb morphology is “limited to reduplication, and invariant suffix -im ~ -i on most transitive verbs, a number of “adverbial suffixes”…and a progressive aspectual suffix” (Schultze-Berndt et al 2013: 245).

Sandefur (1979) describes a three-way aspectual contrast for Kriol, with distinct structural features, although apparently overlapping semantics. The ‘progressive’ “[p]redominantly denotes an action continuing through some point of time indicated elsewhere in the context” (p121). It is marked by the suffix -ing. The ‘continuative’ “generally denotes an action as being continuous or repetitious” (p119), and is marked by the suffix -bat. A further ‘durative’ aspect “denotes an action as being of an extreme duration, whether it be of a continuous or repetitive nature. In a sense, durative is the continuous aspect in an extreme degree” (p120). It is indicated structurally by reduplication or vowel lengthening, coupled with raised pitch.

Sandefur (1979) notes, however, that these are not semantically distinct categories: the progressive “is not totally discrete from the continuative aspect; these two aspects overlap with the progressive aspect to a large degree being subsumed under the continuative aspect” (p121). This statement (for which there is unfortunately no further elaboration or exemplification) suggests that in Kriol there is variation between the use of -ing and -bat in some contexts. Sandefur explains this variation as the result of semantic overlap, which implies that in these variable contexts, the variation is essentially ‘free’, or non-rule governed, since either form encodes the same meaning. However, it is unclear whether any attempts at uncovering any systematicity to this variation have been attempted (i.e. the pursuit of variable rules) - there is certainly no published record of such an enterprise.

More recent scholars of Kriol have not delved into this area in significant detail. Munro (2004) mentions continuous aspect being achieved through lexical means: with the use of oldei in the verb phrase. The only morphological expression of aspect that is noted is the suffix -bat, described as encoding ‘progressive aspect’ (also achievable through reduplication). Nicholls (2009) likewise describes -bat as progressive aspect, and states that this aspect is also marked by -ing (and reduplication), though does not detail any differences in conditioning between the two suffixes. The most recent description of
Kriol (Schultze-Berndt et al 2013) casts things slightly differently: both -ing and -(a)bat are described as progressive markers, the former restricted to intransitive verbs (with a suggestion that perhaps this has in fact lexicalised on the verb in most cases). This contrasts with Sandefur’s description, in which both -ing and -bat could attach to transitive and intransitive verbs, although transitive verbs needed to ‘drop’ the verbal-final transitive marker (-im) before taking -ing. It is not clear whether the analysis by Schultze-Berndt et al (2013) reflects an ongoing development of the language towards a more categorical distinction between -ing and -bat.

5.2.2.2 Kimberley Kriol

Kimberley Kriol is a contact variety spoken in the Kimberley region of Western Australia. It is historically related to Kriol, though the exact age and nature of the admixture of Kriol with local Adult Pidgin varieties remains uncertain (Hudson 1983 advances one explanation). Hudson (1983) describes a similar simple present tense verb phrase as Kriol (see above) with two aspectual verb morphemes: ‘progressive’ -ing and ‘iterative’ -bat. The progressive indicates “continuous action, but it can have a progressive or imperfective meaning when an action is viewed as being in progress at a given time” (p 39). The iterative can also have multiple meanings, iterative being the most common and continuous also possible. ‘Iterative’ can refer to “repeated actions or plural participants” (p 40 - emphasis added). Hudson (p39) also notes that there is:

an overlap of meaning and therefore an interweaving of distribution and co-occurrence. The shared meaning is that of continuous or durational aspect, i.e. an action is seen to be carried on for a prolonged period of time.

Other than these semantic descriptions, there is no further indication of what might constrain variation between -ing and -bat, or whether free variation is supposed in the ‘overlapping’ ‘continuous or durational’ space. For example, there is no consideration, to my knowledge, regarding a constraint restricting (or largely restricting) the use of these aspectual markers to non-stative verbs, as there purportedly is in English for -ing.

5.2.2.3 Gurindji Kriol

Gurindji Kriol is a contact variety spoken in Kalkaringi in the Victoria River District of the Northern Territory, around 600 kms to the north-west of Ipmangker. As the name implies, the main contributing languages to Gurindji Kriol are a traditional language
Gurindji (a Ngumpin-Yapa language), which provides the nominal structure and Kriol, which provides the verb phrase structure (Meakins 2007). Gurindji Kriol has morphology to express two time contrasts: future (future and immediate future) and non-future. These are indicated by verb auxiliaries and their equivalent clitic forms which attach to the subject pronoun. Meakins (2007:411) also notes that “verbs unmarked for tense seem to indicate present time”. Gurindji Kriol has two ‘continuative’ aspect markers, which are described as “equivalent to the English gerund participle -ing” (p418). They are distributed according to both source language of the host lexeme, and the transitivity of that lexeme: the form -ing attaches to intransitive Kriol-derived verbs, and the form -bat attaches to transitive Kriol-derived verbs.

5.2.2.4 Light Warlpiri

Light Warlpiri is spoken in Lajamanu community, located in the North Tanami Desert region of the Northern Territory, around 600kms to the north west of Ipmangker community. As with Gurindji Kriol, Light Warlpiri is a mix of a traditional Ngumpin-Yapa language Warlpiri and Kriol and other local English varieties. It also makes a two-way time contrast (future and non-future) using verbal auxiliaries and associated clitics. Light Warlpiri has one aspectual verb morpheme: progressive -ing (-bat is documented but rare), which “indicates events which are in progress at the moment of speech” (O’Shannessy 2005: 44). As such it cannot be used with future or past events (that are not ongoing into the present).

5.2.2.5 Wumpurrarni English

This speech variety is geographically the closest contact language to Alyawarr English. It is spoken in Tennant Creek, which is the nearest town and service centre for the people of Ipmangker. Contributing languages to this speech variety are English, Kriol, and Warumungu. Disbray (2008a: 267) states that the description of the aspectual system of Kriol (by Sandefur) “hold[s] generally for Wumpurrarni English, though a full examination to distinguish possible functions has not been carried out”. There are two aspectual forms described as ‘durative’ (-bat/-abat/-nabat) and ‘progressive’ (-in/-ing).

Disbray (2008) notes two distributional constraints, one (potentially) variable and one categorical. The former is described as a stylistic choice whereby “durative aspect tends not to occur in discourse with features of light Wumpurrarni English” (p267). A
categorical restriction in Wumpurrarni English verbal morphology is that if speakers mark transitivity on the verb, their only choice of aspectual marking is the durative (-bat/-abat/-nabat). This has consequences that speak to a further variable constraint: “the progressive aspect marker tends to occur with intransitive verbs, or verbs low in transitivity rather than strongly transitive verbs” (p267, emphasis added). It can also been attested occurring on verbs of Warumungu origin (Disbrey 2008a: 265).

5.2.2.6 Adult Alyawarr English

I have referred to the existence of a limited sub-corpus of adult Alyawarr English texts. This primarily contains two episodes of a research assistant telling a story with a wordless picture book as a prompt. There are also the incidental recordings of teaching assistants in the classroom. I have examined the two story texts (total clause count of around 350 clauses, of various tenses and modalities) to see if the incidence of Ving and Vbat suggests what the rules might look like for adult usage. There are 50 main verb tokens marked with Ving, and these are all semantically and structurally intransitive (see example (12)). That is, there is no object participant (expressed or otherwise) and no transitive marking on the verb. This indicates that Ving may be restricted to intransitive verbs.

(12) Aley thei olat reising ol fo tha mwetek.

Aley thei olat reising ol fo tha mwetek
now 3PL.SBJ whole_lot racing all for the car
'There now, they're all racing for the car.' [SJD-055]

There are 27 tokens of verbs with Vbat endings. About half [N=13] of these are semantically and structurally transitive: they occur in clauses with object participants (expressed or recoverable from the context) and are always also preceded by the -im transitive marker, V-im-bat (see example (13)). A further 14 verbs that are marked with -bat are intransitive. Ten of these are verbs with incorporated adverbial particles: stenap ‘stand up’ [N=6], siddaun ‘sit down’ [N=4] (see example (14)). Perhaps the use of -bat on these verbs is prompted by the awkwardness of the resulting verb if -ing is used instead: stenaping, siddauning. There are no examples in the adult data of the more SAE-like ‘sitting down’ or ‘standing up’. The remaining four cases of intransitive Vbat
consist of three examples of the verb go 'go', which are clustered together at the end of a story\(^a\) (see example (15)) and one token of the verb 'look' (for which there are also 3 tokens marked with -ing included in the token count for this verb form cited in the previous paragraph).

(13) *Arwerl im putimbat top.*

*Arwerl im put-im-bat top*

stick 3SG.SBJ put-TR-BAT top

‘She’s putting the stick up the top.’

(14) *Aley, themab bleedapwannem siddaunbat thisaid.*

*Aley, themab bleed-ap-wan-rnem siddaun-bat thisaid*

now 3PL.SBJ bleed-ADV-one-PL sit_down-BAT this_side

‘There now, these bleeding ones are sitting on this side.’

(15) “Watfo langwei wen yudu gobat?”

*Watfo langwei wen yudu go-bat?*

why far_away SUB 2DU.SBJ go-BAT?

“Why so far away, when you go?”

“Fo nothing yumab gobat langwei!”

*Fo nothing yumab go-bat langwei*

For nothing 2PL go-BAT far_away

“For no reason, you go far way!”

*Anyanywan bin stenap tu, graulim,*

*Anyany-wan bin sten-ap tu, graul-im,*

granny-one PAST stand-ADV too, growl-TR,

‘Granny stood up too, to scold them,’

“Nomoa gobat langwei!”

*Nomoa go-bat langwei*

no_more go-BAT far_away

“No more going far away”

A search of the corpus for the speech of other Alyawarr English-speaking adults returned a similar spread of examples: transitive verbs [N=5] (e.g. *siimbat* ‘see’; *putimbat* ‘put’; *oldimbat* ‘hold’), verbs with incorporated adverbs [N=2] (e.g. *siddaunbat* ‘sit down’) and one example of an intransitive verb (e.g. *waribat* ‘worry’). Uses of \( V^g \)

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\(^a\) While the overall Ns quoted here might seem low, this could be partly explained by the fact that this is mostly narrative data, and so the frequent use of the \( V \) form perhaps has a corollary with the use of the simple present in narrative contexts in SAE. Another feature of these data samples is that adults also more frequently (than children) employ verbs with endings that appear to have come from Alyawarr. I have not examined these in detail, however it is possible that they allow for the expression of aspectual contrasts in a way that minimises the load carried by \( V^g \) and \( V^b \).
were restricted to intransitive verbs. In summary, the adults appear to restrict the use of Ving to intransitive clauses, and use Vbat mostly in transitive clauses or with a special class of verb with incorporated adverbial particles. There are, however, residual cases of Vbat on two regular main intransitive verbs ‘go’ and ‘look’.

5.2.2.7 Summary of contact varieties

In the survey presented here, there are several patterns that will become relevant to interpreting the present data set. Firstly, none of the contact varieties have subject agreement forms on verbs as in English (i.e. verbal -s), and nor do they have tense inflection affixes on verbs. Indeed, in all varieties examined tense is expressed morphologically through pre-verbal auxiliaries and clitics, but not with morphemes which are affixes to the verb itself. Secondly, Kriol, Kimberley Kriol and Wumpurrarni English all use auxiliaries to express past and future temporal reference, and the present tense verb phrase does not have a specific tense auxiliary but is rather identified by the absence of either past or future auxiliaries. Contrasting to this, Light Warlpiri and Gurindji Kriol have a two-way time reference system (future and non-future), in which the verb phrases that are used to do present and past temporal reference are indistinguishable from each other.

All varieties mark aspectual contrasts in three ways: pre-verbal auxiliaries (such as oldei ‘continuative’), reduplication and verbal suffixes. All varieties except Light Warlpiri have both -bat and -ing aspectual suffixes (as summarised in Table 5-2). These are either presented as having contrasting, though ‘overlapping’ semantics (Kriol, Kimberley Kriol, and Wumpurrarni English) with no categorical distributional restrictions in terms of transitivity (i.e. the transitive marker is dropped to accommodate the -ing suffix on transitive verbs). Alternatively, in Gurindji Kriol the semantics of the two suffixes are the same, and instead it is a semantic/structural restriction in terms of transitivity that controls the distribution of the two forms. The more recent analysis of Kriol by Schultze-Berndt et al (2013) suggest that Kriol may have transitioned from the former type to the latter. Disbray (2008a) also notes a tendency for transitivity and aspectual marking to pattern together (-ing on intransitive;

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7 Disbray (2008a) notes several similarities in the Wumpurrarni English data, in particular in the marking of -bat on verbs with incorporated adverbials, as well as with intransitive luk ‘look’ and go ‘go’.
-bat in transitive), suggesting that variation between -ing and -bat may too be more influenced by structural rather than semantic contrasts. This mirrors the separate treatment given to transitive and intransitive verbs by traditional Australian languages as well (Koch 2000b).

<table>
<thead>
<tr>
<th>Table 5-2: Summary of aspectual forms and their nomenclature in various Northern Australian contact languages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vbat</strong></td>
</tr>
<tr>
<td>Kriol (Sandefur 1979)</td>
</tr>
<tr>
<td>Kriol (Nicholls 2009)</td>
</tr>
<tr>
<td>Kriol (Munro 2004)</td>
</tr>
<tr>
<td>Kriol (Schultze-Berndt et al 2013)</td>
</tr>
<tr>
<td>Kimberley Kriol (Hudson 1983)</td>
</tr>
<tr>
<td>Gurindji Kriol (Meakins 2007)</td>
</tr>
<tr>
<td>Light Warlpiri (O'Shannessy 2006)</td>
</tr>
<tr>
<td>Light Warlpiri (O'Shannessy 2006)</td>
</tr>
<tr>
<td>Wumpurrarni English (Disbray 2008a)</td>
</tr>
<tr>
<td>Adult Alyawarr English</td>
</tr>
</tbody>
</table>

5.2.3 Alyawarr

One of the languages spoken in the home environment of the children in this study is the Australian language Alyawarr. In the children’s speech the influence of Alyawarr in Alyawarr English can be most overtly seen in the use of some borrowed lexical items (alakenh ‘like that’, apal ‘mistakenly’, amern ‘vegetable food’, apmer ‘home camp’), peripheral case markers in place of prepositions, and number (dual and plural) marking:

(16) Going iya wodawarl [SJD-063:330 Simon HOME]  
    Go-ing iya woda warl  
    Go-ING here water-ALL  
    ‘Going here to the water.’

(17) Theya na, am duim Buddy-kenh lil amern [SJD-042:178 Shamus HOME]  
    theya na, am du-im Buddy-kenh lil amern  
    there na, 1SG.SBJ do-TR Buddy-POSS little food  
    ‘There now, I’m doing Buddy’s little food.’
There is also some limited use of Alyawarr verb morphology (discussed in section 4.7.1 below). For the most part, however, the complex Alyawarr system of tense and aspect is not overtly integrated into the children’s variety. There are some features that may be worth noting, however. Alyawarr has a three-way tense distinction: past, present, future. According to Moore (2012), grammatical aspect intersects differently with each tense (i.e. different aspectual markers and contrasts pertain to each tense). Notably, the default present temporal marker (-eyel) applies to both dynamic and stative verbs in the present, and also encodes generic events in the present. Thus, this system does not display the state-non-stative contrast of English. As we’ll see, this bears some resemblance the children’s orientation to lexical aspect in the HOME data, and so I will return to this as possible evidence of substrate influence in the following chapter (§6.6).

5.3 Minor (verbal) forms of present temporal reference in the corpus

The analysis that occupies the rest of this chapter will concentrate on the three verb forms already introduced: V, V-ing and V-bat. Several other verb forms associated with the expression of present temporal reference appear in the data, though not in large enough numbers to allow for a quantitative analysis. In this section I make a brief digression to discuss these minor and potentially emerging forms.

Table 5-3: Overall counts of the minor formal (verbal) expressions of present temporal reference, per HOME, SCHOOL and excluded contexts

<table>
<thead>
<tr>
<th></th>
<th>V-s</th>
<th>Aly</th>
<th>V-na</th>
<th>V-ing-bat</th>
<th>VV</th>
<th>VV-Aly</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>1</td>
<td>11</td>
<td>1</td>
<td>-</td>
<td>5</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>School</td>
<td>7</td>
<td>-</td>
<td>3</td>
<td>3</td>
<td>-</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>[excl.]</td>
<td>68</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>81</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>76</strong></td>
<td><strong>19</strong></td>
<td><strong>6</strong></td>
<td><strong>3</strong></td>
<td><strong>5</strong></td>
<td><strong>3</strong></td>
<td><strong>112</strong></td>
</tr>
</tbody>
</table>

Table 5-3 shows the distribution of minor verb forms that appear in the corpus of present temporal reference clauses, presented by context: both HOME and SCHOOL basic
contexts, and an aggregated sum of excluded contexts (discussed in §4.5.1 above). I will now discuss each of these forms. First, there is a substantial body of research into the acquisition of verbal -s, as demonstrated in example (20)

(20) Zero plus one equals one. [SJD-039-B:158 Tiffany SCHOOL]

Briefly, key findings for first language speakers of English are that the morpheme emerges in children’s speech around the age of 2 (or when a child has MLU of 2-2.5) and is not used consistently in obligatory contexts until around age 4. Comprehension studies suggest that the component functions of the morpheme, as a number, person and tense marker are learned incrementally, and not completely until around 7 years of age (Beyer & Hudson Kam 2009; Johnson, de Villiers and Seymour 2005). Similarly for second language learners, verbal -s is a later acquired morpheme per the morpheme order studies (Krashen (1977), Pienemann (2005)). The tendency for verbal -s to be marked first on stative verbs has also been documented in various studies of the emergence of tense and aspect in second language learners (e.g. Bardovi-Harlig & Reynolds 1995; Bardovi-Harlig & Bergstrom 1996; Robison 1995; Rohde 1996).

Verbal -s is not produced at all in the Ip mangker child corpus prior to the age of 6:0 in this study, and from this age onwards there are in fact very few tokens [N=76] in the total data set. Most tokens occur in the specific (excluded) sub-context of reading aloud a story book in class [N=49], so there is the added interaction of reading skills here. When we consider only the ‘basic contexts’ (which are both spontaneous, spoken contexts) the incidence is further reduced: N=7 in the SCHOOL context and N=1 in the HOME context. There are 177 clauses produced in the SCHOOL context which contain a 3sg subject (and either a V, V-s or Ving verb). Of these, 39 clauses are ungrammatical (from an SAE perspective) because of the absence of verb-final marking (for example, clauses like “The grey mouse see the dog” [SJD-039-A:1928]; “It start with ‘f’” [SJD-039-B:199]). However, these clauses could also be sites for Ving marking (i.e. the learner’s ‘target’ for these clauses could conceivably have been semantically progressive ‘is seeing’ and ‘is starting’). So it is not possible to know if these are cases of zero -s or zero -ing. Hence it is not possible to calculate with certainty a rate of -s marking.

In the SCHOOL basic context, all of the instances of V-s production occur with 3sg subjects (simple NPs [N=5], or ‘she’ [N=1], or null subject [N=1]). The one instance of
verbal -s in the HOME basic context occurs with ‘him’ as the subject. When we look at the other HOME (HS2) and SCHOOL (SB1, SB2, SB3, SB5) sub-contexts, 61/68 instances of verbal -s marking occurs with 3sg subjects. The remaining 7 instances demonstrate overuse of the verbal -s marker (with subjects ‘you’, ‘I’, ‘we’, and ‘these’). All of these instances of overuse occur in the sub-context of the child articulating a toy character in the HOME play sessions (SB5)8.

The Aspect Hypothesis, which asserts that verb morphology first expresses aspectual rather than tense distinctions in the speech of language learners, predicts that verbal -s should emerge first on lexically stative verbs. Indeed, Rohde (2002:210) concludes that “it can be regarded as a specific feature of the Aspect Hypothesis for English”. This relationship is not borne out in the current data set. The majority of verbal -s marking occurs with activity verbs (41%), then stative (30%), accomplishment (18%) and achievement (11%) verbs. However, it must be recalled that the majority of tokens occurred in the context of reading aloud story books, which make use of the simple present in ways that are different to its use in everyday conversation. In fact, when these tokens are excluded from analysis, verbal -s occurs most frequently on stative verbs (52%), which would appear to support the predictions made by the Aspect Hypothesis, followed by activity verbs (33%) then equally accomplishment and achievement (7%) verbs. (The Aspect Hypothesis is discussed further in Chapter 6 §6.6.)

The V-na form (example (21)) is possibly a main verb with the subordinate infinitival ‘to’ incorporated (e.g. ‘gonna’). An alternative analysis is that these forms have become auxiliary verbs with modal functions in Alyawarr English. There are only 6 tokens9, and they occur in both HOME and SCHOOL basic contexts. Because of the small number of tokens this form has not been pursued in further detail.

(21) Im traina shudim thet men indi [SJD-039-C:291 Lenora SCHOOL]
    im traina shud-im thet men indi
    3SG.SBJ trying_to shoot-TR DET man TAG
    ‘He’s trying to shoot that man, isn’t he?’

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8 Sometimes these toys have demonstrably Anglo appearance and sometimes not. The children also play toy knights which are wearing black or silver armour, or animals. There does not seem to be a pattern based on the perceivable race of the toy.

9 Individual verbs are ‘tryna’ ‘gonna’ and ‘wanna’.

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There is a small number of tokens [N=19] with Alyawarr endings appearing on present temporal reference verbs. These take the following combinations:

*Transitive + emphatic ending (note that Alyawarr transitive marking always doubles up on the -im transitive marking) [N=7]:*

(22) Thisan iya tap bidimelew. [SJD-007:545 Deanna HOME]

Thisan iya tap bid-im-el-ew
This_one here top beat-TR-TR-EMPH
'This one here, on the top, beats (it).'

*Intransitive + Alyawarr present marking [N=4]:*

(23) Tharray am siim bat na, waiterreylel. [SJD-049-B:80 Deanna EXCL]

tharray am si-im-bat na, wait-err-eyel
over_there 1sg.sbj see-TR-BAT NA white-INTR-PRES
'That way, I’m seeing (it) now, being white.'
(Note: looking at clouds in the sky)

*Intransitive + Alyawarr emphatic ending [N=3]:*


wimab sili p-et-ew na
1PL.SBJ sleep-INTR-EMPH NA
'We all sleep now.'

Note that in sentences (23) and (24) above there is variation in the pronunciation of the intransitive suffix between -err and -et. It is unclear if this variation also forms part of adult speech (and if so what parameters govern the variation), or if this is confined to children’s speech and is perhaps part of their phonological development.

*Root form of the verb + EY [N=6]:*

(25) Im ngan-ey theya. [SJD-053:116]

Im ngan-ey theya
3SG.SBJ climb-EY there
'He’s climbing there.'

In Alyawarr, the -ey morpheme is a hortative main clause verb suffix, as well as being used in the formation of various “sequenced motion compounds” (Moore 2012:98), in which the morpheme is used to join two verbs (one denoting motion and one denoting an associated activity). In the limited Alyawarr English adult data, there use of the -ey inflection occurs in similar ‘motion + action’ complex verb phrases (per (26)), as well as subordinate verbs (27) and (28) below. This is contrasted with nganeyel as a main verb in (29). The children, however, appear to use this form as the basic lexeme, without such
distributional restrictions (there are tokens of nganey ‘climb’, rakey ‘grab’ and angey ‘speak').

(26) Dediwan trai go nganey na. [SJD-055]
dedi-wan trai go ngan-eY na
daddy-one AUX go climb-EY NA
‘The daddy is going to try to climb up now.’

(27) This arengk wantim ngan-eY gen anamerl. [SJD-055]
this arengk wantim ngan-eY gen anamerl
DET dog want-TR climb-EY again quickly
‘This dog wants to climb up again, quickly.’

(28) Thei bin telim tha awey na ngan-eY, reken. [SJD-055]
thei bin tel-im tha awey na ngan-eY reken
3PL.SBJ PAST tell-TR DET boy NA climb-EY reckon
‘They told that boy to climb up, I reckon.’

(29) Im ngan-eYel theya. [SJD-055]
im ngan-eYel theya
3SG.SBJ climb-PRES there
‘He is climbing there.’

The small number of tokens suggests that these forms are a marginal and perhaps still emerging form in the present temporal reference system of the children. In both child and adult data sets it remains unclear (due to paucity of production rates and sampling respectively) just what role these Alyawarr endings play in completing this system. The scarcity of tokens in this data set means these question cannot be pursued in the current study, but the question of how Alyawarr morphemes are incorporated into the home language system, and how these might develop over time (within and between speakers), will be an important area for future research.

Three final interesting forms with minimal attestations are the doubled up Ving-bat form (30), reduplicated verbs (31), and reduplicated plus Alyawarr ending verbs (32). The double and reduplicated forms are noted in Kriol (Sandefur, 1979) where they have aspectual readings, but they are not attested in the small adult Alyawarr English language sample, and are clearly marginal here. So it remains unclear whether and how they form part of the system of present temporal reference here. They will not be pursued further.
5.4 The variable: present temporal reference

The descriptions of English and various Australian contact varieties (presented in section §5.2 above) reveal that there remains some ambiguity over whether and in which contexts speakers have a choice between the forms used in present temporal reference. For English, stativity has been thought to impose a categorical prohibition on the use of the progressive, though as we saw above, this is not always the case. And in the descriptions of Kimberley Kriol and early descriptions of Kriol, there appears to be variation between the use of -ing and -bat (referred to as ‘overlap’). Previous corpus studies of English varieties have shown that the choice amongst present temporal reference forms is probabilistic rather than categorical (e.g. Walker 2000; Poplack & Tagliamonte 2001). This does not imply that particular aspectual readings arise in a random fashion, rather that quantitative studies have the opportunity to draw out the contextual factors which make one reading or another more likely.

As a consequence, and following Walker (2000:122) I define the variable context as every instance of a lexical verb used with present temporal reference. Present temporal reference is negatively defined as all non-past and non-future contexts. The variable, therefore, is ‘present temporal reference’, and the variants are all verb forms that perform this function. (As should already be apparent, there will be a focus on three variants: V, Ving and Vbat, since these appear to be the main forms involved in the expression of present time by the children in the present corpus. The work of both Walker (2000), and Poplack and Tagliamonte (1996; Tagliamonte & Poplack 1993) provide a precedent for taking the entire sphere of a particular temporal space (present and past respectively) as the starting point for analysis. This approach has several
advantages for the present analysis. Firstly, it allows for the testing of various hypotheses (in the form of factor groups and combinations thereof) regarding the role each form takes within a functional domain, ultimately (hopefully) revealing the most accurate account (Walker 2000). Secondly, it reflects the variationist analysis as “a function- rather than form-driven approach to linguistic problems” (Walker 2000: 122). Taking a functional domain as the locus of analysis, and analysing the incidence of the forms that perform that function (and excluding the other functions performed by those forms) facilitates comparative examinations (of formal variation within that domain) between closely-related languages which share functional domains (such as present temporal reference). In the present analysis such a comparative examination is conducted for the children’s HOME and SCHOOL varieties.

Finally, and most critically, since this corpus contains a previously undocumented language, there is no descriptive work to guide what could be included/excluded as the relevant forms of present temporal reference until the corpus was examined\(^{10}\). Further, even if such description were available it would likely refer to adult language norms, and as such would not necessarily reflect the usage of children. Defining a broad envelope of variation allows us to begin on an agnostic footing regarding the relevant forms, and allows us to overcome the need to assign clauses on the basis of a set of supposed L1/L2 forms (the problems of which were discussed in Chapter 3 (§3.1).

5.4.1 A priori exclusions

In addition to excluding all clauses with past or future temporal reference, I have made a number of a priori exclusions. Firstly, all hypothetical and counterfactual (i.e. “irrealis”) contexts have been excluded following Walker (2000). Examples are given in (33) and (34) below.

(33) Okei, wen ai tok ‘rait’, wel, wel, thet min ai gat pik\(^{11}\). [SJD-062:599 Alysha HOME]
    Okei, wen ai tok ‘rait’, wel, wel, thet min ai gat pik
    Okay when 1SG.SBJ say right well well that 1SG.SBJ AUX choose
    ‘Okay, when I say ‘right’, well, well, that means I’ve got to choose.’

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\(^{10}\) While there are obvious similarities, noted above, to Wumpurrarni English, Disbray (2008a) notes that the treatment of tense and aspect in the description of this variety is far from comprehensive. Without further investigations into both corpora, the extent of similarities and differences is yet to be established.

\(^{11}\) Even though only ‘talk’ is in the hypothetical subordinate clause, I have also excluded the main clause verb ‘mean’ from analysis as well. I felt it is prudent for complex clauses containing a hypothetical element to be examined separately. (‘Got pick’ is excluded on the grounds that it contains the modal auxiliary ‘got’ - see below.) Other complex clauses were included in the analysis when part of a present temporal reference framing.
(34) What about you photo it?  

Present-tense forms which are used to perform non-present temporal reference were excluded: i.e. when the bare V form is used for past temporal (as in examples (35) and (36)) or future reference. This was determined by a close examination of the context of the utterance\(^{12}\), taking into account such elements as whether the action or event in reference had already occurred, whether the temporal frame had already been supplied by another party, such as the teacher.

(35) I swim in the town.  

(\textit{Lenora has been pointing to a picture of a beach saying to her classmate ‘I bin swim there’ (a past tense clause). The teacher says she would like to take them to the beach. Lenora then states (35). As she is not presently and does not habitually swim in the town pool, I have concluded that this is an attempt at SAE past reference})

(36) [Teacher name], I do yellow and blue.  

(\textit{The teacher asks what colour waves are. Multiple children (including Simon) call out ‘Blue!’ Simon holds up his drawing, showing the teacher that he has coloured in his waves yellow and blue, when he states this. At this point he is holding an orange pencil and about to commence colouring another part of the worksheet})

Verb clauses containing modals were excluded (see examples (37) and (38)). In SAE, the main verb is invariant (V) when preceded by a modal. The patterning for the children’s AlyE is unclear (there still appears to be some variation in verb form), but the different semantics that modality imposes adds another layer of complexity and is best investigated in a separate analysis.

(37) Yudu gat bi id-ing.  

\begin{verbatim}
        yudu  gat  bi  id-ing
       2DU.SBJ  AUX  be  eat-ING
\end{verbatim}

‘You two have got to be (the ones) eating.’

(38) What we got do?  

Variationist analyses remove frozen forms from analysis since these don’t show variability and can skew the data if included. In other words, they are not an instance of

\(^{12}\) There were actually few of these exclusions overall, and most were excluded as a caution when dealing with the most ambiguous tokens. However, this does point to one of the challenges with mobilising a functional definition (as opposed to a formal - though this also has its problems as I have discussed in Chapter 2).
the variable. While across English corpora some frozen forms are predictable, for present purposes it was necessary to examine the corpus closely to determine potential frozen forms. The forms ‘you know’ [N=25] and ‘reckon’ were excluded as they were invariant as in examples (39) and (40). However, tokens of verb ‘know’ and ‘reckon’ were included if they were used in full clauses and not as discourse interjections, as there was variation in the verb form and subject form in these cases. In the case of ‘know’ it was included if the subject was not ‘you’ [N=53], or if the subject was ‘you’ there was other verb morphology [N=1] or there was an expressed object [N=4]. Clauses with ‘reckon’ were included if there was a fully expressed object and/or subject [N=4].

(39) Ye, Am jes pudimbat, yu no, leik. [SJD-062:1525 Alysha HOME]
ye, am jes pud-im-bat, yu no, leik yeah 1SG.SBJ just put-TR-BAT 2SG.SBJ know like ‘Yeah, I’m just putting it, you know, like.’

(40) Red ‘r’, reckon. [SJD-061:208 Lenora SCHOOL]

Imperatives (like those in examples (41) and (42)) were excluded: despite their using present tense forms and there being some variation in verb form, this would add an additional layer to the analysis and variation in imperative expression would be better served by a specific analysis. I have included in this commands which don’t conform to the typical SAE pattern of subject elision in the imperative (per (42)).

(41) Gimi bek thet braun wan! [SJD-062:1580 Tiffany HOME]
gimi bek thet braun wan give_2SG.OBJ back DET brown one ‘Gimme back that brown one!’

(42) You look at Emerson! [SJD-066-A:2157 Lenora SCHOOL]

Also excluded from analysis were present temporal reference clauses that used the copular construction (in the SCHOOL data - see example (43)) or the equivalent nominal predicate construction (in the HOME data - see example (44)). Since these clauses don’t have verbs which vary between V, Ving and Vbat they have not been included. However, there are points of interest which would be worthy of further study. In particular the acquisition of copular expression in English would be a useful point of examination.
Finally, recall that a number of clauses were excluded from analysis because they fell outside of the basic definitional criteria of the HOME or SCHOOL data sets (discussed in detail in Chapter 4 §4.5.1). As shown in Figure 5-1, the token count for excluded sub-contexts is 706, which constitutes 30% of the 2325 tokens originally extracted as cases of present temporal reference. While this number may seem high, the aim of the method deployed here is to first select clauses from contexts in which there is less likely to be variability due to cross-linguistic influence. This is in order to isolate two data sets that can be taken as representative of two separate codes (Alyawarr English and SAE) should they be demonstrable as existing in the subsequent analysis. Further, the fact that excluded contexts make up 30% of the present temporal reference corpus speaks to the dynamic nature of children’s language use.

Figure 5-1: RIGHT Number of tokens included in HOME [N=1163] and SCHOOL [N=456] data sets, and excluded sub-contexts [N=706] as a proportion of total tokens extracted for present temporal reference. LEFT proportion of V, Ving and Vbat tokens in excluded sub-context data.
5.5 Accounting for the variation: Factor groups and factors

Now that I have established what data is excluded from analysis on definitional grounds, and prior to that outlined how the three main variants operate in related languages, we turn to a consideration of what factors might impact on a speaker’s choice to use either V, Ving or Vbat. From the descriptions of other creole and mixed language varieties to the north, it would seem that both transitivity and aspect should be examined. But there are also other possible clause features that could be significant. In the following sections I will address the range of factors that were coded for, giving an explanation for why each factor might be relevant to the expression of present temporality. In essence each factor group is a mini-hypothesis about what might account for the variation in the verb forms V, Ving and Vbat.

5.5.1 Syntactic Factors

5.5.1.1 Subject Features

Subject person (1st, 2nd, 3rd), Animacy (speech act pronouns (SAP), human, animate, inanimate), and number (singular, plural) were coded for two reasons. Firstly, the existing literature proposes a potential link between subject agency on the choice of verb form. Walker (2000:129) states that

it has been said (Goossens 1994:171; Mufwene 1984a:21) that the arguments of the verb, including the subject may play a role in determining the choice of progressive. In addition, Ziegler’s (1999) contention that the degree of agency of the subject conditions the use of the progressive could be realized as a tendency for first- and second-person subjects, which are normally animate and human, to favour the progressive.

Walker (2000) in fact found that the progressive was statistically favoured by third persons (singular and plural) for one of the early African American English varieties he

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13 Null subjects were coded separately in each case, but excluded from the analysis of subject features [N=329]. This was because in each there was no clearly recoverable subject or in some cases multiple ways of expressing subjects were possible given the context, and therefore no clear determination of the subject could be made. For example, children produced null subjects in play contexts when they were verbally annotating their actions. In cases where the toy is clearly the subject actor the child nevertheless has the option of talking ‘as the toy’ or ‘about the toy’. In the latter case, 3rd person subjects are used (such as anteny ‘little dude’, biek ‘black one’, ola men-akely ‘all the little men’). In the former case 1st person pronouns are used (Ai go raitup na ‘I go right up now’). It is not possible to recover from the context which choice underlies a null subject in these cases. This is a nice example of how naturalistic child speech data can differ in specific ways from adult sociolinguistic interview data.
explored (African Nova Scotia English). The simple present (V/Vs) in this variety was favoured by the complementary category 'non-3rd' person subjects, so Walker’s (2000) analysis demonstrates that in this variety, V and Ving show opposite patterning from each other in their variation with regards to subject features.

Secondly, in Australian contact languages, Hudson (1983) describes the -bat form in Kimberley Kriol as indexing iterativity, which can be derived both from repeated action, and from plural participants. The example Hudson gives to illustrate this translates as “They were all lighting [lait-im-ap-bat] up their cigarettes” (p40). Therefore, subject number is coded to explore the impact of plural participants.

5.5.1.2 Object Number

Object number was coded for the same reason as subject number: in some northern Kriol varieties iterativity can arise from a plurality of participants and be reflected in the choice of verb form Vbat.

5.5.1.3 Transitivity

In the small amount of adult Alyawarr English narrative data and in several of the contact language varieties surveyed in section 5.2.2 above, Ving and Vbat are categorically conditioned such that Vbat appears on transitive verbs and Ving appears on intransitive verbs. Verbs in the data set have therefore been coded for transitivity.

5.5.2 Semantic Factors

This study follows the precedent set by work on tense and aspect within the comparative variationist investigations into historical creole relationships. In these studies, the aspectual properties of lexical items (Aktionsart) is approached separately from the aspectual reading of an entire clause (e.g. Poplack and Tagliamonte, 2001; Walker, 2000). Thus two factor groups ‘lexical aspect’ and ‘sentential aspect’ have been coded for, directly following the method used by Walker (2000).

5.5.2.1 Lexical Aspect

Following Walker (2000) I used two reference works to generate an independent and objective classification of lexical aspect for each verb in the corpus. Firstly, each verb

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14 And those with incorporated adverbs, and some cases of ‘go’ and ‘look’ in the adult Alyawarr English data, see section 4.7.2.4
was assigned to one of Levin’s (1993:22) “syntactically relevant, semantically coherent” verb classes. These classes represent verbs which share properties with respect to argument taking, diathesis alternations, and morphology in English. Words can have multiple meanings, and so can be assigned to different word classes on this basis.

Secondly, each class of verbs were assigned to a lexical aspect category based on the analysis of Olsen (1997), who has explored each of Levin’s (1993) classes with respect to their lexical aspect properties. I further cross-checked my resultant coding with that made by Walker for his (2000) and (2010) publications, based on coding records supplied by him. Appendix I contains a list of coding decisions, including cases where verbs with multiple semantics were given different codes.

Table 5-4 displays each of Olsen’s Vendler15-inspired verb classes, and their properties as combinations of dynamicity, durativity and telicity16. For present purposes, the main distinction of relevance is that of states and non-states. In section 4.2 above it was shown that an important purported constraint on the use of Ving in English is the stativity of the verb. Therefore it will be of interest to see if this norm of English use is borne out in the children’s variable use of V/Ving in the SAE data. Similarly, it will be of interest to see if this may be one of the constraints in their English-influenced (historically and synchronically) first language, Alyawarr English. A different pattern in each speech variety with respect to this factor would therefore be a strong indicator of different aspectual systems in operation.

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16 Olsen (1997) advances a theory of lexical aspect comprising of a two-part event-structure presented as the action or state (‘nucleus’) and the end-point (‘coda’). Olsen creates the six classes of verbs by combinations of +/- dynamic, +/- durative and +/- telic ‘privative features’. This lays the ground for Olsen’s (1997) comprehensive, integrated account of aspect at the lexical and clause level, but the details of this are not immediately relevant for this thesis.
Table 5-4: Classification of lexical aspect per ‘durative’, ‘dynamic’ and ‘telic’ features (after Olsen 1997:154)

<table>
<thead>
<tr>
<th>Class</th>
<th>Nucleus</th>
<th>Coda</th>
<th>Examples from current corpus [Levin class]</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>[durative]</td>
<td></td>
<td>think [29.4], know [29.5], see [30.1], taste [30.4]</td>
</tr>
<tr>
<td>Activity</td>
<td>[durative]</td>
<td>[dynamic]</td>
<td>make [26.1], play [26.7], spin [51.3.1], walk [51.3.2]</td>
</tr>
<tr>
<td>Accomplishment</td>
<td>[durative]</td>
<td>[telic]</td>
<td>put [9.1], spill [9.5], take [10.5], give [13.1]</td>
</tr>
<tr>
<td>Achievement</td>
<td>[dynamic]</td>
<td>[telic]</td>
<td>break, crush [45.1], bend [45.2]</td>
</tr>
<tr>
<td>Semelfactive</td>
<td>[dynamic]</td>
<td></td>
<td>bump, hit [18.1], bite [18.2], touch [20]</td>
</tr>
<tr>
<td>State-level state</td>
<td>[durative]</td>
<td>[telic]</td>
<td>[no examples in corpus]</td>
</tr>
</tbody>
</table>

Before moving on to discuss the other factors, I wish to highlight some characteristics of this approach that were singularly challenging when applied to the current data set. Levin’s (1993) and Olsen’s (1997) categorisations were made on the basis of English, using standard English dictionaries as source materials. It is therefore questionable the extent to which they validly map on to the current corpus, since the semantic scope of verbs in children’s Alyawarr English is conceivably, and in some cases demonstrably, different to their use in other English varieties. In addition, we don’t know whether verbs in Alyawarr English (spoken by adults and/or children) show the same patterns of syntactic clustering as outlined by Olsen. I have used my (limited) understanding of Alyawarr English to intervene in cases where semantics diverge, but without much more substantial corpus data (and perhaps native speaker intuition), I could not confirm or contradict Olsen’s classifications. Similarly, in their application to a data set of learner English, this set of emic categories potentially become etic (i.e. analyst imposed) since learners may use different patterns of clustering from native speakers. This is one of the challenges of working with child language data or under-described varieties: any analysis that pre-dates substantial descriptive work is necessarily compromised. Walker

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17 Stage level states are those which persist over some time but for which a natural endpoint is understood. For example ‘be pregnant’ and ‘be hungry’. Olsen (1997:159) notes that English appears to lack the stage-level category at the lexical level, since even copular combinations typically used to denote stage-level states (e.g. be sick/available) may be true of individuals generally”. Most English verbs that can be stage-level states are also verbs that can be states: the former interpretation comes after a +telic operator is applied (or derived from the context). ‘State’ is therefore the primitive state of ‘Stage-level states’ in English. Since copular constructions are deployed in English to create this meaning, they fall outside of the scope of this study which focuses on verbal-predicate clauses.
(2010:105-6) raises similar concerns, as does one of the main proponents of the Aspect Hypothesis, Yasuhiro Shirai (e.g. 2007), in his discussion of how to best employ classification methods in cross-linguistic comparisons. I have decided to err on the side of consistency in coding in my decision to persevere using the method outlined. Since the main comparison here is between children's home language use and the same children's use of language in the school, the consistent application of the definitional criteria to both data sets should at least be able to detect if there is a difference between these data sets.

5.5.2.2 Sentential Aspect

As sections 4.2 and 4.3 above outline, much of the descriptive work on Ving in English and Ving/Vbat in Australian contact varieties has centred on their aspectual semantics: the English progressive form is typically described as a marker of durative aspect (not to be confused with ‘durative’ as a component feature of lexical aspect, discussed above), and in contact languages it has a similar semantic scope. Vbat is said to either be a structurally restricted (to transitive verbs) synonymous form (e.g. Schultze-Berndt et al 2013), or to have the potential to produce an additional ‘continuative’ or ‘iterative’ meaning (e.g. Sandefur 1979; Hudson 1983). In order to test the semantic scope of the forms in this corpus, and to compare these across basic contexts, I have coded each clause independent of the verb form, instead relying on other marked clausal elements such as adverbial morphology, and contextual information in the unfolding situation at large (well captured by the video data). The three categories of sentential aspect are replicated from Walker’s (2000:134-5) study, since they allow for the contrast between iterative and progressive proposed for some Australian contact varieties, and I draw upon his definitional criteria and source materials for each. Given the aforementioned language descriptions we may reasonably expect a correlation between habitual/iterative contexts and Vbat, and durative/continuous contexts and Ving. It is less certain which verb form will be favoured by punctual contexts. I can therefore make no prediction.

*Habitual/Iterative*

Any situation “which takes place habitually or repeatedly” (Walker 2000:134 after Comrie (1976:25) and Poplack & Tagliamonte (1989:68)).
(45) Yumab stilimbat oldei iya. [SJD-062:1536 Alysha HOME]
yumab stil-im-bat oldei iya
2PL.SBJ steal-TR-BAT always here
‘You guys are always stealing (them) here.’

(46) You eat healthy food. [SJD-067:492 Tiffany SCHOOL]
(Giving a reason for why going hunting is good)

Durative/continuous

Clauses denoting “events or processes that are extended in time or states that exist continuously” (Poplack & Tagliamonte 1989:68 cited by Walker (2000:134)).

(47) Am giding wail na. [SJD-062:1478 Alysha HOME]
Am gid-ing wail na
1SG.SBJ get-ING angry NA
‘I’m getting angry now.’
(expressing that she is getting annoyed because of the other girls ‘stealing’ her toys)

(48) Yeah, I like singing [SJD-005-A: 431 Deanna SCHOOL]

Punctual

Clauses which denote dynamic events and states of momentary or limited duration i.e. “that hold true only for the time of speaking” (Walker 2000:135, following Clark (1997:242)). Walker (2000:135) observes that while this is not a definition of ‘true punctuals’ per Comrie’s (1976) terms (i.e. ‘point action with no duration’), this is a necessary accommodation in order to apply this category to present temporal reference data without simply relying on the lexical aspectual properties of the verb (which would produce overlap between this factor group and that of lexical aspect).

(49) Am pigim fo mi-arrpantey [SJD-069:358 Deanna HOME]
am pig-im fo mi-arrpantey
1SG.SBJ pick-TR for 1SG.OBJ-pretend
‘I pick (this one) to be pretend-me\(^{18}\)

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\(^{18}\) This is a clumsy free translation, but I cannot think of a semantically close and natural-sounding equivalent in SAE. The -arrpantey suffix is attached by children to a person’s name (‘Deanna-arrpantey’) or pronominal (‘you-arrpantey’) to denote a toy as the child’s toy (for the duration of play): as the ‘pretend’ version of the child him-/herself. This child owner can then speak as the toy (and has certain rights over the toy see Dixon 2015). Adult Alyawarr speakers use this suffix to mean something that is pretend or an imitation, among other meanings (Green 1992). The children in this corpus also use the -akely ‘little’ suffix in a similar way e.g. mi-akely ‘me-little’
where she got them from. Deanna opens the bag and reaches in to take out a doll while she says this. As she takes it out she then says Mi-arrpan tey dis wan iya gel ‘Pretend-me is this one here’, and another girl points to and claims one of the other dolls by also saying Mi-arrpan tey thet gel theya ‘Pretend-me is that girl there’.

(50) And you press this. 
[SJD-065:765 Tiffany SCHOOL]
Showing the researcher (who is assisting to set up the class computers for a lesson) which button to press to turn on a laptop.

In English\textsuperscript{19}, dynamic verbs in the simple present (V) form in present temporal reference contexts are given the default interpretation of ‘habitual occurrence’ (Olsen 1997:167) (e.g. ‘Matt runs’), while some dynamic verbs (those underspecified for the lexical aspect feature of durativity—see §5.5.2.1 above) in the progressive form (Ving) can have iterative semantics (e.g. ‘John is hitting me’). It’s therefore possible that use of both V and Ving in the ‘Habitual/Iterative’ sentential aspect category in the SCHOOL data could signal conformity to SAE, though it is not possible to predict (from the literature) which of these would be the more favoured or even more frequent form. Both V and Ving are also capable of being used with Durative/Continuous semantics. Stative verbs in the simple present (V) are temporally ‘unbounded’ (e.g. ‘They live in Geneva’), and dynamic verbs marked with Ving are “used to describe a single ongoing situation” (Olsen 1997:167) (e.g. ‘The baby is crying’). In sum, it is not possible to predict which verb forms will be favoured in the SCHOOL data in each sentential aspect context. Interpretation of the results of this data will have to take into account lexical aspect as well, if conformity towards SAE is to be inferred.

5.5.3 Speaker features

All data were coded for participant (9 individuals)\textsuperscript{20} and age (5;0–5;11, 6;0–6;11, 7;0–7;11)\textsuperscript{21}) to ensure that the verb forms in question have a reasonable spread across these demographics. Individual and age coding also allows for analysis and interpretation of the data in terms of change over time.

\textsuperscript{19} This data on English is summarized from Olsen (1997:166-172).
\textsuperscript{20} Though 3 of these participants did not provide significant data in both HOME and SCHOOL contexts
\textsuperscript{21} In addition, when the exact age of a child was not confirmed, data was coded as ‘lower primary’ or ‘upper primary’ depending on which of the two primary school classes they attended.
5.5.4 Excluded factor groups

One of the outcomes of working with real data is that often we simply do not end up with sufficient tokens to explore all possibilities. A number of factor groups that were coded for were excluded from further quantitative analysis on the grounds of poor distribution in the current sample. These are adverb expression, ‘na’ expression, polarity, sentence type and object number. Their distributions are presented in Table 5-5 and Table 5-6 below. I will briefly comment on the justification for coding each factor group and the implications of their exclusion.

| Table 5-5: Distribution of V, Ving and Vbat per excluded factor groups, HOME context |
|-----------------------------------------------|-----|-----|-----|-----|
|                                              | V  | Ving| Vbat| Total|
|                                              | %  | N   | %   | N    |
| Adverb Expression                            |    |     |     |      |
| Temporal/Durative adverb                     | 25 | 4   | 19  | 3    | 56  | 9   | 16  |
| Other adverb                                 | 41 | 40  | 29  | 28   | 31  | 30  | 98  |
| no adverb                                    | 42 | 234 | 21  | 118  | 36  | 201 | 553 |
| Polarity                                     |    |     |     |      |
| Affirmative                                  | 40 | 256 | 23  | 146  | 37  | 239 | 641 |
| Negative                                     | 85 | 22  | 12  | 3    | 4   | 1   | 26  |
| ‘Na’ Expression                              |    |     |     |      |
| ‘Na’                                         | 38 | 15  | 20  | 8    | 43  | 17  | 40  |
| no ‘na’                                      | 42 | 263 | 23  | 141  | 36  | 223 | 627 |
| Sentence Type                                |    |     |     |      |
| Declarative                                  | 41 | 257 | 23  | 141  | 36  | 227 | 625 |
| Interrogative                                | 50 | 21  | 19  | 8    | 31  | 13  | 42  |
| Total                                        | 42 | 278 | 22  | 149  | 36  | 240 | 667 |

Each token was coded for the presence/absence of an adverb that specified the temporal or durative qualities of the verb: for example, *olweis ‘always’, oldei ‘always’*. This factor group was explored with the expectation that, if there were a significant quantity of adverbs in the corpus, they might align semantically with the speculated aspectual contrasts for the verb forms and further support the analysis. Further, as discussed in the introduction to this thesis, adult second language learners are said to go through a period of relying on adverbs to convey tense and aspect contrasts, and this stage precedes the use of verbal morphology (e.g. Bardovi-Harlig 2000; Klein 1995). However, this is also one of the potential points of difference between learners of a typologically

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Note that the total token count here [N=667] post-dates the further exclusions discussed in the following chapter (§6.2)

Theoese were coded as a group; I did not make specific predictions about individual adverbs
distinct L2 and learners of a second, closely-related variety, as is the case here. If the latter use their L1 as the model for the L2, then they wouldn’t necessarily go through a phase of not marking tense/aspect through verbal means, rather, they might ‘import’ the L1 system.

Positive evidence of this would be if there were no substantial reliance on temporal/durative adverbs to convey aspect in the SCHOOL context. The small number of tokens of temporal adverbs [HOME N=16; SCHOOL N=4], against the significant proportion of aspectually marked verbs suggests that, indeed, this is the case. The children in this corpus in fact use temporal adverbs rarely in the school data. The results for use of other adverbs [HOME N=98; SCHOOL N=22] demonstrate that this was not simply reflective of a lack of adverb use as a general trend. However this conclusion is somewhat tentative, particularly since the other lexical strategies that tend to proliferate at this stage (e.g. use of connectives, other temporal sign posts like days of the week and temporal verbs like ‘start’) have not been investigated.

Clause polarity was coded for after the finding by Walker (2000:139) that both simple and progressive present forms were favoured in affirmative contexts. In the present

---

Table 5-6: Distribution of V and Ving per excluded factor groups, SCHOOL context

<table>
<thead>
<tr>
<th></th>
<th>V</th>
<th></th>
<th>Ving</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td><strong>Adverb Expression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporal/Durative adverb</td>
<td>50</td>
<td>2</td>
<td>50</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Other adverb</td>
<td>50</td>
<td>11</td>
<td>50</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>no adverb</td>
<td>49</td>
<td>145</td>
<td>51</td>
<td>150</td>
<td>295</td>
</tr>
<tr>
<td><strong>Polarity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affirmative</td>
<td>50</td>
<td>146</td>
<td>50</td>
<td>147</td>
<td>293</td>
</tr>
<tr>
<td>Negative</td>
<td>43</td>
<td>12</td>
<td>57</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td><strong>‘Na’ Expression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘Na’</td>
<td>67</td>
<td>2</td>
<td>33</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>no ‘na’</td>
<td>49</td>
<td>156</td>
<td>51</td>
<td>162</td>
<td>318</td>
</tr>
<tr>
<td><strong>Sentence Type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Declarative</td>
<td>50</td>
<td>154</td>
<td>50</td>
<td>153</td>
<td>307</td>
</tr>
<tr>
<td>Interrogative</td>
<td>29</td>
<td>4</td>
<td>71</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td><strong>Object Number</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>44</td>
<td>30</td>
<td>56</td>
<td>38</td>
<td>68</td>
</tr>
<tr>
<td>Plural/Mass</td>
<td>58</td>
<td>7</td>
<td>42</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>49</td>
<td>158</td>
<td>51</td>
<td>163</td>
<td>321</td>
</tr>
</tbody>
</table>

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24 Transitive clauses only; Unexpressed or otherwise uncodable objects [N=21]. not significant $\chi^2$(1, N=80) = 8.292, $p$ = .362
25 Note that the total token count here [N=321] post-dates the further exclusions discussed in the following chapter (§6.2)
corpus, clauses are negated with pre-verbal ‘not’ or ‘don’t’. Examples of negated clauses from HOME (51) & (52) and SCHOOL (53) & (54) are given below.

(51) Ai nat no-im-bat dingo. [SJD-048:371 Shamus HOME]
    ai nat no-im-bat dingo
    1sg.sbj neg know-tr-BAT dingo
    ‘I don’t know the dingo.’

(52) Ai don weis thiis [SJD-040:212 Tiffany HOME]
    ai don weis thiis
    1sg.sub neg waste dem
    ‘I don’t waste these.’

(53) Ethan [teacher], this not working [SJD-059:298 Shamus SCHOOL]

(54) No, we don’t use that one [SJD-039-C: Daniel SCHOOL]

There are actually very few tokens of negative clauses in each context [HOME N=26; SCHOOL N=28]. It is noticeable that in the HOME context there is a strong correlation between negative clauses and V forms (22 of 26 (85%) negated clauses). This does not appear to be the case in the SCHOOL context, where incidence of negative clauses per verb form [V = 43%; Ving = 57%] are roughly the same as the overall distribution of each form [V = 49%; Ving = 51%] i.e. there is not a strong favouring either way. An examination of the source data suggests that this might be a sampling issue: higher raw tokens of negation of Ving forms in the SCHOOL (compared to HOME) can be largely attributed to the challenges of remote IT provision, since most of the tokens of this combination were from students complaining about computers “not working”. In any case, the low number of tokens in the HOME data prevents further conclusions being drawn.

It is worth noting that in the SCHOOL data all the Ving forms are negated with ‘not’ and all the V forms are negated with ‘don’t’, which follows standard English usage (Huddleston & Pullum 2012). There is a strong tendency towards this pattern in the HOME context too with all Ving and Vbat forms negated with nat ‘not’ and most V forms negated with don ‘don’t’ (4 tokens of V are negated with nat).

Preliminary descriptive work on Alyawarr English carried out during the life of the ACLA2 project noted the presence of a potential adverb/discourse marker na, as shown
in examples (55) and (56) below. In Kriol it has been described as a discourse particle, indicating sequentiality of events and topic shifts (Schultze-Berndt et al 2013; Graber 1987). Because the function of this form is uncertain in the present data, na expression was initially included as a factor group to see if mutual light could be shed on its scope by any distributional correlations with verb form. The infrequency of this marker unfortunately means that this approach has not been helpful in this regard [HOME N=40; SCHOOL N=3], though the distributions in the HOME data [V=38%; Ving=20%; Vbat=43%] do hover around the overall distributions [V=42%; Ving=22%; Vbat=36%] suggesting no effect. I further note that its relative absence in the SCHOOL data suggests that it may be a L1-only morpheme for the children.

(55) Ai pudim theya na, reken. [SJD-046-A:263 Deanna HOME]
ai pud-im theya na, reken
1SG.SBJ put-TR there NA reckon
‘I put it there now, (I) reckon.’

(56) Am meikimbat bigethan na. [SJD-048:508 Shamus HOME]
am meik-im-bat bigethan na
1SG.SBJ make-TR-BAT biggest_one NA
‘I’m making the biggest one now.’

Tokens were also coded for sentence type—as declarative or interrogative (intonation only or morphologically and/or syntactically organised)—to see if this had any impact on the choice of verb form. Later these two interrogative categories were collapsed into one factor group due to the low number of tokens of each. Examples of interrogative clauses are given for HOME (57) & (58) and SCHOOL (59) & (60) contexts below. As the results tables show, interrogative clauses occur infrequently in both the HOME [N=42] and SCHOOL [N=14] data sets, and this precluded further quantitative analysis. As with na expression, the distributions in the HOME data [V=50%; Ving=19%; Vbat=31%] do hover around the overall distributions [V=42%; Ving=22%; Vbat=36%] suggesting no effect.

(57) Kenny yu wandim this kain? [SJD-063:288 Simon HOME]
Kenny yu wand-im thiskain
name 2SG.SBJ want-TR this_kind
‘Kenny, do you want one of these?’
As I noted at the beginning of this section, sometimes the data simply won’t allow for testing of every hypothesis. We can however perhaps infer that since temporal/durative adverbs, ‘na’, negative clauses, interrogative clauses, and plural/mass objects occur with such relative infrequency, they are unlikely to be contributing to the variable expression of V/Ving/Vbat. In other words, none of these clause features are likely to be part of the variable grammar of present temporal reference expression in both HOME and SCHOOL contexts.

5.6 Summary

This chapter has focused on the preliminary elements of a comparative variationist examination of the variation between V, Ving and Vbat. I first examined how these three morphemes operate in potentially related languages: Australian contact languages, SAE and Alyawarr. This yielded the possibility that aspectual semantics and/or transitivity should be examined carefully in the current data. We then took a brief digression to examine a handful of other verb forms used by the children in present temporal reference clauses, but ultimately not in significant enough numbers to warrant further quantitative analysis. Nevertheless, this showed that Vs is emerging in SCHOOL contexts, as are Alyawarr-derived inflections in HOME contexts. Further longitudinal sampling and analysis of these children will need to pay attention to these forms.

Returning to the question of what might govern the choice between verb forms (V, Ving and Vbat), I discussed the motivation for each of the factors that will form the analysis of variation in the following chapter, and also the factors for which this painstaking process ultimately revealed distributions that rule them out from further consideration. Now that we have a set of motivated and distributionally-sound hypotheses, the quantitative analysis of how these factors contribute to the choice between V, Vbat and Ving can begin. This will be presented in the following chapter.
6 Variation in Tense-Aspect Morphology: Analysis

6.1 Introduction

We now turn to the quantitative analysis of three present temporal reference verb forms: V, Ving and Vbat. This will address research question 1: In present temporal reference clauses, what are the systems of tense-aspect morphology in the children’s L1 (Alyawarr English) and their L2 (SAE)? Based on the information presented in the previous chapter (Ch5), a series of predictions regarding the quantitative analysis can be made, should code-separation be evidenced. That is, these predictions assume that the children’s HOME data will follow patterns consistent with other Australian contact languages ($5.2.2$) and that the SCHOOL data will be consistent with the patterns of SAE ($5.2.1$). These predictions presented below in indented text, underneath each component to research question 1.

a) **What are the HOME and SCHOOL repertoires? I.e. what are the range of forms (i.e. variants) in each context and their frequencies?**
   
   HOME: repertoire is V, Ving, Vbat. No prediction regarding frequency
   
   SCHOOL: repertoire is V, Ving. No prediction regarding frequency.

b) **What is the variable context in HOME and SCHOOL contexts?**
   
   Not predictable.

c) **What speaker-related factors (specifically age) best account for the variation in choice between the main forms in each context?**
   
   HOME: no age-effect (since children are older than the typical period of L1 acquisition for aspect)
   
   SCHOOL: age-effect representing increased exposure to SAE indicated by change in relative rates of variants over time

d) **What factors in the immediate linguistic context (i.e. the clause) best account for the variation between the forms in each context?**
HOME: Lexical Aspect, Sentential Aspect and Transitivity predicted to be the most important factor groups, based on how the variable appears to operate in Adult Alyawarr English and related contact varieties.

**Lexical Aspect:** no effect of stativity on verb form

**Sentential Aspect:** Vbat favoured in Habitual/Iterative contexts, Ving favoured in Durative/Continuous contexts

**Transitivity:** Vbat favoured in transitive clauses; Ving favoured in intransitive clauses

**Subject Animacy:** V favoured by speech act pronoun (SAP) subjects, Ving favoured by other subjects.

**Subject Number:** Plural participants to favour Vbat.

**Object Number:** Plural participants to favour Vbat.

SCHOOL: Lexical Aspect and Sentential Aspect predicted to be the most important factor groups, reflecting the prime function of these morphemes in SAE as aspectual.

**Lexical Aspect:** stative verbs favour V and non-stative verbs favour Ving

**Sentential Aspect:** no prediction about what conformity to SAE looks like (needs to be investigated with respect to lexical aspect classes)

**Transitivity:** no effect of transitivity indicates conformity to SAE

**Subject Animacy:** favouring of Ving by SAP subjects suggests conformity to SAE (per prediction by Ziegler, cited by Walker (2000) and discussed in §5.5.1.1 above)

**Subject Number:** no prediction about what conformity to SAE looks like (i.e. shared pattern could indicate cross-linguistic tendency)

**Object Number:** no prediction about what conformity to SAE looks like (i.e. shared pattern could indicate cross-linguistic tendency)

First, the HOME and SCHOOL repertoires (the variants and their frequencies) will be described (§6.2) and the variable context for each data set will be compared (§6.3). Then, the speaker-related factors that potentially impact on variation are explored.
Following this, the variable-rule analyses of the home and school data are presented (§6.5) and (§6.6). The discussion section (§6.7) will address the similarity between the home and school data (addressing research question 2), and compare these data sets to what we know of adult Alyawarr English, SAE, universal and cross-linguistic tendencies (addressing research question 3).

6.2 The home and school repertoires

This section addresses the research question RQ1a): What are the home and school repertoires? I.e. what are the range of forms (i.e. variants) in each context and their frequencies? The distribution of the three forms V, Ving and Vbat, are presented in Table 6-1 below. As there are over twice the number of tokens occurring in home contexts than in school contexts, it is important to focus on proportionality of tokens of each form, rather than raw distributions. The V form is proportionally similar in its rate of occurrence in home (42%) and school (49%) contexts. Contrary to this, the Ving and Vbat forms show different distributional characteristics in each context. The Ving form constitutes more of the school data (51%) than home data (22%). Conversely, the Vbat form is proportionally greater in the home language system (36%) and is virtually non-existent in the school data. There are only 20 recorded tokens in the school context, constituting only 4% of school tokens. In fact if we look in more detail at the instances of Vbat use in the school context, most of these tokens (15/20) are produced by three children in the youngest age bracket (5;0-5;5), that is, in the early days of their pre-schooling career. It would seem, therefore, that Vbat is a form which is largely confined to the home language system. Therefore, since these tokens are clearly a minor form in the school data, below the categorical threshold, they will be excluded from analysis (they are included in square brackets in Table 6-1 to indicate that they have not been included in the totals in this table). This is the first indication that there are indeed two separate present temporal reference systems in operation. The home system is composed of three forms: V, Ving and Vbat. The school system is composed of two forms: V, and Ving. This result is graphed in Figure 6-1. Further, the school data set is different from the home data set in a way that makes it more like SAE: the non-SAE form, Vbat, has been dropped.
Table 6-1: Distribution of V, Ving and Vbat in HOME and SCHOOL contexts

<table>
<thead>
<tr>
<th>Basic context</th>
<th>V</th>
<th>Ving</th>
<th>Vbat</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Home</td>
<td>42</td>
<td>278</td>
<td>22</td>
<td>149</td>
</tr>
<tr>
<td>School</td>
<td>49</td>
<td>158</td>
<td>51</td>
<td>163</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>436</td>
<td>312</td>
<td>240</td>
<td>988</td>
</tr>
</tbody>
</table>

Figure 6-1: Distribution of present temporal reference variants V, Ving and Vbat, HOME [N=667] and SCHOOL contexts [N=321] (data from Table 6-1)

Recall that one of the possible distributions of Ving and Vbat in Australian contact languages is that Vbat is used on transitive verbs, while Ving is used on intransitive verbs (discussed in §5.2). In fact, transitivity (defined here as clauses of two or more participants) impacts on the current data set as well. In the HOME data, presented in Table 6-2, there are only 20 tokens of Ving used in transitive clauses: therefore in HOME transitive contexts Ving is a minor variant that is not really competing with V and Vbat. Vbat is also clearly less common in intransitive contexts [N=54], though not insignificant since it still marks 18% of intransitive verbs. The distribution of V is fairly steady in both transitive (N=119; 39%) and intransitive (N=159; 43.5%) conditions. It is clear from these distributions that transitivity is fundamental to the variation in the HOME data set.

Table 6-2: Distribution of V, Ving and Vbat forms per TRANSITIVITY, HOME context
[significant $\chi^2(2, N=667)=153.5127$, $p<.001$]

<table>
<thead>
<tr>
<th></th>
<th>V</th>
<th>Ving</th>
<th>Vbat</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Intransitive</td>
<td>39</td>
<td>119</td>
<td>43</td>
<td>129</td>
</tr>
<tr>
<td>Transitive</td>
<td>43.5</td>
<td>159</td>
<td>[5.5]</td>
<td>[20]</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>278</td>
<td>22</td>
<td>149</td>
</tr>
</tbody>
</table>
Table 6-3: Distribution of V, and Ving forms per TRANSITIVITY, SCHOOL context [significant \( \chi^2(2, N=321)=31.777, p<.001 \)]

<table>
<thead>
<tr>
<th></th>
<th>V</th>
<th>Ving</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Intransitive</td>
<td>34</td>
<td>54</td>
<td>66</td>
</tr>
<tr>
<td>Transitive</td>
<td>65</td>
<td>104</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>158</td>
<td>51</td>
</tr>
</tbody>
</table>

By contrast, in the SCHOOL data, Ving is now a substantial variant in transitive clauses (appearing in 35% of transitive clauses, as shown in Table 6-3). As with the HOME data, it is still asymmetrical in its distribution, since it appears at twice this rate (66%) in intransitive clauses. The fact that Ving is now a robust variant in transitive clauses represents an important difference in the HOME and SCHOOL present temporal reference systems. This difference in distributions is represented graphically in Figure 6-2, in which the 20 tokens of transitive Ving in the HOME data have been excluded. This figure also makes it visually clear that the main reason for the increase in overall incidence of Ving in the SCHOOL data (to 51%, up from 22% of the HOME data as shown in Figure 6-1 above) is that it is now used much more in transitive clauses.

![Figure 6-2: HOME and SCHOOL repertoires per TRANSITIVITY condition](image)

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This examination of the HOME and SCHOOL repertoires has revealed some similarities and several differences. The forms V and Ving are common to both HOME and SCHOOL data, and V occurs with similar overall frequency. However, when the data is broken down according to transitivity, an asymmetry in the incidence of V in the SCHOOL data emerges (65% in transitive; 34% in intransitive), while the incidence of V across transitivity conditions in the HOME data is less polarised (46% in transitive; 39% in intransitive). The Ving form has very different distributions in the HOME and SCHOOL data: it is used in transitive clauses in the SCHOOL data while virtually never in this context in the HOME data. As predicted, Vbat does not occur to any meaningful extent in the SCHOOL data, a sign that children’s school-based speech is distinct from Alyawarr English and more like SAE.

Several questions remain to be examined. In transitive clauses, does the absence of Vbat in the SCHOOL data, coupled with the advent of Ving in this context mean that Ving has simply replaced Vbat or is there a complete reorganisation of the roles of V and Ving in the absence of Vbat? If the latter is the case, does this also extend to intransitive clauses, or is the SCHOOL data more divided by transitivity than it would appear from the distributions? To answer these questions we need to delve deeper into the factors which are constraining the variation of each form in each system. Before this can be done, we must determine the extent of variation within the system.

### 6.3 The variable context

The variable ‘present temporal reference’ has been defined in this thesis as every instance of a lexical verb used with present temporal reference (per discussion in Chapter 5 §5.4 above). Within this, however, there will be patches of non-variability: instances in which only V, or Ving or Vbat is the possible form. These contexts fall outside of the ‘variable context’. The reasons for determining and removing such instances from analysis are twofold. First, their inclusion would not give a true model of the variation and would potentially skew the results of other factors investigated. Second, in comparing the HOME and SCHOOL data sets, shared variable contexts are a sign of similarity between the L1 and L2 systems (per the methodology employed in Variationist Typology studies, discussed in Chapter §3.2.3 above). Results of this
investigation therefore address Research Question 1b) *What is the of variable context in HOME and SCHOOL contexts?* and constitute our second piece of evidence about the relationship between the L1 and L2. Note that the HOME and SCHOOL repertoires presented in the previous section reflect the state of data totals once the following pockets of non-variability have been excluded. This section tells the story of that whittling process.

One fairly commonly reported effect in variationist studies is that of individual lexemes (Bybee & Hopper 2001). In an extreme scenario, a small number of words could largely account for the pattern of behaviour of one or more variant. To test for this, each basic context verb with a frequency of over 40 tokens in each context was given an individual code and investigated for its relationship to the inflections in question. In the HOME context there are 4 verbs that have a frequency equal to or greater than 40 (see Table 6-4). Three of these verbs appear with each of the three verb inflections in question (V, Ving, and Vbat). What this tells us is that the choice of verb form is not specific to any of these lexemes. Conversely, one verb (*gat* ‘has’1) appears only in the form V, and is therefore excluded from the variable context of Ving and Vbat (hence, from the data set). In the SCHOOL context (see Table 6-5), there is 1 verb with a frequency equal to or greater than 40: invariant *got*. ‘Got’ is therefore excluded from both HOME and SCHOOL data sets.

<table>
<thead>
<tr>
<th>LEXEME</th>
<th>V</th>
<th>Ving</th>
<th>Vbat</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>gat</em> ‘got’</td>
<td>100 %</td>
<td>117 N</td>
<td>-</td>
<td>117 N</td>
</tr>
<tr>
<td><em>go</em> ‘go’</td>
<td>52</td>
<td>48</td>
<td>45</td>
<td>41</td>
</tr>
<tr>
<td><em>du</em> ‘do’</td>
<td>53</td>
<td>28</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td><em>meik</em> ‘make’</td>
<td>40</td>
<td>17</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>other (N types = 156)</td>
<td>65</td>
<td>554</td>
<td>12</td>
<td>104</td>
</tr>
<tr>
<td>Total</td>
<td>66</td>
<td>764</td>
<td>13</td>
<td>149</td>
</tr>
</tbody>
</table>

1 The verb ‘got’ is the highest frequency verb [N=209] in all present temporal reference contexts. It is not past tense, but rather is best translated to the SAE construction ‘has/have got’ or ‘has/have’. In the HOME data there is also a *gat* ‘with’ preposition (e.g. *Am going plei gat themab* ‘I’m going to play with them’), and its arguably possible to analyse the main verb-type use as also prepositional (in which it acts as a matrix predicator which looks like a main verb).
Table 6-5: Overall distribution of V, and Ving forms per LEXEME, SCHOOL context

<table>
<thead>
<tr>
<th></th>
<th>V %</th>
<th>N</th>
<th>Ving %</th>
<th>N</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>got</td>
<td>100</td>
<td>44</td>
<td></td>
<td></td>
<td>44</td>
</tr>
<tr>
<td>other (N types = 101)</td>
<td>60</td>
<td>249</td>
<td>40</td>
<td>163</td>
<td>412</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>293</td>
<td>37</td>
<td>163</td>
<td>456</td>
</tr>
</tbody>
</table>

In exploring the marginal distributions of verb form according to the **sentential aspect** of the clause (see §5.5.2.2 for more detail of this factor group), one unexpected categorical finding has emerged. The form V is almost exclusively used in punctual environments, in both **HOME** (Table 6-6) and **SCHOOL** (Table 6-7) contexts. This is an important shared categorical constraint on the two data sets. There are some tokens [N=10] of Vbat in punctual **HOME** contexts, however the rate of incidence (3%) falls below the categorical threshold. Therefore punctual/temporary contexts have been excluded from the data set as they are not part of the variable context for Ving or Vbat.

Table 6-6: Distribution of V, Ving and Vbat forms per SENTENTIAL ASPECT, HOME context

<table>
<thead>
<tr>
<th></th>
<th>V %</th>
<th>N</th>
<th>Ving %</th>
<th>N</th>
<th>Vbat %</th>
<th>N</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durative/Continuous</td>
<td>46</td>
<td>195</td>
<td>32</td>
<td>136</td>
<td>23</td>
<td>97</td>
<td>428</td>
</tr>
<tr>
<td>Habitual/Iterative</td>
<td>20</td>
<td>21</td>
<td>2</td>
<td>2</td>
<td>78</td>
<td>83</td>
<td>106</td>
</tr>
<tr>
<td>Punctual</td>
<td>97</td>
<td>369</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>10</td>
<td>379</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>585</td>
<td>15</td>
<td>138</td>
<td>21</td>
<td>190</td>
<td>913</td>
</tr>
</tbody>
</table>

Note: Ambiguous or otherwise un-codeable tokens excluded [N=133]

Table 6-7: Distribution of V and Ving forms per SENTENTIAL ASPECT, SCHOOL context

<table>
<thead>
<tr>
<th></th>
<th>V %</th>
<th>N</th>
<th>Ving %</th>
<th>N</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durative/Continuous</td>
<td>47</td>
<td>120</td>
<td>53</td>
<td>137</td>
<td>257</td>
</tr>
<tr>
<td>Habitual/Iterative</td>
<td>58</td>
<td>30</td>
<td>42</td>
<td>22</td>
<td>52</td>
</tr>
<tr>
<td>Punctual</td>
<td>100</td>
<td>91</td>
<td>0</td>
<td>0</td>
<td>91</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>241</td>
<td>40</td>
<td>159</td>
<td>400</td>
</tr>
</tbody>
</table>

Note: Ambiguous or otherwise un-codeable tokens excluded [N=12]

This finding is interesting in the context of descriptive work on English, outlined in §5.2.1 above, that the default reading of dynamic verbs in simple present form (V/Vs) in present temporal reference contexts is that of habitual occurrence (Olsen, 1997:167).

---

2 Note: tokens of got ‘got’ have already been removed in these counts

3 As noted above (§4.5.3), in this thesis categorality is defined as a feature occurring with an incidence of fewer than 5% or greater than 95% (following Guy 1988:132).
Example (1) illustrates this. The usual caveat to this is that in special contexts, such as the live calling of sports events, verbs in simple present are understood to denote momentary, temporarily bounded events, lasting only until the next utterance by the sports caster (e.g. see Huddleston & Pullum 2012:128). Example (2) illustrates this. Such cases fit the definition of punctual sentential aspect in this thesis⁴.

(1) Fitzsimons runs.
(2) Fitzsimons runs…He shoots…He scores!

While this is typically seen as a restricted or specialised genre within the landscape of adult speech, the prevalence of simple present-punctual utterances in the present corpus suggests that for children the punctual interpretation of V is as or potentially more prominent in their everyday usage (particularly given punctual contexts outweigh habitual contexts in both data sets). In other words, children don’t narrate their play so much as provide a running commentary⁵. An example of this follows in (3).


The HOME and SCHOOL distributions prior to the removal of these invariant contexts is presented in Figure 6-3 (the distributions post-removal are presented in Figure 6-1 in the previous section §6.2). Note the preponderance of V forms that exist in the data if these invariant contexts are not isolated. The removal of tokens of ‘got’ and punctuals has largely neutralised this, with proportions of V decreasing from 66% to 42% in the HOME context and 64% to 49% in the SCHOOL context. This suggests that the preponderance of V forms in the data set (prior to the present exclusions) is not due to speaker preference, but rather that the contexts in which only V can appear (i.e. punctual aspect; ‘got’) occur more often in the children’s speech varieties.

⁴ Similarly, the use of simple present tense forms in past narrative contexts - the ‘historical or narrative present’ - brings immediacy to re-tellings of past events.

⁵ This assertion is perhaps advancing a bit of a false comparison, since most work on variation in adult speech relies on sociolinguistic interview data, which is itself qualitatively different from the everyday talk of adults in home and work contexts. However, since young children don’t readily do the sociolinguistic interview format, which itself mirrors the types of chats adults frequently engage in about their lives, this does touch on a fundamental difference in the language practices of children and adults - a story that is much larger than this thesis.
The fact that the variable context for both HOME and SCHOOL data sets is circumscribed by the same two invariant sites is an important piece of evidence regarding the relationship between the L1 and L2. The fact that V is non-variant in punctual and ‘got’ contexts is a point of similarity between the HOME and SCHOOL data sets.

6.4 Analysis of speaker-related factors

Now that we have an idea of the baseline rates of occurrence and have excluded invariant tokens from the data, we can begin to examine what might account for the variation that does exist. One possible contributor to the overall variation is that individual speakers, or speakers at different ages choose between the variants for different reasons. Data in this study can be viewed across three age spans due to its cross-sectional and longitudinal design (see Chapter 4, §4.5.4 for details). As children grow older, they are exposed to more schooling, and therefore more SAE. The

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* In fact, the importation of L1 use of ‘got’ into the SCHOOL context results may itself constitute a camouflaged form. As noted in footnote 1, it is used in constructions for which the target SAE form is ‘has/have got’ (or possibly ‘has/have’). The use of ‘got’ therefore results in clauses that are ungrammatical from the perspective of ‘standard’ Australian English (e.g. ‘I got no paper’, ‘They got too many’) but only because they are missing the auxiliary ‘has/have’, which is often contracted to the subject making it potentially hard to detect. Further, the absence of the auxiliary doesn’t pose a big threat to communication, particularly in the kinds of contexts children are using this construction.
prediction, then, is that older children will lead any overall change between HOME and SCHOOL data sets. It might be possible to observe such changes in use of the variable over time as evidence of a growing separation between L1 and L2 systems. In exploring this possibility, this section will address Research Question 1c): *What speaker-related factors (specifically age) best account for the variation in choice between the main forms in each context?*

One possible effect of age on the data is a well-documented trend for early learners to rely heavily on uninflected verb forms. Tense and aspectual information is conveyed through pragmatic/contextual and then lexical means (or possibly not at all for L1 learners), prior to the acquisition of verbal inflections. In studies of first language acquisition this has been called the ‘optional infinitive stage’ (e.g. Wexler 1994), and descriptions of adult second language have termed the same (at least surface) phenomenon a feature of the ‘basic variety’ (e.g. Klein & Perdue 1997). The same pattern of uninflected verb forms is found in the L2 speech of children, but naturally there is speculation regarding the underlying mechanisms depending on the age of the child (i.e. ‘pre-inflection’ per the L1 developmental stage or a case of ‘missing’ inflections per normal adult L2 acquisition or other possibilities e.g. Haznedar & Shwartz 1997; Gavruseva 2002; 2004).

**Table 6-8:** Distribution of V and Ving per AGE, SCHOOL context [not significant \(\chi^2(2,N=315)=4.8897, p>.05\)]

<table>
<thead>
<tr>
<th>AGE</th>
<th>V</th>
<th>Ving</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>5;0-5;11</td>
<td>49</td>
<td>24</td>
<td>51</td>
</tr>
<tr>
<td>6;0-6;11</td>
<td>43</td>
<td>58</td>
<td>57</td>
</tr>
<tr>
<td>7;0-7;11</td>
<td>57</td>
<td>75</td>
<td>43</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>157</td>
<td>50</td>
</tr>
</tbody>
</table>

Note: excluded tokens (for which specific age bracket unknown) [N=6]
While it is not the aim of this thesis to test these particular competing accounts, it is of interest to see if children in this study go through a period of reliance on the V form in their school language data (they are past the ‘early’ phase where this would be a relevant consideration of their L1). The distribution of school context data per age is presented in Table 6-8 (and graphed in Figure 6-4). It shows that children in this corpus do use inflected Ving forms from the earliest age (and recall that these were made only a few months into the first pre-schooling exposure for the youngest children). Further, the proportional use of Ving versus V does not indicate over-reliance on V in the early age bracket. In fact, the use of V and Ving does not differ significantly across age. It may be that the period of reliance on V forms is very brief for these children, and so it wasn’t captured by the schedule of recordings used. It may also be the case that children make early use of the overlap between their home language and what they hear their teachers speaking, and just continue to use their home language in school contexts. We already know that some accommodation to L2 patterns have been made: Vbat is used minimally in school contexts [N=15] in the earliest age group and abandoned by the age of 6, as noted in the above section (§6.2). This suggests that increasing exposure to SAE leads to a suppression of non-SAE forms. The fact that Ving is not similarly relegated supports this. This is potentially an example of where the acquisition of a closely-related language may differ from typical L2 acquisition. We can further examine the extent to which the uninterrupted use of Ving in school contexts constitutes a continuation of home language use, or adoption of L2 norms, by comparing the variable constraints on each system - and this will be done in the following section (§6.5).
Table 6-9: Distribution of V, Ving and Vbat per AGE, HOME context. [not significant χ²(4, N=656)=3.3082, p>.05]

<table>
<thead>
<tr>
<th></th>
<th>V</th>
<th>Ving</th>
<th>Vbat</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>5;0-5;11</td>
<td>42</td>
<td>98</td>
<td>21</td>
<td>50</td>
</tr>
<tr>
<td>6;0-6;11</td>
<td>43</td>
<td>108</td>
<td>25</td>
<td>64</td>
</tr>
<tr>
<td>7;0-7;11</td>
<td>43</td>
<td>72</td>
<td>19</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>278</td>
<td>22</td>
<td>146</td>
</tr>
</tbody>
</table>

Note: excluded tokens (for which specific age bracket unknown) [N=11]

Figure 6-5: Distribution of V, Ving and Vbat per AGE, HOME context (data from Table 6-9)

Before that I will make a few observations about the HOME language data presented in Table 6-9 (and graphed in Figure 6-5). This distribution reveals that there are no obvious age-related changes in the incidence of each variant over time. The significance of age on the choice of variant was tested and there was no difference attributable to age. Age can therefore be excluded as a contributor to the variation between V, Ving and Vbat in the HOME context.

The second speaker-related factor that is of interest is the individual contribution of each participant. In order to check that no one speaker is skewing the data in terms of use of a particular variant (e.g. in case only some speakers use Ving in the SCHOOL context), the rates of use of each variant have been graphed and presented in Figure 6-6 and Figure 6-7. There are no significant differences between speakers in either setting, meaning that the variation between speaker is not significantly contributing to the overall variation between the choice of verb forms.

A further investigation could be made by taking the data at each age level and conducting separate variable rule analyses (of the kind to follow in the proceeding section) on each. This would determine if the same set of factors is conditioning the variation between the variants at each age level. Unfortunately there are not enough tokens at each age level to facilitate this kind of exploration.
6.5 Multivariate analysis of linguistic factors

In this section I will address Research Question 1d) What factors in the immediate linguistic context (i.e. the clause) best account for the variation between the forms in each context? The data sets were coded for a number of factor groups, the motivations for which were discussed in Chapter 5 (§5.5). The factors remaining, after exclusions (see §5.5.4), are lexical aspect, sentential aspect, subject person, subject number, object number and transitivity. Since transitivity nearly categorically restricts the use of Ving in the HOME data (to intransitive contexts), it can only be run on the SCHOOL data. I'll
first briefly discuss how some of these factor groups required re-working in light of patchy distributions.

When cross-tabulating each factor group with each other, it was discovered that, in both HOME and SCHOOL contexts, stative verbs do not appear in clauses with habitual/iterative aspectual semantics\(^8\), as shown in the grey cells of Table 6-10. There are a number of possible explanations for this. It could be a vestige of the coding system wherein ‘durativity’ is potentially coded twice: once as a defining feature of ‘states’ at the lexical level and as a type of sentential aspect\(^9\). However, Walker (2000; 2010) using the same coding system for his early African American English datasets, does find stative verbs with habitual/iterative verbs, so it is not a necessary outcome of this coding structure. A second possibility is that this restriction of statives to durative/continuous (and punctual) clauses is a feature of child language, or of the particular language varieties under examination here (i.e. it could be reflected in adult Alyawarr English or learner varieties of English more broadly). Thirdly, it could be the result of sampling inadequacies; that this combination of ‘stative + habitual/iterative aspect’ has just not naturally arisen in the corpus.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|}
\hline
Context & Lexical Aspect & Sentential Aspect & \hline
 & & Durative/Continuous & Habitual/Iterative \hline
Home & Stative & 164 & 1 \hline
 & Non-stative & 264 & 105 \hline
School & Stative & 98 & 0 \hline
 & Non-stative & 159 & 52 \hline
\end{tabular}
\caption{Cross-tabulation of lexical aspect and sentential aspect distributions, HOME and SCHOOL contexts}
\end{table}

Whatever the reason, it is necessary to resolve the lack of independence of these two factor groups, by collapsing statives and sentential durativity into a single factor group. The ‘combined aspect’ factor group now has three factors: Stative durative/continuous (shortened to Stative Durative), Non-stative Durative/Continuous (shortened to Non-stative Durative), and Non-stative Habitual/Iterative (shortened to Non-stative Habitual).

\(^{8}\) An example of a lexically stative verb used in a clause with habitual semantics in English would be ‘I \underline{love} a good red every Friday night’ or ‘We always \underline{see} birds at the creek’

\(^{9}\) Stative verbs did also occur in clauses with punctual aspectual semantics, which had been excluded from analysis (see §6.2).
The subject animacy coding also had to be refined. As displayed in Table 6-11 and Table 6-12, the breakdown of 3rd person into the three animacy levels resulted in untenably low token counts in a lot of the cells, particularly inanimates. As a result, it was decided then to collapse these into the one ‘3rd Person’ category and contrast this with the 1st/2nd person/Speech Act Participant (SAP) factor, to form a 2-level subject person factor group. This is justified by the data: in all but one case all the 3rd person levels (Human, Animate and Inanimate) behave the same way with respect to whether they favour or disfavour the verb form. For example, in the HOME data, SAPs disfavour the Ving form (since the overall rate of occurrence of Ving in the data set is 24%—with respect to this factor group—but the incidence of Ving decreases to 16% in clauses with 1st/2nd person subjects). Only the patterning for HOME context inanimates runs contrary to the trend, since it favours the use of V (55%, against an overall rate of 40%), while the other 3rd person contexts disfavour it (human 25% and animate 34%).

Table 6-11: Distribution of V, Ving and Vbat per SUBJECT PERSON, HOME context

<table>
<thead>
<tr>
<th></th>
<th>V</th>
<th>Ving</th>
<th>Vbat</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>1st/2nd Person (SAP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human</td>
<td>25</td>
<td>31</td>
<td>38</td>
<td>47</td>
</tr>
<tr>
<td>Inanimate</td>
<td>55</td>
<td>22</td>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>223</td>
<td>24</td>
<td>135</td>
</tr>
</tbody>
</table>

Note: Unexpressed subjects or otherwise un-codeable tokens excluded [N=103]

10 The breakdown of SAP per person/number is as follows: 1sg N=225, 1pl N=21, 2sg N=85, 2pl N=20. The majority of tokens are therefore 1sg, followed by a substantial proportion of 2sg. These pattern the same way as each other when compared to 3rd person.
Table 6-12: Distribution of V and Ving per SUBJECT PERSON, SCHOOL context [significant (SAP v. 3p) $\chi^2(1, N=268)=51.9581, p<.001$]

<table>
<thead>
<tr>
<th>V</th>
<th>Ving</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st/2nd</td>
<td>72</td>
<td>96</td>
</tr>
<tr>
<td>3rd</td>
<td>28</td>
<td>38</td>
</tr>
<tr>
<td>Human</td>
<td>36</td>
<td>38</td>
</tr>
<tr>
<td>Animate</td>
<td>35</td>
<td>8</td>
</tr>
<tr>
<td>Inanimate</td>
<td>33</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>134</td>
</tr>
</tbody>
</table>

Note: Unexpressed subjects or otherwise un-codeable tokens excluded [N=53]

After these reconfigurations, the factors now available for the variable rule analysis are combined (sentential and lexical) aspect, subject person, subject number, object number (transitive clauses only) and transitivity (SCHOOL data only). I’ll first examine the HOME data, followed by the SCHOOL data.

The variant that occurs with about the same frequency in HOME transitive (46%) and intransitive clauses (39%) is V. Table 6-13 shows the results of two variable-rule analyses (VRAs) comparing V in transitive (left section) and intransitive (right section) clauses. The 'input' probabilities of .41 (transitive) and .38 (intransitive) indicate the “overall tendency for the dependent variable to surface in the data” (Tagliamonte 2012:127. See also Young & Bailey 1996) or in other words, represents the likelihood that the variant V will occur (as opposed to Ving and Vbat) in the whole HOME data set. The corrected mean should be similar to the overall raw rates (given in brackets). Changes in this global input value in comparative analyses have been interpreted as reflecting a change in dominance of the form within the variable system (e.g. Tagliamonte & D’Arcy 2007).

The arrangement of factor groups in this table reflects their relative contribution to the overall variation (from top to bottom). Aspect accounts for most of the variation out of the factor groups tested in both the transitive and intransitive data. Subject person is also significant for the transitive data, but not the intransitive data (as indicated by the square brackets instead of factor probabilities). Subject number was not significant for

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11 The breakdown of SAP per person/number is as follows: 1sg N=99, 1pl N=11, 2sg N=19, 2pl N=4. The majority of tokens are therefore 1sg. All of these pattern the same way as each other when compared to 3rd person.

12 As indicated by the range. Both the range, and the order in which factors are added to the model during the statistical analysis are indicative of their relative strength and the two should coincide (and they do in each VRA presented in this thesis). By convention, the order presented in the tables reflects the range.
either data set, nor was object number for the transitive data (not run in the intransitive data).

Table 6-13: Two variable-rule analyses of the contribution of various factors to the choice of V against other verb forms, transitive (~Vbat) and intransitive (~Vbat and Ving), HOME context.

<table>
<thead>
<tr>
<th></th>
<th>V transitive</th>
<th></th>
<th>V intransitive</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prob.</td>
<td>%V</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>input (overall rate)</td>
<td>.41</td>
<td>46</td>
<td>345</td>
<td>.38</td>
</tr>
<tr>
<td>total N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stative Durative</td>
<td>.75</td>
<td>68</td>
<td>103</td>
<td>.71</td>
</tr>
<tr>
<td>Non-stative Durative</td>
<td>.54</td>
<td>48</td>
<td>90</td>
<td>.43</td>
</tr>
<tr>
<td>Non-stative Habitual</td>
<td>.21</td>
<td>18</td>
<td>67</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>Range = 54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject Person</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAP</td>
<td></td>
<td></td>
<td></td>
<td>[ ]</td>
</tr>
<tr>
<td>other (3rd Person)</td>
<td>.48</td>
<td>25</td>
<td>67</td>
<td>[ ]</td>
</tr>
<tr>
<td></td>
<td>Range = 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>[ ]</td>
<td>43</td>
<td>253</td>
<td>[ ]</td>
</tr>
<tr>
<td>Plural/Mass</td>
<td>[ ]</td>
<td>36</td>
<td>31</td>
<td>[ ]</td>
</tr>
<tr>
<td></td>
<td>Range = 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Object Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>[ ]</td>
<td>50</td>
<td>154</td>
<td>[ ]</td>
</tr>
<tr>
<td>Plural/Mass</td>
<td>[ ]</td>
<td>40</td>
<td>37</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

The first column in each section (labelled 'Prob.', an abbreviation of 'probability') shows the probability value returned by the logistic regression analysis. A value closer to 1 indicates favouring of V, and a value closer to 0 indicates that V is disfavoured. Probabilities that significantly favour the variant are given in bold for ease of reading. For example, in transitive clauses Stative Durative aspect favours the use of V forms, returning the probability of .75. In the next column (here titled '%V'), the raw percentage of V tokens in that condition is given: the rate of V in Stative Durative transitive verbs is 68%. In the final column (titled 'N') the total number of tokens (of all verb types) for that condition is given: the number of Stative Durative transitive clauses (both marked V and Vbat) is 103. This same pattern is replicated in intransitive clauses, where V (now compared to both Vbat and Ving combined) is favoured by Stative.

13 Note that there are no Non-stative Habitual-Iterative clauses in the intransitive data. This is not true of the SCHOOL data, as we’ll see below. A possible explanation for this is that the HOME data is (impressionistically) more ‘iterative’ than ‘habitual’ (recall that the factor groups is actually ‘habitual/iterative’), whereas the SCHOOL data is not. In the HOME play contexts iterative acts were often repeated actions within the context of one toy acting on another (e.g. in the game of knights there was some ‘battling’), which tend to be transitive. The SCHOOL data contained more genuinely habitual discussion, in particular one activity describing the advantages of going hunting. I see this as a discrepancy more likely due to sampling, than a natural language fact.
Durative aspect, with a probability of .71 (rate of 60%). In the transitive data, Non-stative Durative contexts appear to mildly favour V as well, with a probability of .54, while this condition disfavours the use of V in intransitive clauses (probability of .43). The probabilities of V occurring in each of these three aspectual conditions, in both the transitive and intransitive data, is graphed in Figure 6-8.

Figure 6-8: Probabilities of V occurring in three aspectual conditions, HOME transitive and HOME intransitive contexts. (Data from Table 6-13)

Subject Person is also a significant factor group to the choice of transitive V, although the probabilities are very close to .50 (SAP = .51; other = .48) so it is not possible to draw a confident conclusion regarding the direction of effect based on the probabilities alone\textsuperscript{14}. However, the percentages demonstrate that the same direction of effect in both the transitive and intransitive data sub-sets. Moreover the impact of subject person is much lower than aspect in both data sub-sets: in the intransitive data it does not even reach significance, and in the transitive data the range is very low. This is also the opposite of what we see for Vbat, below, as is expected. As stated above, no other factor groups were significant.

When variables of only two variants are entered into a variable rule analysis, the output is presented in terms of only one of those variables. In the left section of Table 6-13 transitive V was run against transitive Vbat, but the results were expressed in terms of

\textsuperscript{14} I will take the cautious approach of refraining from concluding directionality for probabilities in the range of .45 to .55
V. The results for Vbat are in fact the inverse of results for V, and so can also be inferred from this table. So Vbat is strongly favoured in Non-stative Habitual/Iterative conditions, with the probability the inverse of that for V in this condition (i.e. \(1 - 0.21 = 0.79\); rate of 82\%)\(^{15}\). This supports the hypothesis, derived from descriptions of Kimberly Kriol, that Vbat expresses specific iterative semantics. As with the results for V, the results for Vbat are also inconclusive for directionality in Non-Stative Durative aspect, and with respect to Subject Person (since the probabilities are close to 0.50). The variable grammar of the aspect portion of the HOME transitive data is graphed in Figure 6-9. The vertical axis plots the probabilities retrieved from the regression analyses presented in Table 6-13 (left section), and the horizontal axis contains the three aspect conditions: Stative (Durative), (Non-stative) Durative, and (Non-stative) Habitual. This graph clearly shows the strong favouring of V in stative clauses, and Vbat in habitual clauses, with durative clauses containing close to the same rate of both V and Vbat forms.

**Figure 6-9**: Probabilities of V and Vbat occurring in three aspectual conditions, HOME transitive contexts. (Data from Table 6-13)

Now that I have examined V (transitive and intransitive) and transitive Vbat, what about intransitive Vbat? To find out what Vbat is doing in intransitive clauses, another variable-rule analysis is needed, because in the above analysis intransitive V is run against the combined Ving and Vbat data. The following analysis, presented in Table 6-14, separates out Ving and Vbat in intransitive clauses, and allows us to see on what grounds speakers make a choice between them in the HOME intransitive contexts. Ving

\(^{15}\) Similarly, the rate of incidence can be determined as 100-68=32\%. The N is the same.
is the ‘application variant’ which means results are presented in terms of it, with the results of Vbat derivable as the inverse. Ving is the more dominant variant over Vbat in intransitive clauses, with an overall rate of use of 70%, adjusted to .82 in the model. The results per factor group indicate that even though Ving is more likely to be used overall in intransitive clauses, the likelihood is higher still in some situations. There are three clausal elements for which this discrepancy between Ving and Vbat was found to be significant: aspect, subject person, and subject number. As noted above, the arrangement of factor groups in this table reflects their relative contribution to the overall variation (from top to bottom). Aspect makes the strongest contribution (Range = 42), with the other factor groups coming in with range values less than half that of aspect (subject person Range = 24; subject number Range = 15).

Table 6-14: Variable-rule analysis of the contribution of various factors to the choice of Ving (against Vbat) in HOME intransitive contexts.

<table>
<thead>
<tr>
<th>Input (overall rate)</th>
<th>Prob.</th>
<th>%Ving</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>total N</td>
<td>.82</td>
<td>70%</td>
<td>183</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aspect</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Stative Durative</td>
<td>.16</td>
<td>48</td>
<td>23</td>
</tr>
<tr>
<td>Non-Stative Durative</td>
<td>.58</td>
<td>86</td>
<td>125</td>
</tr>
<tr>
<td>Non-stative Habitual</td>
<td>0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Range = 42

<table>
<thead>
<tr>
<th>Subject Person</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP</td>
<td>.36</td>
<td>64</td>
<td>66</td>
</tr>
<tr>
<td>other</td>
<td>.60</td>
<td>80</td>
<td>93</td>
</tr>
</tbody>
</table>

Range = 24

<table>
<thead>
<tr>
<th>Subject Number</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Singular</td>
<td>.53</td>
<td>74</td>
<td>128</td>
</tr>
<tr>
<td>Plural/Mass</td>
<td>.38</td>
<td>65</td>
<td>34</td>
</tr>
</tbody>
</table>

Range = 15

First, I will examine aspect. Clauses with Non-Stative Durative aspect mildly favour the choice of Ving (prob=.58; rate of 86%)\(^{16}\), while clauses with Stative Durative aspect strongly favour Vbat (prob=.84; rate of 52%). Recall above that V is also favoured in intransitive clauses of Stative Durative aspect (when compared to both Ving and Vbat), so there appears to be some job sharing between V and Vbat here.

\(^{16}\) While the rate is 86% for this factor, recall that the overall rate of Ving in the intransitive data set is 70% (compared to Vbat). This overall rate is therefore the yardstick against which each factor is measured: 86% is not that much higher than 70% resulting in a probability of .58 for this factor (i.e. above the mid-point .50, but not great in magnitude).
Subject Person is also significant, with speech act participants (SAPs) favouring Vbat (prob=.64; rate of 36%), and non-SAP subjects favouring Ving (prob=.60; rate of 80%). The finding that Ving is associated with non-SAP subjects concurs with the results of Walker (2000), whose coding for this factor was inspirational in including it here. The alignment of Ving with both durative aspect and non 1st and 2nd person subjects (and the inverse, that Vbat aligns with stativity and 1st/2nd person pronouns), could reflect a discursive tendency for speakers to comment on one’s own states (which favour Vbat), and other’s actions.

Subject number is also significant with plural/mass subjects favouring Vbat (prob=.62; rate of 35%). Recall that part of the analysis of Vbat in Kimberley Kriol was that iterativity in the clause could arise from plural participants, and the Vbat ending would respond to this. It seems when there is a direct choice between Ving and Vbat, this might be the case here. The findings from the three factor groups are represented graphically in Figure 6-10.

**Figure 6-10:** Probabilities of Ving and Vbat occurring in three aspectual conditions, two subject person conditions and two subject number conditions, HOME *intransitive* contexts. (Data from Table 6-14).

When the results for intransitive Vbat and Ving are combined with those for intransitive $V^{17}$, the following picture (graphed in Figure 6-11) of the variable grammar

---

17 Note that when intransitive Ving was run against the combination of intransitives $V + Vbat$, the results were very similar to the results presented here (where Ving is only compared to Vbat). When intransitive Vbat was run against the combination of intransitives $V + Ving$, the model failed to converge, likely because of the large discrepancy in tokens of the application and non-application variants that this produced (the combination of $V+Ving$ [N=248]...
of the aspect portion of the HOME intransitive data is visible. Speakers are more likely to choose V in Stative Durative clauses (over Ving or Vbat), but when speakers want to use an aspectual marker like Ving or Vbat, they are more likely to choose Vbat in stative contexts. A verb with an aspectual marker (Ving or Vbat) is more likely to be chosen in Non-stative Durative clauses than a V form, but when the choice between these forms is modelled, Ving is the more likely form.

Figure 6-11: Probabilities of V, Vbat and Ving occurring in two aspectual conditions, HOME intransitive contexts. (Data from Table 6-13 and Table 6-14.)

In summary, the HOME system is fundamentally divided per transitivity, with Ving only appearing on intransitive verbs. Likewise, Vbat is a minor form in intransitive clauses. This asymmetry is suggestive of a categorical transitivity split potentially in development in the children’s L1 grammar (this will be discussed further below). Table 6-15 presents a summary of the findings of the three variable-rule analyses discussed above. In transitive clauses, V is most closely associated with Stative Durative aspect, and Vbat with the Habitual aspect condition. The results were inconclusive regarding transitive Non-Stative Duratives, and it is this factor which most strongly aligns with Ving in the intransitive data. In the absence of any intransitive Non-stative Habitual clauses in the sample, V and Vbat are both significantly associated with Stative Durative clauses. Subject Person and Subject number provide a basis on which speakers choose between Ving and Vbat in intransitive clauses.

resulted in 5 times as many tokens than Vbat (N=54)). Because of this, and also because it seems plausible that speakers choose directly between Ving and Vbat, I continue to use the model that first puts V against (Ving+Vbat), and then directly compares Ving to Vbat.
Table 6-15: Summary of favoured verb forms in each factor condition, HOME context.

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Transitive V~Vbat</th>
<th>Intransitive V~{Ving~Vbat}*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stative Durative</td>
<td>V</td>
<td>V / Vbat</td>
</tr>
<tr>
<td>Non-Stative Durative</td>
<td>(V)</td>
<td>Ving</td>
</tr>
<tr>
<td>Non-stative Habitual</td>
<td>Vbat</td>
<td>-</td>
</tr>
<tr>
<td>Subject Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAP</td>
<td>(V)</td>
<td>Vbat</td>
</tr>
<tr>
<td>other</td>
<td>(Vbat)</td>
<td>Ving</td>
</tr>
<tr>
<td>Subject Number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>singular</td>
<td>[]</td>
<td>(Ving)</td>
</tr>
<tr>
<td>plural/mass</td>
<td></td>
<td>Vbat</td>
</tr>
</tbody>
</table>

Notes: Bracketed () forms indicate that the probability is within the range of .45-.55. Square brackets [] indicate the factor group is not significant. *Results for Ving and Vbat are from direct comparison of Ving v. Vbat (rather than with V). See footnote 17.

Turning now to the SCHOOL data. Recall that by contrast to the HOME data, transitivity does not categorically constrain any of the variants in the SCHOOL data. This means that transitivity can be included in the variable-rule analysis to give some idea if it is still a constraint on variant choice. The results are presented in Table 6-16 below. Transitivity is returned as a significant factor, indicating that clause transitivity does impact on the choice between V and Ving, with transitive conditions favouring the former (prob=.64; rate of %65). However, aspect makes a much stronger contribution to the overall variation than transitivity\(^\text{18}\) (and subject person) indicated by the range value for aspect (=62) of around twice that of transitivity (=28). This is the opposite to the HOME data in which transitivity trumps aspect by imposing a categorical constraint. Nevertheless, the effect of transitivity does persist to a smaller extent.

\(^{18}\) In this case, transitivity was actually included in the statistical model before Subject person, but the range values are virtually the same (28 and 30) so this is not likely to be an issue.
Table 6-16: Variable-rule analyses of the contribution of various factors to the choice of V (against Ving), SCHOOL context.

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Prob</th>
<th>%V</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stative Durative</td>
<td>.85</td>
<td>87</td>
<td>98</td>
</tr>
<tr>
<td>Non-Static Durative</td>
<td>.23</td>
<td>22</td>
<td>159</td>
</tr>
<tr>
<td>Non-stative Habitual</td>
<td>.60</td>
<td>58</td>
<td>52</td>
</tr>
<tr>
<td>Subject Person</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAP</td>
<td>.65</td>
<td>72</td>
<td>133</td>
</tr>
<tr>
<td>other</td>
<td>.35</td>
<td>28</td>
<td>135</td>
</tr>
<tr>
<td>Transitivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transitive</td>
<td>.64</td>
<td>65</td>
<td>160</td>
</tr>
<tr>
<td>Intransitive</td>
<td>.36</td>
<td>34</td>
<td>161</td>
</tr>
<tr>
<td>Subject Number</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>[ ]</td>
<td>52</td>
<td>229</td>
</tr>
<tr>
<td>Plural/Mass</td>
<td>[ ]</td>
<td>39</td>
<td>41</td>
</tr>
</tbody>
</table>

Two aspectual factors favour the expression of V, Stative Durative (prob=.85; rate of 87%) and Non-stative Habitual (prob=.60; rate of 58%). Recall that (transitive) Non-stative Habitual favoured Vbat in the HOME data, so here is evidence of V moving into that function in the SCHOOL data. Further, there were no tokens of Ving in Non-stative Habitual contexts in the HOME data (see Footnote 13), so the fact that 42% of tokens in this context are Ving represents an important difference in the role of Ving in the HOME and SCHOOL data sets. Ving is favoured in Non-Static Durative contexts (prob=.77; rate of 78%). The aspect portion of the variable grammar for SCHOOL V/Ving is graphed in Figure 6-12.

While it would be informative to investigate the SCHOOL data further with respect to what patterns emerge when transitive and intransitive data is examined separately, unfortunately there are not enough tokens to allow this. Recall that uneven distribution resulting in very low tokens counts was grounds for excluding many factors from statistical analysis in the previous chapter (§5.5.4). The statistical analysis procedure
cannot produce a reliable result in these cases, since factor groups become strongly non-orthogonal with other factor groups, violating one of the premises of the program.

**Figure 6-12**: Probabilities of V and Ving occurring in three COMBINED ASPECT conditions, SCHOOL context. (Data from Table 6-18)

However, an examination of the rates of use of each verb form in each aspect condition does indicate that the SCHOOL transitive and intransitive data are very similar in their patterning for aspect, see Figure 6-13. The main difference between the data sets is that V is a bit more likely to occur across aspeutal categories in transitive clauses, relative to its incidence in each aspeutal category in the intransitive data (and vice versa for Ving). But this doesn’t change which form is favoured in each category: the dashed line (at 65% for transitive data, and 34% for intransitive data) represents the incidence of V in each data set. The fact that the blue columns (representing the rate of V) are above the blue line to about the same extent for statives and habituas in both transitive and intransitive data sets shows that V is favoured in both these conditions. Therefore it appears that the higher rate of V in transitive clauses (and higher rate of Ving in intransitive clauses) is fairly evenly distributed across aspeutal categories.

The subject person factor group is likewise very similar when split into transitive and intransitive conditions (as shown in Figure 6-14). V is favoured by SAP subjects in transitive clauses (75% against an overall rate of V of 65%) and intransitive clauses (67%)

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19 And returning warnings or failing to converge. The latter was the case here, and likely due to the low numbers of habitual context tokens, which, when cross-tabbed with the subject person group revealed that, for example, there were only 4 tokens of clauses with habitual aspect and SAP subjects.
against an overall rate of V of 36%). And conversely Ving is favoured by other subjects in both transitive (56% against and overall rate of Ving of 35%) and intransitive (80% against an overall rate of Ving of 64%) clauses. I will continue, therefore, to compare the HOME and SCHOOL data, making reference to the combined transitive and intransitive data for the latter.

**Figure 6-13:** Rates of V and Ving in three COMBINED ASPECT conditions, in transitive and intransitive data, SCHOOL context.

![Figure 6-13](image_url)

**Figure 6-14:** Rates of V and Ving in two SUBJECT PERSON conditions, in transitive and intransitive data, SCHOOL context.

![Figure 6-14](image_url)
A summary of the results of favoured verb forms in each factor condition is given in Table 6-17. The similarity of the behaviour of V and Ving across transitive and intransitive clauses is a feature of the SCHOOL data that is markedly different to the HOME data. However, like the HOME data, aspect remains the most important constraint on the choice between the two variables. Before making further comparisons between the HOME and SCHOOL data based on the above variable-rule analyses, I will now delve further into one of the factor groups included in these: lexical aspect.

Table 6-17: Summary of favoured verb forms in each factor condition, SCHOOL context

<table>
<thead>
<tr>
<th>Aspect</th>
<th>V ~ Ving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stative Durative</td>
<td>V</td>
</tr>
<tr>
<td>Non-Stative Durative</td>
<td>Ving</td>
</tr>
<tr>
<td>Non-stative Habitual</td>
<td>V</td>
</tr>
<tr>
<td>Subject Person</td>
<td></td>
</tr>
<tr>
<td>SAP</td>
<td>V</td>
</tr>
<tr>
<td>other</td>
<td>Ving</td>
</tr>
<tr>
<td>Subject Number</td>
<td></td>
</tr>
<tr>
<td>singular</td>
<td>[ ]</td>
</tr>
<tr>
<td>plural/mass</td>
<td></td>
</tr>
</tbody>
</table>

6.6 Revisiting Lexical Aspect

A considerable body of research into second language acquisition of tense and aspect has established that tense and aspect morphology emerges in predictable patterns in relation to the lexical aspect of the verb (e.g. Rocca 2002 L1 Italian/English; L2 Italian/English) see Andersen & Shirai (1996) and Bardovi-Harlig (2000) for comprehensive lists). Of particular relevance is the finding that the English progressive (Ving) emerges on activity verbs first, then extends to accomplishments and then achievements. It may also be ‘over extended’ to states. The theory of language acquisition focused on patterning is called the ‘Aspect Hypothesis’\(^\text{20}\). Simply put, the Aspect Hypothesis states that “[f]irst and second language learners will initially be influenced by the inherent semantic aspect of verbs or predicates in the acquisition of tense and aspect markers associated with/or affixed to these verbs.” (Andersen and Shirai 1994: 133). While the methodologies that are employed in the slew of studies

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\(^\text{20}\) Also called the ‘Primacy of Aspect’ hypothesis (Andersen & Shirai 1996); from an initial proposition characterised as the ‘defective tense hypothesis’ by Weist et al (1984).
investigating these phenomena are somewhat different to the multivariate analysis employed here, we will make a brief diversion into this area, since if this pattern is replicated in the SCHOOL data, it will suggest that universal developmental patterns are a possible explanation of this data.

I will first return to lexical aspect as a stative/non-stative binary, to further explore the effects of lexical aspect on verb ending without the impact of Stative Aspect (recall that these two aspectual factors were combined above). Some verbs coded as stative include think, know, see, and taste; some verbs coded as non-stative include make, spill, break and bump. As noted above, lexical aspect is fundamental to English present temporal reference, in that the ‘default’ present tense for stative verbs is the V form, and for non-stative verbs is the Ving form. For this analysis I will reinstate to the data the punctual tokens previously excluded (a sentential aspect category), such as pick and press described in §5.5.2.2 above, since here we are only interested in looking at the data through the lens of lexical aspect\textsuperscript{21}. The distributions for the HOME data are presented in Table 6-18 (and graphed in Figure 6-15), and the SCHOOL data are presented in Table 6-19 (and graphed in Figure 6-15).

<table>
<thead>
<tr>
<th>Table 6-18: Overall distribution of V, Ving and Vbat forms per LEXICAL ASPECT, HOME context [significant $\chi^2(2, N=1046)=7.2023, p=.027$]</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
</tr>
<tr>
<td>Stative</td>
</tr>
<tr>
<td>66</td>
</tr>
<tr>
<td>Non-Stative</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 6-19: Overall distribution of V, and Ving forms per LEXICAL ASPECT, SCHOOL context [significant $\chi^2(1, N=412)=59.5065, p&lt;.001$]</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
</tr>
<tr>
<td>Stative</td>
</tr>
<tr>
<td>89</td>
</tr>
<tr>
<td>Non-stative</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

\textsuperscript{21} A further reason for removing any restrictions on the data that have arisen from coding for Sentential Aspect is that this is the least reliable of all the factors as shown by tests of inter-rater reliability (one test returned a rate of agreement of 70%). This examination of lexical aspect alone will allow for confirmation of the differences between HOME and SCHOOL data and put it on a more robust footing. I will discuss the shortcomings of the coding for Sentential Aspect in detail in Chapter 7.
Figure 6-15: Distribution of V, Ving and Vbat forms per LEXICAL ASPECT, HOME context [N=1046, data from Table 6-18] and SCHOOL context [N=412, data from Table 6-19]

The increase in V tokens (from the re-admission of punctual tokens) has reduced the relative differences between rates of verb forms in each data set somewhat. However recall that transitivity fundamentally impacts on the HOME data. To explore this fact in relation to the HOME data three separate variable-rule analyses were performed, to assess whether lexical stativity imposed a significant constraint on the use of V in HOME transitive and intransitive contexts, and in the SCHOOL context. The results (presented in Table 6-20) show that lexical stativity is important in SCHOOL contexts, as expected, and HOME intransitive, but not transitive contexts.

Table 6-20: Results of three variable-rule analyses of the contribution of LEXICAL STATIVITY to the choice of V, HOME transitive (against Vbat), HOME intransitive (against Ving and Vbat) and SCHOOL (against Ving) contexts. All factors shown.

<table>
<thead>
<tr>
<th></th>
<th>HOME TR</th>
<th>HOME INTR</th>
<th>SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>input (rate)</td>
<td>.71 (.71)</td>
<td>.50 (.50)</td>
<td>.65 (.60)</td>
</tr>
<tr>
<td>total N</td>
<td>661</td>
<td>365</td>
<td>412</td>
</tr>
<tr>
<td>Prob. %V N</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Lexical Aspect**

<table>
<thead>
<tr>
<th></th>
<th>State</th>
<th>Non-State</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[.50]</td>
<td>[.50]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>70</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td></td>
<td>121</td>
<td>540</td>
<td></td>
</tr>
<tr>
<td>Prob. %V N</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Subject Person**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SAP</td>
<td>other</td>
</tr>
<tr>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td></td>
<td>55</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>146</td>
<td>167</td>
</tr>
<tr>
<td>Prob. %V N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Range = 15 | Range = 44

Range = 30

22 When included in the model for transitive HOME, the model failed to converge due to uneven distributions. These are the results of the model without Subject Person as a factor.
Curious about the non-significant finding for stativity in the HOME transitive clauses, I re-examined this data set, this time operationalizing lexical aspect as a contrast between telicity (accomplishments and achievements) and atelicity (states, activities and semelfactives). As shown in Table 6-21, this factor group is significant for transitive HOME data: telic environments favour V, while atelic environments favour Vbat. This is not altogether surprising: in both Alyawarr and other contact varieties (specifically Kriol), telicity has been described as the primary lexical aspectual contrast (see Moore (2012) for Alyawarr, and Ponsonnet (to appear) for Kriol). By contrast, telicity is not significant for intransitive HOME context verbs, or the SCHOOL data—both data sets in which stativity is the significant lexical aspect factor.

Table 6-21: Variable-rule analysis of the contribution of LEXICAL TELICITY to the choice of V (against Vbat), HOME transitive context. All factors shown.

<table>
<thead>
<tr>
<th>Lexical Aspect</th>
<th>input</th>
<th>total N</th>
<th>Prob.</th>
<th>%V</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telic</td>
<td>.58</td>
<td>77</td>
<td>244</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atelic</td>
<td>.46</td>
<td>67</td>
<td>417</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What could be the reason for this difference between the HOME transitive and intransitive data? It could be a natural language fact for this language, and as such should prevail over time and also be evidenced in adult speech. As we’ll see below, it appears that adults conform to a categorical system wherein Vbat contrasts with V in transitive clauses and Ving with V in intransitive clauses. It may still be the case that the contrastive principle within each transitivity condition is telicity and stativity respectively (there is not really enough data to examine this for the adult sample). The adult usage seems a good place to start to explore these possibilities, since it is likely a more stable system.

Should this prove not to be the case, then an alternative explanation for the data here could include the possibility that the HOME intransitive data is showing influence or ‘backwash’ from SAE. Further change in the HOME intransitive data over time (to be more like the HOME transitive data) could support this analysis. A third possibility for this patterning is that it reflects some kind of universal constraint on aspect acquisition.
By the age of these children (5-7) children have typically sorted out the basic aspectual contrasts in their L1. Universal accounts might still be useful in explain the SCHOOL pattern, however. The Aspect Hypothesis predicts that Ving will emerge first on activities, followed by accomplishments, then achievements, and finally states. In the studies using this approach, past temporal reference data is also included in the analysis, since the point is to show that markers like -ing and -ed in English are performing an (lexical) aspectual function and not a temporal one, because the marking of aspect is hypothesized to emerge prior to the marking of tense. However we only have present temporal reference data here. Nevertheless, it will be of relevance to see if Ving still follows the predicted pathway as this would give reason to consider universal developmental pathways in accounting for (at least part) of the SCHOOL pattern.

**Figure 6-16:** Across-category distribution of Ving forms, per age, SCHOOL context

The across-category distribution, shown in Figure 6-16, shows that across the first three years of SAE-exposure in school Ving proliferates on activity verbs. It is less apparent on accomplishment and then achievement verbs. It does not appear at all on stative verbs in the first year of schooling (5;0-5;11 years). This is in line with the predictions of the aspect hypothesis.

In many lexical aspect studies (e.g. Rocca 2002; Housen 2002 and other papers in Salaberry & Shirai 2002) this kind of distributional data has been enough evidence (along with the comparatively different distributions of -ed) to conclude that the aspect hypothesis holds. However, within-category distributions are also sometimes used in lexical aspect studies to situate the incidence of the form of interest in the context of

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23 Semelfactive has been combined with Achievements since they are not typically separated out in the Aspect Hypothesis literature.
other forms used on verbs of the same lexical aspect. These charts (shown in Figure 6-17) show a more complex pattern of Ving usage when it is set in relation to V. Lexical aspect studies would tend to interpret the data for activities as largely conforming to expectations: of Ving being a prominent, then dominant form. The data for accomplishments is more mixed, and harder to interpret with respect to the aspect hypothesis. The pattern for states is as predicted.

**Figure 6-17**: Proportion of V and Ving forms per lexical aspect, across three ages, SCHOOL context. Note: dark grey = Ving; light grey = V.

One of the limitations of this kind of analysis\(^4\) is that it fails to take into account the effect of sampling: for example, there may be more tokens of V sampled overall in the dataset, and so the percentage of occurrence in relation to each lexical aspect class

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\(^4\) For other criticisms, including a statistical comparison of lexical aspect versus a more expansive view of aspect in learner language, using a multivariate procedure see Sharma & Deo (2010)
should be interpreted with respect to this. This is the approach taken in variationist analyses, including this thesis, so I have presented the results of lexical aspect in this format in Table 6-22. While it appears that Ving initially is only favoured in activity environments, and then later all dynamic verb environments (per the ‘spread’ predicted by the lexical aspect hypothesis), in fact the pattern for age 5;0-5;11 years is not statistically significant. The more conservative conclusion therefore is that children in this data set do not go through an initial period where Ving is largely confined to activity contexts, relative to other verb forms at their disposal (i.e. V). Rather the main pattern with respect to lexical aspect is between stative/non-stative verbs.

Table 6-22: Distribution of V and Ving forms per LEXICAL ASPECT, at three age spans, SCHOOL context. Results for 6- and 7-years significant at p < 0.05; 5-years not significant

<table>
<thead>
<tr>
<th>LEXICAL ASPECT</th>
<th>5;0-5;11 years</th>
<th>6;0-6;11 years</th>
<th>7;0-7;11 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>V%</td>
<td>Ving%</td>
<td>N</td>
</tr>
<tr>
<td>Activity</td>
<td>52</td>
<td>48</td>
<td>29</td>
</tr>
<tr>
<td>Accomplishment</td>
<td>70</td>
<td>30</td>
<td>23</td>
</tr>
<tr>
<td>Achievement</td>
<td>69</td>
<td>31</td>
<td>16</td>
</tr>
<tr>
<td>State</td>
<td>100</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>36</td>
<td>73</td>
</tr>
</tbody>
</table>

In summary, the aspect hypothesis predictions regarding the early use of Ving appears to be supported if one only considers the (cross- and within-category) distributional data typical of analyses in this domain of research. However, if data is presented to more closely reflect the choice speakers have between variants, the main predictor in this process is between stative (favouring V) and non-stative verbs (favouring Ving), as established above.

In conclusion, universal developmental effects are a less compelling explanation than early conformity to the target pattern of default present tense marking in SAE. Further, the comparative pattern for lexical aspect presented in this section supports the earlier analyses. Specifically, the SCHOOL data has the same conditioning (i.e. ‘variable grammar’) regardless of transitivity. The HOME data set shows two distinct set of constraints, one for transitive and the other for intransitive clauses.

25 Although the low Ns for this might account for lack of significance.
6.7 Discussion

This section will address research question 2 (presented again below) regarding the comparability of the HOME and SCHOOL aspect data. Following this, research question 3, regarding the relationship of each variety to its ‘target’ system (Alyawarr English and SAE respectively) will be discussed.

RQ 2. Are the two varieties (L1:Alyawarr English and L2:SAE) comparable for tense-aspect morphology? Specifically:

a) Are the HOME and SCHOOL repertoires the same? I.e. are the variants the same in each context and do they appear in similar frequencies?

b) Is the variable context the same in both HOME and SCHOOL contexts?

c) Are the probabilistic constraints the same, per the ‘three levels of evidence’ proposed by Poplack & Tagliamonte (2001: 92): (i) statistical significance, (ii) relative strength and (iii) shared constraint hierarchies.

For convenience, a summary of the main results detailed in this chapter are presented in Table 6-23. The first main finding is that the HOME and SCHOOL data sets do not share the same variants, since Vbat is virtually unused in the SCHOOL data. Further, while the rate of V is reasonably similar (HOME=42%; SCHOOL=49%), Ving increases dramatically from 22% in the HOME to 51% in the SCHOOL data. The second main finding is that there is a shared set of exclusions from the variable context in both the HOME and SCHOOL data: ‘got’ is always in the V form, as are verbs in clauses with punctual sentential aspect. In both data sets there were also no lexically stative verbs sampled in clauses of habitual sentential aspect.

When the HOME and SCHOOL repertoires were further examined for the effect of transitivity, the reason for the aforementioned increase in Ving in the SCHOOL was revealed: Ving is now used in transitive clauses. Moreover, while the HOME data is fundamentally split into transitive (V~Vbat) and intransitive (V~Ving~Vbat) variant sets, the SCHOOL data showed no such division (although the rates of Ving and V are asymmetrical, with V outweighing Ving in transitive clauses, and vice versa).
Table 6-23: Summary of categorical and variable constraints in two present temporal reference systems, HOME and SCHOOL contexts. [Points at which SCHOOL differs from HOME are underlined.; upwards arrows indicate probability greater than .5, downwards arrows indicate probability of less that .5 ]

<table>
<thead>
<tr>
<th>HOME</th>
<th>SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VARIANTS (&amp; FREQUENCY)</strong></td>
<td></td>
</tr>
<tr>
<td>V (42%), Ving (22%), Vbat (36%)</td>
<td>V (49%), Ving (51%)</td>
</tr>
<tr>
<td><strong>EXCLUSIONS FROM VARIABLE CONTEXT</strong></td>
<td></td>
</tr>
<tr>
<td>‘got’ is invariant</td>
<td>‘got’ is invariant</td>
</tr>
<tr>
<td>V is punctual</td>
<td>V is punctual</td>
</tr>
<tr>
<td>No stative-habituals</td>
<td>No stative-habituals</td>
</tr>
<tr>
<td><strong>IMPACT OF TRANSITIVITY</strong></td>
<td></td>
</tr>
<tr>
<td>formal restrictions different</td>
<td>formal restrictions same</td>
</tr>
<tr>
<td>TR: V ~ Vbat; INTR: V ~ Ving ~ Vbat</td>
<td>TR &amp; INTR: V ~ Ving</td>
</tr>
<tr>
<td>Conditioning of Ving and Vbat different in both conditions</td>
<td>Conditioning of V/Ving same in both conditions</td>
</tr>
<tr>
<td><strong>PROBABILISTIC CONSTRAINTS</strong></td>
<td></td>
</tr>
<tr>
<td>V ~ Ving</td>
<td></td>
</tr>
<tr>
<td><strong>Aspect</strong></td>
<td>HOME (Tr)</td>
</tr>
<tr>
<td>Stative Durative</td>
<td>1 ↑</td>
</tr>
<tr>
<td>Non-Stative Durative</td>
<td>2 (↑)</td>
</tr>
<tr>
<td>Non-Stative Habitual</td>
<td>3 ↓</td>
</tr>
<tr>
<td><strong>Subject Person</strong></td>
<td></td>
</tr>
<tr>
<td>SAP</td>
<td>1 (↑)</td>
</tr>
<tr>
<td>other (3rd Person)</td>
<td>2 (↓)</td>
</tr>
<tr>
<td><strong>LEXICAL ASPECT ONLY</strong></td>
<td></td>
</tr>
<tr>
<td>TRANSITIVE</td>
<td>INTRANSITIVE</td>
</tr>
<tr>
<td>Telic (↑V) v.</td>
<td>Stative (↑V) v.</td>
</tr>
<tr>
<td>Atelic (↑Vbat)</td>
<td>Non-stative (↑Ving)</td>
</tr>
</tbody>
</table>

We now move on to consideration of the probabilistic constraints per the three levels of evidence. First, the criterion of ‘statistical significance’ addresses whether the same set of factor groups is selected as significant in each model. This was not absolutely the case here, though there was some overlap. Most importantly, aspect was selected as a contributing factor in each case. For V, aspect is actually the only factor that is shared...
across HOME (transitive and intransitive) and SCHOOL contexts (see the summary in Table 6-24). Subject person is not significant in HOME intransitive contexts, while it is significant in HOME transitive and SCHOOL contexts. For Ving, aspect and Subject person are shared factor groups, whereas Subject Number is not (see the summary in Table 6-25). And of course recall that transitivity categorically constrains Ving to intransitive data in the HOME context (i.e. transitive clauses are outside the variable context for Ving). In the SCHOOL context transitivity is now a constraint that operates within the variable context for Ving, such that it is disfavoured in transitive clauses.

**Table 6-24:** Summary of factor groups found significant (√) and non-significant (✗) in the variable-rule analyses of V in HOME (transitive), HOME (intransitive) and SCHOOL contexts.

<table>
<thead>
<tr>
<th></th>
<th>HOME (tr)</th>
<th>HOME (intr)</th>
<th>SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspect</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Subject Person</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Subject Number</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Object Number</td>
<td>✗</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

**Table 6-25:** Summary of factor groups found significant (√) and non-significant (✗) in the variable-rule analyses of Ving in HOME (intransitive) and SCHOOL contexts.

<table>
<thead>
<tr>
<th></th>
<th>HOME (intr)</th>
<th>SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspect</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Subject Person</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Subject Number</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Transitivity</td>
<td>CAT</td>
<td>✓</td>
</tr>
<tr>
<td>Object Number</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

The second level of evidence is the relative strength of the factor groups, that is, do they contribute to the overall variation to the same degree as each other. This is indicated by the range and the order they are put into the model in the statistical procedure. The factor groups in Table 6-24 and Table 6-25 are ordered in terms of relative strength. In each case Aspect was ordered first, followed by Subject Person then Subject Number or Transitivity. However, for a variable like V/Ving/Vbat, it might not be fair to put too much weight on the fact that Aspect is the dominant shared constraint, since this is the known function of these morphemes in each speech variety. Furthermore, the number of tokens can impact on how many factor groups can be found significant within a particular model. Far more useful in assessing the similarity of the HOME and SCHOOL
context is the ordering of factors within each factor group. This is, in fact, the third line of evidence. The section titled ‘Variable Constraints’ in Table 6-23 summarises the variable constraints on V and Ving in terms of the order of probabilities per aspectual factors (as indicated by numerals 1-3) and their direction in terms of favouring or disfavouring the variant (as indicated arrows).

First, V is compared against other variants in HOME transitive (~Vbat), HOME intransitive (~Ving+Vbat) and SCHOOL data (~Ving). Across these three data sets V is most favoured in Stative Durative aspect clauses (indicated by the ‘1’ and upward arrow ↑). In both the HOME data sets, Non-stative Durative clauses have the next highest probability (indicated by the number ‘2’), although the direction of preference swaps from (weakly) favoured (↑) in the transitive data to disfavoured (↓) in the intransitive data. This is different to the SCHOOL data, in which the factor with the second highest probability for V is Non-Stative Habitual. Since Vbat was strongly conditioned in this context in the HOME (transitive) data, it appears the SCHOOL pattern for V has reorganised around the absence of Vbat. This can perhaps be seen more clearly in the graph of probabilities shown in the left-side graph of Figure 6-18. Note that while all three columns are very similar for the stative condition, there is more difference between the columns in the durative and habitual conditions. The biggest change is between the probability of V in habitual clauses in the HOME (trans) and SCHOOL, reflecting its move into this space in the absence of Vbat.

The second variant, Ving, shows reorganisation that is also attributable to the virtual absence of Vbat in the SCHOOL data. In both HOME and SCHOOL data it is favoured most strongly in Durative contexts (shown by the ‘1’ and ↑ in Table 6-23; and high ‘Durative’ columns in the Ving graph in Figure 6-18) and most disfavoured in Stative contexts (shown most clearly by the low Stative columns in the Ving graph in Figure 6-18). However, while Ving was not sampled in Habitual clauses in the HOME data (tokens of which were confined to transitive clauses), this is not the case for the SCHOOL data. In fact Habitual clauses have the second highest probability
for Ving. So although this condition ultimately disfavours Ving (compared to V), its presence in Habitual clauses is a significant difference between the HOME and SCHOOL data.

Figure 6-18: Probabilities of V (left) and Ving (right) occurring in three COMBINED ASPECT conditions, HOME transitive, HOME intransitive and SCHOOL contexts. (Data from variable rule analyses presented in §6.5)

Where Subject Person was a significant factor group (V: HOME tr & SCHOOL; Ving: HOME (intr) & SCHOOL) the ordering of constraints was the same (and the percentages indicate that this was also the case when it was not significant). SAP subjects favour V, whereas other subjects favour Ving. This is summarised in Table 6-26, and graphed in Figure 6-19. It was suggested in the literature that motivated coding for this factor that there should be a tendency for animate subjects to favour the progressive in English. In fact, the opposite was found here (and in Walker 2000). I suggested above that a possible explanation for this pattern is that as this actually turned out to be a ‘person’ rather than ‘animacy’ group, speakers may tend to comment on their own states (which favour V) versus others’ actions (which favour Ving). If this is the case, then it would be a pattern that is the same across varieties of English which likewise show a tendency for states to be expressed in V forms and non-states to favour Ving. The fact that this factor group has a shared constraint hierarchy across data sets is then perhaps unremarkable, and Subject Person not a useful diagnostic of language difference, since it is not a locus for change.
However, while this factor group was significant for the home transitive data, the probabilities were very close together [V(~Vbat): SAP=.51; other=.48] suggesting that the direction of favouring should remain tentative, though it is clearly a very weak effect. Recall that the home transitive system was shown to orient to lexical telicity rather than lexical stativity (i.e. states do not favour V over Vbat, but rather telic verbs favoured V and atelic verbs favour Vbat). Thus here is perhaps an opposite case that supports the suggestion that the effect of subject person is tied to stative lexical aspect, since when the orientation to stativity is removed, the effect of subject person becomes a lot less certain.

**Table 6-26:** Subject person constraint hierarchies for V and Ving in home and school contexts

<table>
<thead>
<tr>
<th></th>
<th>V</th>
<th>Ving</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>home (Tr)</td>
<td>school</td>
</tr>
<tr>
<td>SAP</td>
<td>1 (↑)</td>
<td>1 ↑</td>
</tr>
<tr>
<td>other</td>
<td>2 (↓)</td>
<td>2 ↓</td>
</tr>
</tbody>
</table>

**Figure 6-19:** Probabilities of V (left) and Ving (right) occurring in two subject person conditions, home transitive, home intransitive and school contexts. (Data from variable rule analyses presented in §6.5)

In summary, the virtual absence of Vbat in the school data has seen the move of Ving into transitive clauses and clauses with habitual aspect. It has also seen V move into the role of preferred verb form in habitual clauses. This move to fill the transitive/habitual void left by Vbat has led to the reorganisation of V and Ving around their new duties. However, the main aspectual function of each (V as the form most closely associated with stative durative aspect, and Ving as the main form associated with non-stative...
Durative aspect) remain unchanged across HOME and SCHOOL contexts. Subject Person is a consistent constraint across HOME and SCHOOL contexts.

Turning now to research question 3:

**RQ 3.** For each variable investigated (tense-aspect morphology, pronominal subjects, transitive marking), how do the children’s L1: Alyawarr English and L2: SAE systems compare to the ‘target’ systems for each variety (i.e. the target for L1 is ’T1: adult Alyawarr English’ and the target for L2 is ’T2: native speaker SAE’)?

Examining the SCHOOL data first, the virtual absence of Vbat in this context is an important point of divergence from the HOME data and conformity with target SAE usage. The use of Ving in transitive clauses is similarly different to the HOME data and like target SAE. The absence of Vbat has also prompted a reorganisation of the verb forms used to express aspectual contrasts: V has become the preferred form in Habitual clauses. One possible explanation for this is that children are using the least marked form V, mirroring the ‘bare verb’ stage that is typical of many second language learners (viz the ‘basic variety’ of e.g. Klein & Perdue (1997)) i.e. a universal acquisition constraint. However this pattern is also reflected in standard descriptions of English, wherein dynamic verbs in the simple present (V) form in present temporal reference contexts are given the default interpretation of ‘habitual occurrence’ (e.g. Olsen 1997:167). So equally plausible is that this data demonstrates some conformity to standard English usage in the SCHOOL data. Moreover, Ving actually increases in this context also, and this too potentially reflects standard English usage patterns wherein the progressive form (Ving) can have iterative semantics (e.g. ‘John is hitting me’).

Given this, and the other similarities between the SCHOOL system and SAE (such as the absence of Vbat and use of Ving in transitive clauses), and the fact that the universal constraints hypothesis (re: lexical aspect) was effectively ruled out, conformity to SAE seems the best explanation.

In the HOME data, there is much less to go on in terms of what the ‘target’ (i.e. adult Alyawarr English) looks like and therefore how the children’s use of the present temporal reference forms reflect this. In the small amount of adult Alyawarr English data the use of Ving is restricted to intransitive clauses, and Vbat is used mostly in transitive clauses or with a special class of verb with incorporated adverbial particles.
There are, however, a small number of cases of Vbat on regular main intransitive verbs. The proportionally small number of Vbat tokens in the children’s intransitive data (N=54, reduced to N=29 for the aspect factor group after un-codable tokens excluded; the corrected mean for Vbat is .18) demonstrates that Vbat is likewise a minor form in intransitive clauses\textsuperscript{26}, though as with the adult data it is not categorically restricted in this context. The relative absence of Ving on transitive clauses is a pattern common to the adult and child data set, though recall that there were actually 20 tokens of Ving on transitive clauses (excluded from statistical analysis for being below threshold). These are possible cases of backwash from SAE, and/or reflect variability that might reflect incomplete and ongoing acquisition of the adult Alyawarr English pattern. It’s not possible to make a determination regarding the aspectual function of V, Ving and Vbat in the adult data, given the small number of tokens of the latter two. Therefore it is not possible to evaluate whether the conditioning of variation between these forms is the same in children’s and adults’ usage. Likewise, because it is unclear how Subject Person operates in adult Alyawarr-English and SAE, it is not possible to infer similarity (or otherwise) with the HOME and SCHOOL data sets.

### 6.8 Conclusion

The chapter has presented an analysis of the morphological expression of aspect in present temporal reference clauses. A fairly complex picture of this phenomenon has emerged. Firstly, the HOME data has an additional form to contend with (Vbat) and its absence from the SCHOOL data from very early on in the children’s exposure to formal education is a strong sign of separate systems in operation. Conversely, there is a similar set of categorical restrictions across the two data sets: ‘got’ is invariant, V is punctual and there are no non-stative habitual contexts. One of these restrictions, verb transitivity, operates only in the HOME context: Ving is confined to intransitive environments in the HOME data, but not the SCHOOL data. This is also a point of fundamental difference in the HOME and SCHOOL data.

\textsuperscript{26} Of course, it could be on the way ‘in’ rather than ‘out’ if the use of Vbat in intransitive clauses is a case of language shift rather than incomplete L1 acquisition.
The main work of this chapter (indeed this thesis) has been to go beyond the comparison of these distributional facts to reveal the underlying system(s) of constraints on the choice between the formal expressions of present temporal reference. To that end, the variable rule analyses have revealed two different systems, although sharing a fundamental orientation to aspect and subject person as constraining factors. The SCHOOL system shows a fundamental orientation to lexical stativity, and when this intersects with clausal operators, a consistent pattern of marking prevails regardless of clause transitivity. This may reflect universal patterns of second language acquisition (whereby the progressive emerges first on activity verbs), but is more likely to be evidence of conformity to the general SAE pattern.

The HOME system, by contrast, is fundamentally impacted by verb transitivity, such that it is necessary to treat transitive and intransitive verbs separately. Intransitive verbs can be marked with V, Ving or Vbat and fundamentally orient to lexical stativity while transitive verbs fundamentally orient to lexical telicity and can be in the forms V or Vbat. Despite these differences, the main aspectual function of each shared verb form (V as the form most closely associated with Stative Durative aspect, and Ving as the main form associated with Non-Stative Durative aspect) remain unchanged across HOME and SCHOOL contexts.

Finally, qualitative comparison to what we know of the ‘target’ systems has revealed that to the extent that adult Alyawarr English data is available and that information on adult SAE is in a comparable format to the present data, the HOME and SCHOOL data sets look very similar to their respective target varieties. Moreover, the HOME and SCHOOL data sets differ from each other in ways that make them similar to the target varieties.

Methodologically, this chapter has also faced and addressed some interesting challenges regarding the synchronic evaluation of the HOME and SCHOOL speech varieties, and the modelling of children’s command of separate, but overlapping systems. I have forged comparisons across data sets with different variants (Vbat being confined to the HOME context) and across data sets with different categorical restrictions on one of the shared variants (i.e. transitivity and Ving). Inspired by the insights from the notion of variationist typology (Torres Cacoullos & Travis to appear) I have also incorporated a comparative analysis of the variable context into the process. I will reflect on some of the
implications of these methodological advancements for our understanding of how to model language change in the discussion chapter (§9.3), but now we turn to our next variable, 1sg subject pronouns.
7 Variation in Subject Pronouns

7.1 Introduction

The previous chapters have examined variation in aspectual marking, and the following chapter will look at more verbal morphology in its exploration of transitive marking. Another striking feature of the set of present temporal reference clauses is the variation in personal pronoun use, particularly subject pronouns. A summary of the pronouns in the home and school data sets, and the SAE forms, is presented in Table 7-1. There are several interesting features of this variation. First, Alyawarr English appears to have more pronominal forms than SAE. Some subject referents which are encoded with phrasal structures in English have a pronominal form in Alyawarr English e.g. minyu ‘1du’ which would be expressed as something like ‘you and me’ in SAE. Also, pronouns like ‘you’ which are underspecified for number in English (such that they can be used to refer to one person, two people or a group of people) by contrast map onto multiple forms in Alyawarr English: yu (singular), yutubela1 (dual) and yumab (plural). Second, and most relevantly, in several cases there appears to be more than one form competing to perform the same function. In the home data there are multiple 1sg forms (ai, am, mi), 1pl forms (wi, wimab), 3sg forms (i, im, is, it, shi) and 3pl forms (thei, themab, them). In each case, this use of multiple forms carries over in the school data, resulting in subjects that are non-grammatical from a SAE ‘target’ perspective.

In both home and school contexts there are three competing 1st person singular subject forms: ai and am and mi. The form mi, is mainly used by the two youngest children as the subject of a verb predicate clause (i.e. in the clauses examined here). This form is also the main 1sg pronominal subject form in nominal predicate clauses (e.g. Mi ola blekwan ‘I’m all the black ones’ [SJD-062:814 Deanna home]), which are not examined here. Within both nominal predicate and verbal predicate clauses, ‘me’ also frequently appears in conjoined subject NPs (Mi en Fanny… ‘Me and Fanny…’) and if the 1sg

1 which is unattested in the home/school context data used here, but attested in the larger corpus
subject is modified (mi-akely ‘little me’; mi-arrpantey ‘pretend me’). Given its role within these contexts, in addition to its function as 1sg object pronoun, the tokens of ‘me’ being used as 1sg subject of a verbal predicate clause could be cases of over-extension\(^2\). But since its use in this context is numerically marginal it will not be further investigated.

### Table 7-1: Overall distribution of subject personal pronouns in present temporal reference clauses, in HOME and SCHOOL contexts, and SAE equivalents

<table>
<thead>
<tr>
<th>Subject Case</th>
<th>HOME</th>
<th>SCHOOL</th>
<th>SAE(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(^{st}) Person</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>ai</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>[N=180]</td>
<td>[N=114]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>am</td>
<td>am</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[N=159]</td>
<td>[N=32]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>mi</td>
<td>me</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[N=17]</td>
<td>[N=3]</td>
<td></td>
</tr>
<tr>
<td>Dual</td>
<td>minyu</td>
<td>no data</td>
<td></td>
</tr>
<tr>
<td>1(^{st}) Person</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plural</td>
<td>wi</td>
<td>wi</td>
<td>we</td>
</tr>
<tr>
<td></td>
<td>[N=13]</td>
<td>[N=10]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>wimab</td>
<td>wimab</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[N=7]</td>
<td>[N=1]</td>
<td></td>
</tr>
<tr>
<td>2(^{nd}) Person</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>yu</td>
<td>you</td>
<td>you</td>
</tr>
<tr>
<td></td>
<td>[N=154]</td>
<td>[N=31]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>yumab</td>
<td>yumab</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[N=34]</td>
<td>[N=1]</td>
<td></td>
</tr>
<tr>
<td>Plural</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3(^{rd}) Person</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>i</td>
<td>he</td>
<td>he/she/it</td>
</tr>
<tr>
<td></td>
<td>[N=15]</td>
<td>[N=53]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>im</td>
<td>him</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[N=73]</td>
<td>[N=11]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>is</td>
<td>his</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[N=2]</td>
<td>[N=10]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>it</td>
<td>it</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[N=1]</td>
<td>[N=7]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>shi</td>
<td>she</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[N=1]</td>
<td>[N=4]</td>
<td></td>
</tr>
<tr>
<td>Plural</td>
<td>thei</td>
<td>they</td>
<td>they</td>
</tr>
<tr>
<td></td>
<td>[N=14]</td>
<td>[N=25]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>themab</td>
<td>themab</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[N=20]</td>
<td>[N=3]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>them</td>
<td>them</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[N=4]</td>
<td>[N=4]</td>
<td></td>
</tr>
</tbody>
</table>

Rather we will focus on the two forms ai (see example sentence (1)) and am (see example sentence (2)), henceforth referred to as ‘I’ and ‘AM’. In both HOME and SCHOOL data ‘I’ is realised as a range of pronunciations, from /ʌ/ to the more SAE-like /ai/ (and it is transcribed as ‘ai’ in the HOME and ‘i’ in the SCHOOL data). ‘AM’ is realised as /ʌm/ (and will be transcribed as ‘am’ in both contexts).

(1) Ye, ai faind-im alakenh, gat thet eg, hei [SJD-062:789 Alysha HOME]

| 1SG.SBJ find-TR like_that with DET egg hey |

Yeah, I’m looking for (one) like that with the egg, hey’

---

\(^2\) Subject case errors are also a noted phenomenon of very young children acquiring as an L1 other varieties of English including Standard American English. See e.g. Vainikka (1993/1994), Kirjavainen et al (2009). The age of the children in this corpus, in addition to the systematic use of ‘me’ in certain contexts, probably precludes this explanation for the L1 data. The relatively few forms in the SCHOOL data is consistent with some indications that subject case errors in L2 English might be rarer (e.g. Haznedar 2001; 2007) and is perhaps, therefore a sign of conformity to SAE.

\(^3\) Huddleston & Pullum (2012:440)
In the HOME data ‘AM’ only appears in present temporal reference clauses, while ‘I’ is used in clauses of other tenses and moods. Future/past tense and mood are all indicated via pre-verbal auxiliaries so it might be the case that the presence of pre-verbal morphemes creates an environment in which only the ‘I’ form can be used. Conversely the absence of tense/mood auxiliaries in present temporal reference clauses might have a licensing effect on ‘AM’ (I’ll test these possibilities below). There is very limited data of adult Alyawarr English usage, since the small targeted adult corpus is mainly narrative data (told largely in the 3rd person). There are some incidental recordings of adult speech throughout the child corpus, enough to attest to the existence of ‘AM’ and ‘I’ as subject variants. ‘I’ appears to be used with clauses with pre-verbal auxiliaries (i.e. past (3), future (4)), with negated clauses (example (5)) and with present temporal reference clauses with the verb in the form V (example (6)). ‘AM’ is used in aspectually-marked (i.e. with -ing or -bat) present temporal reference clauses (see examples (7) and (8)). However, there are not enough cases of present temporal reference clauses with 1sg subjects to address variation in the pronominal forms with any certainty.

(3) Ai bin presdimo yu. [SJD-065:843 Manny]
   ai  bin  presd-IM  fo  yu
   1SG.SBJ  PAST  press-TR  for  2SG.OBJ
   ‘I pressed it for you.’

   (Teaching assistant telling student he has already signed him in on the computer)

(4) Ail gedim yos afda. [SJD-013:194 Raelene]
   ai-l  ged-im  yos  afda
   1SG.SBJ-FUT  get-TR  2SG.POSS  after
   ‘I’ll get yours after.’

   (Teaching assistant directing child in class)

(5) Ai don alad du shoim yu. [SJD-063:633 Gabby]
   ai  don  alad  du  sho-im  yu
   1SG.SBJ  NEG  allowed  to  show-TR  2SG.OBJ
   ‘I’m not allowed to show you.’

   (Adult playing ‘Guess Who’ at home with focus child and explaining the rules)
(6) **Ai shoim yu iya, luk.** [SJD-061:232 Raelene]

'ai sho-im yu iya, luk
1sg.sbj show-tr 2sg.obj here look
'I'm showing you here, look.'

(7) **Am going doilet.** [SJD-032-A:130 Raelene]

'am go-ing doilet
1sg.sbj go-ing toilet
'I'm going to the toilet.'

(8) **Jes go shoim theya, Marissa, wail am duimbat thing.** [SJD-014:464 Raelene]

'just go show-tr there, Marissa, while 1sg.sbj do-tr-bat thing
'Just go and show (her) there, Marissa, while I'm doing this thing.

*(Teaching assistant instructing student to take her picture to the teacher, while she is busy on another task)*

In SAE, the grammatical 1sg subject pronoun is 'I' (Huddleston & Pullum 2012) (see example (9) from one of the SAE-native speaker teachers) and so this variable has a different L1:L2 relationship from the previously discussed aspectual morphology. Here there are two variants from Alyawarr English (Am~I) mapping on to one variant in SAE (I) whereas in the previous chapter three Alyawarr English variants (V~Ving~Vbat) mapped on to two SAE forms (V~Ving). However, complicating this relationship here is the fact that, in certain SAE contexts, the auxiliary or copula 'am' can be contracted to produce a phonological word equivalent to the 'AM' Alyawarr English variant. In verbal predicate clauses, contracted 'I'm' forms appear only in contexts where, minimally, the verb is in the progressive, and there is no uncontracted auxiliary (as in example (10)). Contractions are not possible in stressed contexts such as when the predicative complement or main verb is elided (as in example (11)) or inverted in certain subordinate clause constructions (e.g. "She doesn't know where I'm") (Wilson, 2003; Labov 1969)⁴. Sentences in which 'I'm' appears with an unmarked (V) verb (made-up example (12)), or conversely, 'I' appears with a marked (Ving) verb (made-up example(13)) are ungrammatical.

(9) **Oh I think we know what this one is.** [SJD-005-A:287 Ashlyn SCHOOL]

(10) **Mmm, I'm looking for someone who's sitting up nicely**

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⁴ However this corpus of child speech doesn't contain such clauses. Clause types are mostly simple clauses with the subject pronoun in the pre-verbal position.
(11) Student: You spoiling it
Teacher: I am, aren’t I.

(12) *I’m go

(13) *I going

It’s possible that the children’s ‘AM’ variant could be analysed as a contraction of ‘I’ plus an auxiliary ‘am’, particularly in SCHOOL contexts. Evidence against this interpretation is that there are no uncontracted present tense auxiliaries ‘I am’ produced in the SCHOOL or HOME corpus (and the same is true for the copula in nominal predicate clause contexts, which are not included in the present analysis). Further, cross-linguistically, in Australia and beyond, it is common for English-lexified creoles to not have (present tense) auxiliary or copula forms. I will, however, return to this issue in the discussion below ($7.6$).

The use of ‘AM’ as a 1sg subject pronominal variant (and im ‘him’ and them ‘them’ as 3sg and 3pl, respectively) see Table 7-1 above) is of particular cross-linguistic note because in several mixed languages to the north of the present study these forms are also present. In Light Warlpiri these forms have the underlying analysis of ‘1/3sg-nonfuture’ (contrasting with ai which is a ‘future’ form) and are described as resulting from a confluence of similar ‘pronoun-TMA’ structures in English (which, as already noted, allows for contracted 1sg-Present auxiliary), Warlpiri (which reverses the order i.e. ‘TMA-pronoun’) and Kriol (which shares the 1sg pronunciation /ʌ/ and 3sg pronunciation /i/ with the present corpus) (O’Shannessy 2013). In Gurindji Kriol, a similar underlying analysis is proposed (Meakins 2007 p412) however there is an important difference between observed use in these two languages: in Light Warlpiri the ‘nonfuture’ clitic is regular across several pronouns, whereas in Gurindji Kriol it is so far only attested on 1sg, 3sg and 3pl. Meakins (2007) speculates that this may indicate a change in progress in Gurindji Kriol. Data from Wumpurrarni English (Disbray 2008a) have also been analysed along these lines. However, like Alyawarr English, the resulting subject forms also vary with ai ‘I’ and i ‘he’.

5 While I have not done a thorough phonetic analysis of the pronunciation of this variant, I have closely listened to all tokens in the corpus (as well as the recording quality allowed) and found on one occasion a pronunciation closer to [aɪm], in the SCHOOL data. This token was coded as ‘I+ contracted auxiliary and excluded from analysis.

6 See also Crowley (1990) on the emergence of new forms in Bislama.
Table 7-2: Subject pronoun paradigms in three Australian contact languages

<table>
<thead>
<tr>
<th>Language</th>
<th>1sg</th>
<th>1pl</th>
<th>2sg</th>
<th>3sg</th>
<th>3pl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Warlpiri</td>
<td>a-m</td>
<td>wi-m</td>
<td>yu-m</td>
<td>i-m</td>
<td>de-m</td>
</tr>
<tr>
<td>Gurindji Kriol</td>
<td>ai=m</td>
<td>*wi=m</td>
<td>*yu=m</td>
<td>i=m</td>
<td>dei=m</td>
</tr>
<tr>
<td>Alyawarr English</td>
<td>am/a/ai</td>
<td>*wi=m</td>
<td>*yu=m</td>
<td>im/i</td>
<td>dem/demab/dei</td>
</tr>
</tbody>
</table>

If, following Meakins (2007), a less regularised paradigm indicates the age of the system, then Alyawarr English may reflect an earlier-yet state of change, since not only is there considerable variation in at least two 1sg subject and 3sg subject forms, but the potential 3pl form *them is the least frequently used 3pl form, behind themob and thei7. It is perhaps not surprising that am ‘1sg’, im ‘3sg’ and them ‘3pl’ should be the sites where such a pattern should emerge, since they are forms which have formal equivalents in SAE and are thus in the linguistic atmosphere of these speakers. Conversely wim and yum are entirely novel. By examining the variation between ‘AM’ and ‘I’ we might further shine a light on the roots of this innovation and on the pathway that is travelled as a new paradigm emerges.

A further difference between these other mixed languages and the present corpus is a tense/temporal reference component. In the case of Gurindji Kriol, the =m form is posited as the clitic form of auxiliary bin which is analysed as ‘non-future’. However, there is no indication of what variable or categorical rules might govern the choice of structure (Ai bin versus aim) or if they are thought to be in free variation, and thus on what grounds viewing them as expressions of the one tense is justified (though Meakins acknowledges her analysis is influenced by O’Shannessy’s description of Light Warlpiri). In Light Warlpiri bin is rarely used, and so the analysis of the -m as a non-future temporal clitic seems more defensible. I view ‘AM’ as a present temporal reference subject pronoun and bin as a past auxiliary entirely based on the fact that the former is confined to present temporal reference clauses and bin is confined to past temporal reference clauses. In this data, therefore, ‘AM’ is only a present temporal reference feature.

7 Unlike Warlpiri and Gurindji, Alyawarr has a series of interdental stops which seems to have contributed to the adoption of interdental stops in Alyawarr English in places where alveolar stops appear in Kriol, and English/Kriol-derived lexemes in Light Warlpiri and Gurindji Kriol. (Note: I have transcribed this phoneme as ‘th’, following the standard Alyawarr orthography.)
The variation in subject 1sg pronominal forms therefore presents an interesting case for exploring bi-varietal language use. On the one hand the L1 is different from the L2 in the range of target forms (am~ai versus 'I'), but on the other hand the presence of contraction in certain L2 clauses results in a form identical to ‘AM’. The presence of the ‘AM’ variant in the L1 combined with existence of contracted forms in the L2 input might obscure the underlying analysis of ‘I + am’ in SAE. In other words, ‘I’m’ might be camouflaged by the existence of ‘AM’ in Alyawarr English. A further point of interest is the similarity between ‘AM’ and subject pronoun forms in other Australian contact languages. Further investigation of ‘AM’ has the potential to illuminate the early stages of a new paradigm.

As with the previous chapter, analysis of the HOME and SCHOOL data will progress through several stages beginning with an overview of the HOME and SCHOOL variants and their frequencies (§7.3) and an exploration of the contexts in which variation does not occur (§7.4). Following this, the contributions of individual speakers and age will be addressed (§7.5). The main quantitative analysis of linguistic factors is then presented (§7.6) and I discuss these in light of what is known of adult Alyawarr English, SAE and the pattern of acquisition of other learners of English. First, I will outline what factors might be contributing to the variation between ‘AM’ and ‘I’ in the HOME and SCHOOL (§7.2).

7.2 What factors might explain the variation?

Tokens containing pronominal subjects were coded for two speaker-related factors (speaker and age) and the following linguistic factors: verb form, lexical aspect, verb transitivity, transitivity marking, lexeme and pre-verbal adverbs. I will discuss each of these in detail.

All tokens were coded for the form of the verb: Vbat (example (14)), Ving (example (15)) or V (example (16)) in the HOME context, Ving (example (17)) or V (example (18)) in the SCHOOL context. Since ‘AM’ has the likely etymology of the contraction ‘I’m’ we might see the continued impact of this as a favouring of the ‘AM’ variant in contexts in which the verb is in the progressive format (Ving) and disfavouring in the simple

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*Only verbal predicate clauses are included in the analysis presented in this chapter. In nominal predicate clauses *mi is the dominant 1sg subject pronoun form.*
present (V) format. With respect to Vbat, I make no specific prediction about its relationship to each subject pronoun variant. However, if Vbat patterns in the same way as Ving this would suggest a further step along the path to paradigmaticity than if this weren’t the case, since it would indicate that ‘AM’ is spreading from its initial co-occurrence with V-ing.

(14) Am meikimbat robat. [SJD-069:241 Tiffany HOME]
    1SG.SBJ make-TR-BAT robot
    ‘I’m making a robot.’

(15) Am going lang Greta. [SJD-047-A:141 Lenora HOME]
    1SG.SBJ go-ING PREP name
    ‘I’m going to Greta.’

(16) ‘Ai pigim thisan’ [SJD-069:417 Lenora HOME]
    1SG.SBJ pick-TR DEM
    ‘I pick this one.’

(17) Am doing maths game [SJD-065:673 Alysha SCHOOL]

(18) I cut it out [SJD-060:245 Simon SCHOOL]

Recall also from chapter 5 that SAE has a division in present temporal reference verb forms such that stative verbs are more likely to appear in the form V, while non-stative verbs are more likely to appear in the form Ving. This association between lexical form and lexical aspect in SAE, could therefore resolve itself into an association between subject form (‘I’m’) and lexical aspect (non-stativity). To see if this provides a better account of the subsequent patterning of ‘AM’ (as a likely reanalysis of ‘I’m), the coding for lexical aspect described in chapter 5 (5.5.2.1) has been applied here as well. Therefore each token was coded for whether the verb is stative or non-stative.

All tokens have also been coded for the transitivity of the verb: intransitive defined as single participant clauses (see example (19)) and transitive defined as two-or-more participants (see example (20)). Chapter 6 has shown that transitivity is an important feature of HOME language clauses - and one that distinguishes the HOME and SCHOOL data sets: transitivity fundamentally conditions the use of Ving and Vbat (with the former only used on intransitive clauses in the HOME, but not the SCHOOL, data).
(19) Am going. [SJD-046-A:203 Alysha HOME]
am  go-ing
1sg.sbj go-ing
‘I’m going.’

(20) Am meikimbat thet thing-arrpaney. [SJD-069:236 Tiffany HOME]
am  mei-kim-bat thet thing-arrpaney
1sg.sbj make-TR-BAT DET thing-pretend
‘I’m making that pretend thing.’

As we’ll see in the following chapter transitive marking (with -im) occurs variably on some transitive (2-or-more participants) verbs in the V form, and categorically on all transitive Vbat forms. In the SCHOOL data, if the ‘AM’ variant is conditioned by transitively-marked verbs, this could indicate that there is some conditioning of one ‘L1-only’ feature by another. In other words, this could reflect a clustering effect of L1-features.

Lexeme is explored in case the pattern of use is different depending on the verb. In other words, do some peculiar verbs account for the use of ‘AM’ or ‘I’? Finally pre-verbal adverbs have been coded as a clause component that can come between the subject and the verb. As noted above, the HOME ‘AM’ variant is confined to clauses which don’t have tense or mood auxiliaries (i.e. present temporal reference clauses). Since these auxiliaries are all pre-verbal, it is prudent to explore whether the presence of other morphemes in the pre-verbal position could have a similar preventative effect for ‘AM’. A thorough investigation of the corpus reveals that there are several adverb-type lexemes that can occur in this position e.g. jes ‘just’, don ‘don’t’, nat ‘not’, olweis ‘always’; inaf ‘enough’. Only the first three were sampled in clauses with 1sg pronominal subjects:

(21) Ye. Am jes pudimbat, yu no, leik. [SJD-062:1524 Alysha HOME]
ye  am  jes  pud-im-bat,  yu  no,  leik
Yeah 1sg.sbj just put-tr-bat 2sg.sbj know like
‘Yeah. I’m just putting it, you know, like.’

(22) Ai don keya. [SJD-062:1891 Alysha HOME]
Ai  don  keya
1SG.SBJ NEG care
‘I don’t care.’
7.3 The HOME and SCHOOL repertoires

The point of departure for any analysis of variation is to determine the rate of use of each of the 1sg variants, addressing research question 1a) *What are the HOME and SCHOOL repertoires? I.e. what are the range of forms (i.e. variants) in each context and their frequencies?*

The baseline frequency of ‘AM’ and ‘I’ variants, in both HOME and SCHOOL contexts, is presented in Figure 7-1. This reflects the rate of use after the invariant contexts discussed in the following section (§7.4) have been removed. It is clear that the rate of use of ‘AM’ contracts substantially in the SCHOOL data, from a rate of 50% in the HOME to only 23% in the SCHOOL. The following exploration of what governs the choice between ‘AM’ and ‘I’ will determine whether the use of ‘AM’ in the SCHOOL is based on the same parameters, despite its reduced occurrence.

**Figure 7-1:** Rates of use of direct comparison between two 1sg pronoun variants ‘AM’ and ‘I’ in HOME [N=319] and SCHOOL [N=139] contexts
7.4 The variable context

As ‘AM’ is a feature restricted to present temporal reference clauses, the same *a priori* exclusions from previous chapters apply (see Chapter 5 §5.4.1). That is, the focus remains on present temporal reference clauses and how variable 1sg pronominal subject forms operate within them. This section will address research question 1b) *What is the variable context in HOME and SCHOOL contexts?*

In this analysis I am concentrating on clauses that contain verbs in the format V, Ving and Vbat in the HOME context data, and verbs in the format V or Ving in the SCHOOL context data, per the finding of Chapter 6 that these are the main verb forms in this data set. This resulted in the exclusion from the SCHOOL data set of 5 tokens with ’1sg pronoun subject + Vbat’ (’AM’ N=4; ’I’ N=1). In both data sets there were no tokens of 1sg subject pronouns in clauses with other verb forms (e.g. Vs) discussed in chapter 5 ($\S$5.3).

In both data sets adverbs *don* ‘don’t’ and *not* ‘not’ occur pre-verbally to negate the clause and the coding for this feature was discussed above ($\S$7.2). In the HOME context, the subject pronoun is invariant when followed by *don* [N=17] or *not* [N=3]: it is always ‘I’. Thus 20 negative clause tokens were excluded from the HOME data. In the SCHOOL context, clauses negated with ‘don’t’ also always used the ‘I’ form [N=7]. Clauses negated with ‘not’, however, were variable [‘AM’=3; ’T’=2].

<table>
<thead>
<tr>
<th>Exclusion</th>
<th>Home</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>clauses negated with <em>don</em>/don’t</td>
<td><em>I</em> [N= 7]</td>
<td>I [N= 7]</td>
</tr>
<tr>
<td>clauses negated with <em>not</em>/not</td>
<td><em>I</em> [N= 3]</td>
<td>variable [N=5]</td>
</tr>
</tbody>
</table>

While the number of tokens of excluded categories are very low here, I note that it would be worth keeping an eye on the relationship between ’I’ and ’AM’ and pre-verbal negators in future work. The HOME pattern appears to conform to the fact that ’AM’ appears in clauses without preverbal tense and mood auxiliaries and hence its current restriction to present temporal reference clauses. The SCHOOL pattern appears to show

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* Variation in negation is itself another potential area of study in this corpus
some emerging conformity to the SAE ‘I’m not Ving’ clause type, since each of the 3 tokens of negated ‘AM’ occurs with Ving.

The other adverb occurring pre-verbally in the 1sg subject data is jes ‘just’. In the HOME data this occurs variably with both ‘AM’ [N=8] and ‘I’ [N=5] subject pronouns, so its presence in the clause does not inhibit the use of ‘AM’. In the SCHOOL there is only one token with this adverb (with the subject ‘I’). This indicates that the restriction of ‘AM’ to clause contexts without preverbal tense/mood auxiliaries or negators (as we’ve just seen) doesn’t necessarily extend to all pre-verbal components such as adverbs. However, the number of tokens in which pre-verbal adverbs appear was so low that this factor group could not be included in the analysis of variation below.

7.5 Analysis of speaker-related factors

This section addresses research question 1c) What speaker-related factors (specifically age) best account for the variation in choice between the main forms in each context? The distribution for the rate of use of ‘AM’ per speaker and age is presented in Table 7-4. The results for individual speaker are also presented in Figure 7-2. This shows that for each speaker the rate of ‘AM’ use in the HOME is substantially higher than at SCHOOL. In fact the highest rate of ‘AM’ use in the SCHOOL (by Simon at 33%) is still lower than the lowest rate of ‘AM’ use in the HOME (by Alysha 36%). The results of significance testing reveal that individual speaker is a significant factor in the HOME but not in the SCHOOL data. Deanna does not produce any ‘AM’ forms (to 9 ‘I’ forms in SCHOOL contexts, her data is therefore excluded from subsequent analysis since she doesn’t contribute to variable use of the feature. Daniel was not recorded in the HOME context, but his SCHOOL data will be included. Note that although there is a significant different in the rate at which some children use ‘AM’, all children still follow the same pattern with regard to the factor groups tested below: that is, they all prefer ‘AM’ over ‘I’ in the same clause contexts.

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10 HOME: significant \( \chi^2(5, N=316) = 13.7, p < .05 \); SCHOOL: not significant \( \chi^2(5, N=128) = 3.43, p > .05 \) (Deanna excluded)
Table 7-4: Distribution of ‘AM’ (versus ‘I’) per SPEAKER and AGE, HOME and SCHOOL contexts

<table>
<thead>
<tr>
<th>Speaker</th>
<th>HOME</th>
<th></th>
<th>SCHOOL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%Am</td>
<td>N</td>
<td>%Am</td>
<td>N</td>
</tr>
<tr>
<td>Lenora</td>
<td>44</td>
<td>68</td>
<td>19</td>
<td>31</td>
</tr>
<tr>
<td>Alysha</td>
<td>36</td>
<td>59</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>Tiffany</td>
<td>52</td>
<td>44</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Deanna</td>
<td>46</td>
<td>46</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Simon</td>
<td>62</td>
<td>42</td>
<td>33</td>
<td>42</td>
</tr>
<tr>
<td>Shamus</td>
<td>65</td>
<td>57</td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td>Daniel</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>HOME</th>
<th></th>
<th>SCHOOL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5;0-5;11</td>
<td>56</td>
<td>82</td>
<td>36</td>
<td>14</td>
</tr>
<tr>
<td>6;0-6;11</td>
<td>52</td>
<td>148</td>
<td>21</td>
<td>73</td>
</tr>
<tr>
<td>7;0-7;11</td>
<td>41</td>
<td>86</td>
<td>22</td>
<td>51</td>
</tr>
</tbody>
</table>

| Total    | 50   | 316| 23     | 139|

Figure 7-2: Rate of use of ‘AM’ (versus ‘I’) per SPEAKER, HOME and SCHOOL contexts

The rate of use declines slightly over time in both HOME and SCHOOL contexts (see Figure 7-3), however age-group is not significant factor in either context\(^{13}\). It is interesting that there should already be such a large difference in the rate of marking in

\(^{11}\) Tokens (and rate of ‘am’ use) from participants who did not provide data for both HOME and SCHOOL contexts are: SCHOOL: Ramona [N=2, 50%]; HOME Emerson [N=3, 33%]

\(^{12}\) Tokens from participants whose age was not recorded have been excluded from this factor group: HOME [N=3], SCHOOL [N=1]

\(^{13}\) HOME: not significant $\chi^2(2, N=316)=4.44, p>.05$; SCHOOL: not significant $\chi^2(2, N=138)=1.59, p>.05$
HOME and SCHOOL from the earliest recordings: only two months in to formal schooling, the children are already favouring ‘I’ (although there are actually few tokens of either form at this age [N=14] in the SCHOOL).

Figure 7-3: Rate of use of ‘AM’ per AGE in HOME and SCHOOL contexts

7.6 Multivariate analysis of linguistic factors

We now turn to research question 1d) What factors in the immediate linguistic context (i.e. the clause) best account for the variation between the forms in each context? The impact of individual lexeme has been examined, but did not indicate that any particular verbs or class of verbs were responsible for the choice of ‘AM’ over ‘I’. Remaining factor groups of interest are verb form, lexical aspect, transitivity and transitive marking. The distributions for these factor groups are presented in Table 7-5. As predicted, the form of the verb strongly impacts on the choice of subject pronoun. In the SCHOOL 55% of Ving verbs occur with ‘AM’ subjects (over a baseline rate of ‘AM’ use of 25%. In the HOME, Ving and Vbat have similar rates of ‘AM’ collocation: 85% and 82% over a baseline rate of ‘AM’ use of 50%. It is interesting that Vbat is patterning the same as Ving. This would suggest that if ‘AM’ originates from the ‘I’m’ construction, and therefore originally would have seen a correlation with Ving verbs, the correlation with Vbat verbs indicates a further stage of expansion. Plus, it suggests that speakers see Ving and Vbat as somehow alike (with respect to subject) and jointly different from V.

The remaining factor groups also show the same patterning across HOME and SCHOOL contexts, though the percentages would suggest the impact is lower: intransitive verbs
transitively marked verbs (HOME 56%; SCHOOL 50%), and non-stative verbs (HOME 55%; SCHOOL 39%) all favour the ‘AM’ variant. All factor groups were significant with $X^2$ test, except for the HOME transitivity group.

Table 7-5: Distribution of 1sg pronominal subject variant ‘AM’ across four factor groups, in HOME and SCHOOL contexts

<table>
<thead>
<tr>
<th></th>
<th>HOME</th>
<th>SCHOOL</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>%Am N</td>
<td>%Am N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vbat</td>
<td>82</td>
<td>85</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ving</td>
<td>85</td>
<td>33</td>
<td>55</td>
<td>29</td>
</tr>
<tr>
<td>V</td>
<td>30</td>
<td>201</td>
<td>16</td>
<td>101</td>
</tr>
<tr>
<td>Transitivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intransitive</td>
<td>56</td>
<td>71</td>
<td>50</td>
<td>32</td>
</tr>
<tr>
<td>Transitive</td>
<td>48</td>
<td>247</td>
<td>17</td>
<td>96</td>
</tr>
<tr>
<td>Transitive marking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>marked</td>
<td>56</td>
<td>190</td>
<td>50</td>
<td>16</td>
</tr>
<tr>
<td>unmarked</td>
<td>40</td>
<td>129</td>
<td>21</td>
<td>114</td>
</tr>
<tr>
<td>Lexical Aspect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-stative</td>
<td>55</td>
<td>227</td>
<td>39</td>
<td>59</td>
</tr>
<tr>
<td>Stative</td>
<td>35</td>
<td>60</td>
<td>15</td>
<td>52</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>319</td>
<td>25</td>
<td>130</td>
</tr>
</tbody>
</table>

It appears then that each of these factor groups may contribute to the variation in ‘AM’ and ‘I’. However most of these factor groups are not independent of each other, but rather represent competing (rather than cooperating) hypotheses of what best accounts for the variable use of ‘AM’ and ‘I’. This can be seen in the cross-tabulation of verb form with the other factor groups presented below. In the HOME, Ving is mostly intransitive and Vbat is mostly transitive. There are also no transitively marked Ving verbs in the HOME and SCHOOL, and few unmarked Vbat verbs in the HOME. Lexical aspect is also associated with verb form, in that Ving verbs are mostly non-stative in the HOME and SCHOOL data.

---

14 SCHOOL tokens from Deanna are now excluded [N=9] because she never uses the AM variant in SCHOOL as shown above.
15 Copular clauses excluded: HOME [N=1], SCHOOL [N=2].
16 Clauses coded as ‘ambiguous’ because they are transitive + marked but there is no object expressed, have been treated as marked. Applies to HOME [N=51] and SCHOOL [N=6] tokens. I discuss this further in the following chapter (8).
17 There are six tokens of transitive Ving, which were excluded in the analysis of Chapters 5 & 6.
Table 7-6: Cross-tabulation of VERB FORM with TRANSITIVITY, TRANSITIVE MARKING and LEXICAL ASPECT, for clauses with 1sg pronominal subjects ('AM’ or ‘I’) HOME and SCHOOL contexts

<table>
<thead>
<tr>
<th>Transitivity</th>
<th>HOME</th>
<th>SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitive</td>
<td>V</td>
<td>Ving</td>
</tr>
<tr>
<td></td>
<td>163</td>
<td>6</td>
</tr>
<tr>
<td>Intransitive</td>
<td>38</td>
<td>26</td>
</tr>
<tr>
<td>Trans marking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>marked</td>
<td>114</td>
<td>0</td>
</tr>
<tr>
<td>not marked</td>
<td>87</td>
<td>33</td>
</tr>
<tr>
<td>Lexical Aspect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-stative</td>
<td>131</td>
<td>31</td>
</tr>
<tr>
<td>Stative</td>
<td>38</td>
<td>2</td>
</tr>
</tbody>
</table>

Before we proceed with the variable rule analysis, this multicollinearity needs to be resolved, since running all these factor groups together would violate an assumption of the statistical package and consequently return unreliable results. One way of resolving collinearity is to combine multiple factors into a single group (as we saw in the previous chapter with lexical and sentential aspect). That is not tenable here, since this issue affects every factor group in the proposed analysis to some extent. I will instead use a method outline by Torres Cacoullos & Walker (2009: 22-3) for ‘disentangling interrelated effects’. This involves running multiple variable rule analyses with the interrelated factors in separate runs and the other factors (in this case only 'Participant') held constant. The run with the log likelihood closest to zero (given the difference in the degrees of freedom between the runs) is the one with the best fit of the data18.

18 Tests of significance on the log likelihoods reveals that they are significantly different from one another. From Torres Cacoullos & Walker (2009:37): "The chi-square value is twice the difference between the log likelihoods of the two variable-rule analyses being compared. The degrees of freedom in the comparison is the difference between the degrees of freedom for each analysis, which itself is the total number of factors in the analysis minus the number of factor groups (cf. Guy 1993: 246–247)."
Table 7-7: Comparison of variable rule analyses of factors contributing to the occurrence of ‘AM’ (over ‘I’), including VERB FORM, LEXICAL ASPECT and TRANSITIVE MARKING. HOME context [N=319]. Other factor group (‘Participant’) held constant (significant) across analyses.

<table>
<thead>
<tr>
<th></th>
<th>Verb form</th>
<th>Lexical Aspect</th>
<th>Transitive marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>input (overall rate)</td>
<td>.52 (50%)</td>
<td>.51 (50%)</td>
<td>.50 (50%)</td>
</tr>
<tr>
<td>Ving</td>
<td>.88</td>
<td>Non-Stative</td>
<td>Marked</td>
</tr>
<tr>
<td>Vbat</td>
<td>.83</td>
<td>Stative</td>
<td>Unmarked</td>
</tr>
<tr>
<td>V</td>
<td>.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>log likelihood</td>
<td>-166.156</td>
<td>-209.212</td>
<td>-211.047</td>
</tr>
</tbody>
</table>

Table 7-8: Comparison of variable rule analyses of factors contributing to the occurrence of ‘AM’ (over ‘I’), including VERB FORM, LEXICAL ASPECT and TRANSITIVE MARKING. SCHOOL context [N=130]. Other factor group (‘Participant’) held constant (not significant) across analyses.

<table>
<thead>
<tr>
<th></th>
<th>Verb form</th>
<th>Lexical Aspect</th>
<th>Transitive marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>input (overall rate)</td>
<td>.22 (25%)</td>
<td>.26 (25%)</td>
<td>.24 (25%)</td>
</tr>
<tr>
<td>Ving</td>
<td>.81</td>
<td>Non-Stative</td>
<td>Marked</td>
</tr>
<tr>
<td>V</td>
<td>.40</td>
<td>Stative</td>
<td>Unmarked</td>
</tr>
<tr>
<td>log likelihood</td>
<td>-64.086</td>
<td>-68.264</td>
<td>-69.761</td>
</tr>
</tbody>
</table>

In each data set, the analysis with Verb Form was the one that provided the best fit of the data. In the HOME (shown in Table 7-7) both the Vbat (prob=.83; rate of 82%) and Ving (prob=.88; rate of 85%) forms favour ‘AM’, and in the SCHOOL data (shown in Table 7-8) the same is true for Ving (prob=.81; rate of 55%).

Table 7-9: Rates of ‘AM’ and ‘I’ per verb form, HOME and SCHOOL contexts

![Graph showing AM and I rates for V, Ving, and Vbat in HOME and SCHOOL contexts]

Note: ‘Transitivity’ was not run since chi-square tests of significance showed this factor group to not be significant.
The rates of each variant according to verb form are graphed in Table 7-9. Now that we know that the ‘I’ variant is favoured by clauses with V verbs, this partly explains the dramatic increase in ‘I’ forms in the SCHOOL data (from 50% to 77%, as shown in Figure 7-1 above). The increase in ‘I’ can be, at least in part, correlated with the increase in V in the SCHOOL data: from 63% in the HOME data to 79% in the SCHOOL data (of verbs with 1sg ‘am’ or ‘I’ subjects). In other words, the increase in V potentially brings with it an increase in the other clausal variants it favours, such as ‘I’ (or vice versa). This finding points to the inter-relatedness of clausal constituents, and also the importance of statistical methods that neutralize such sampling asymmetries in order to uncover underlying consistencies. Still, there are additional possibilities for why ‘I’ becomes the favoured form in the SCHOOL data, and I will explore these in the following section.

7.7 Discussion

The first task of this section is to evaluate the data in order to answer research question 2: Are the two varieties (L1: Alyawarr English and L2: SAE) comparable for 1s subject pronoun? Specifically:

a) Are the HOME and SCHOOL repertoires the same? I.e. are the variants the same in each context and do they appear in similar frequencies?
b) Is the variable context the same in both HOME and SCHOOL contexts?
c) Are the probabilistic constraints the same, per the ‘three levels of evidence’ proposed by Poplack & Tagliamonte (2001: 92): (i) statistical significance, (ii) relative strength and (iii) shared constraint hierarchies.

A summary of the relevant data is presented in Table 7-10. Firstly, the rates of ‘AM’ use differ quite substantially between the HOME and SCHOOL data sets. In the HOME, the rates for ‘AM’ and ‘I’ are even at 50%. By contrast, in the SCHOOL the rate for ‘AM’ is low: 25% (once Deanna’s tokens are removed since she always uses ‘I’ at SCHOOL). Secondly, one of the exceptions to the variable context is shared (clauses negated with don/don’t), while the other is not (clauses negated with nat/not). This itself could reflect an element of conformity to an SAE versus Alyawarr English pattern. In consideration of the ‘three levels of evidence’, the best fit model of both HOME and SCHOOL data was the one that contained verb form. In both data sets the aspectually marked forms favoured ‘AM’, which supports the hypothesis that the collocation of the ‘I’m’ subject with a Ving verb
in English has been reanalysed into a 1sg subject variant ‘AM’. In the HOME data
individual participants differed significantly in terms of their rate of use of the ‘AM’
subject form, while this difference was not significant in the SCHOOL data. Despite this,
individual speakers conform to the same variable grammar: they prefer ‘AM’ in clauses
with Ving or Vbat verbs, and ‘I’ in clauses with V verbs. In sum, despite very different
rates of ‘AM’ use (across contexts and between speakers in the HOME data), the variable
grammar underlying its use is essentially the same in HOME and SCHOOL contexts.

Table 7-10: Summary of categorical and variable constraints in two systems of variable 1sg
pronoun subject use, HOME and SCHOOL contexts. [Points at which SCHOOL differs from HOME
are underlined; up arrows indicate probabilities greater than .5, down arrows indicate
probability values lower than .5; ‘tick’ indicates significant, ‘cross’ indicates not significant]

<table>
<thead>
<tr>
<th>HOME</th>
<th>SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VARIANTS (&amp; FREQUENCY)</strong></td>
<td></td>
</tr>
<tr>
<td>Am (50%), I (50%)</td>
<td>Am (25%), I (75%)</td>
</tr>
<tr>
<td><strong>EXCLUSIONS TO THE VARIABLE CONTEXT</strong></td>
<td></td>
</tr>
<tr>
<td>clauses negated with <em>don/don’t</em> [I]</td>
<td>clauses negated with <em>don/don’t</em> [I]</td>
</tr>
<tr>
<td>clauses negated with <em>nat/not</em> [I]</td>
<td>variable</td>
</tr>
<tr>
<td><strong>PROBABILISTIC CONSTRAINTS</strong></td>
<td></td>
</tr>
<tr>
<td>Am (~ I)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HOME</th>
<th>SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Verb form</strong></td>
<td></td>
</tr>
<tr>
<td>Vbat</td>
<td>2↑</td>
</tr>
<tr>
<td>Ving</td>
<td>1↑</td>
</tr>
<tr>
<td>V</td>
<td>3↓</td>
</tr>
<tr>
<td><strong>Participant</strong></td>
<td>✔</td>
</tr>
</tbody>
</table>

Having established the relationship between the HOME and SCHOOL data, we now turn to
examining what we know about how each data set relates to its ‘target’, per research
question three:

RQ 3. How do the children’s L1:Alyawarr English and L2:SAE systems compared
to the ‘target’ systems for each variety (i.e. the target for L1 is adult ‘T1:Alyawarr
English’ and the target for L2 is adult ‘T2:SAE’)?

As noted in the introduction to this chapter, there is actually very little adult Alyawarr
English data containing 1sg subjects. The handful of tokens that do appear in the corpus
conform to the general pattern illustrated above, with 'I' constrained to non-present temporal reference clauses (i.e. those with pre-verbal past or mood auxiliaries) and to present temporal reference clauses that are negated (by pre-verbal adverbs) or in the form V. ‘AM’ therefore only appears in present temporal reference clauses in which the verb is the form Ving or Vbat. There is, however, not enough data to take this evidence as more than indicative support for the proposition that the children’s Alyawarr English is the same as the adult language.

Further, as noted in the description of SAE usage in the introduction, ‘AM’ (as /am/ or something close to it) is only ever used in clauses with the progressive Ving (at least when the input is from native SAE speakers). The school L2 data does not categorically conform to this, though the direction of variable constraints is also reflective of this target pattern, and could be accounted for as variability on the way to categorality (per type 1 variation studies described in chapter 3 (§3.2.1.1)). It appears, then, that the most logical explanation for the L2 pattern of ‘Am/I’ variation is largely transfer from the children’s current L1 pattern of use, although this is potentially reinforced by the T2 categorical pattern. However, complicating this assessment of straightforward L1 transfer is that the rate of ‘AM’ declines dramatically from 50% in home contexts to 25% in the school context, indicating that the children are relying on “I” forms more heavily in the school context. As noted above, this can, at least partially, be accounted for by the proportional increase in V forms in the school context data (from 63% in the 1sg subject home data to 79% in the school data), which is itself (partly) a result of the fact that the V-bat verb form is effectively absent in the school context data. Another possible explanation is that the children are on an acquisition pathway that begins with the imported variable home pattern, but as a second stage produces mainly ‘I’ forms.

This fits with the likelihood that the acquisition of the single SAE 1sg subject pronoun ‘I’ is inherently tied up with the acquisition of the auxiliary ‘am’, for both concepts are required for the suite of SAE rules to be followed (i.e. ‘I + V’, ‘I am + Ving’ and ‘I’m + Ving’). If acquisition of ‘target’ SAE is to occur, the children in this corpus must produce full ‘am’ forms with ‘I’ subjects (only in the context of Ving verbs), and produce ‘I’m’ contractions only where allowed in SAE. The withdrawal from using ‘AM’ forms (and consequent increase in using ‘I’ forms) may be an early sign that this process of acquisition is underway.
Before we can conclude that L1 transfer is the best explanation for the SCHOOL 1sg pronominal subject data, we should also consider the extent to which this pattern of use is also shown by L1 learners of English, and other learners of English as a second language/related variety to see if this pattern is reflective of broader developmental/acquisitional drivers. In order to make use of the relevant literature we need to shift methodological modalities to take a ‘target’ oriented view of the data, since most comparable research on early acquisition takes this perspective. I have summarised the key points in Table 7-11.

**Table 7-11: SCHOOL context utterance types and their relationship to SAE target norms**

<table>
<thead>
<tr>
<th></th>
<th>Points of note</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Am Ving 16 (12%)</td>
<td>‘target-like’ use</td>
</tr>
<tr>
<td>(2) Am V 16 (12%)</td>
<td>Potential ‘overgeneration error’</td>
</tr>
<tr>
<td>(3) I ø Ving 13 (9%)</td>
<td>‘undergeneration error’</td>
</tr>
<tr>
<td>(4) I V 92 (66%)</td>
<td>‘target-like’ use</td>
</tr>
<tr>
<td>(5) I am V/Ving 0 (0%)</td>
<td>No full forms produced in HOME/SCHOOL data</td>
</tr>
<tr>
<td>(6) I’s V 2 (1%)</td>
<td>‘errors of commission’</td>
</tr>
<tr>
<td>Total 139</td>
<td></td>
</tr>
</tbody>
</table>

First I will discuss the types of ‘errors’ in the data. Children acquiring English as their L1 typically make errors of omission (i.e. ‘I ø Ving’), but not errors of commission (i.e. ‘I is V’) or overgeneration (‘I’m V’) (Wilson 2003; Lieven 2008; Theakston & Lieven 2005; Rice, Wexler & Cleave 1995). Further, these types of errors for ‘am’ are not made by typically developing children over the age of 5:0 (Polite & Leonard 2007). By contrast, errors of commission and overgeneration with ‘be’ auxiliary have been shown to be a substantial pattern in early child L2 speech (Paradis 2008; Ionin & Wexler 2002). For example, Ionin & Wexler (2002) found that 25% of utterances containing a BE\(^{20}\) auxiliary were such ‘overgenerations’ and Paradis (2008) found commission errors in the range of 35-47%. From an SAE-target perspective, the children in this study also potentially ‘oversupply’ the auxiliary in the 16 tokens of ‘Am + V’, as demonstrated in examples (24) and (25)\(^{21}\). There are two examples of potential errors of commission in the data set, presented in examples (26) and (27)\(^{22}\).

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\(^{20}\) Studies in the area of auxiliary and copula acquisition rarely separate out the different forms, i.e. am, is, are.

\(^{21}\) The evaluation of the error as an issue of oversupplied auxiliary versus missing verbal inflection (in this case -ing) is a problematic area (and one reason why this was not the primary approach adopted in this thesis - as discussed in Chapter 3 §3.1). For example, it is likely that example (25) would be better analysed as lacking verbal inflections. Conversely, Lieven (2008:83) treats the utterances like “I’m want to come with you” as missing -ing, rather than a case
A related issue is whether overgeneration, particularly of the contracted 'I’m' (as opposed to the full form 'I + am') is actually a case of this form being unanalysed in the child’s language. In L1 English, contracted auxiliary forms in general, and contracted 'I’m' in particular, are the earliest auxiliary forms to emerge in production (Theakston & Lieven 2005). Further, while 'I’m' emerges earlier than the full form (e.g. 'I am'), and other contracted BE forms (e.g. ‘he’s’, ‘it’s’), it is also variably omitted for a longer period (i.e. the child varies between 'I’m Ving' and 'I ø Ving' for a longer period than with other BE forms\(^23\)) (Theakston & Lieven 2005). There is a general consensus that these early uses of contracted auxiliaries are unanalysed forms (Brown 1973; Bloom et al 1975; Kuczaj 1976; MacWhinney 1982; Kuczaj & Maratsos 1983; Pinker 1984), and as a result, many authors exclude these in studies of auxiliary behaviour in L1 learner language (e.g. Pinker 1984; Stromswold 1990). This phenomenon of early auxiliary use may be particularly related to the nature of the input: while studies of variable contraction in adult native speaker populations rarely disaggregate 'am' specifically, when they do, they show high rates of contraction for auxiliary ‘am’. McElhinny’s (1993) study of native speakers of American Standard English showed a rate of ‘am’ contraction of 94%.

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\(^{22}\) These were counted as tokens of verb form V (intransitive and transitive respectively), and subject form 'I' in the multivariate analysis.

\(^{23}\) The L1 developmental literature most commonly doesn’t address ‘am’ specifically, rather collapses auxiliary or copula ‘be’ across the entirety of its agreement paradigm. In Brown’s (1973) longitudinal study of L1 English acquisition, the acquisition (defined as a rate of 90% correct usage) of uncontracted (full) forms preceded the acquisition of contracted forms.
While different explanations for how contracted ‘I’m’ might be represented (with respect to ‘I’) in the learner grammar (some have suggested the forms are simply equivalent e.g. Pinker 1984:261), Wilson (2003: 85) points out that the pattern of error, particularly lack of oversupply, suggests unanalysed ‘I’m’ exists only as part of progressive (and copula) constructions: and “has no independent existence as a lexical item which would allow it to be used to construct a sentence like ‘I’m want it’”24.

Assessment of the L2 English learner’s underlying analysis of ‘I’m’ similarly problematic due to high rates of contraction, plus the fact that uncontractible contexts (i.e. those in which the contracted forms are ungrammatical in adult use, and which would likely demonstrate definitively if the full-form exists in their grammar) don’t appear with great frequency in children’s speech. In some studies the full form ‘am’ is demonstrably present from the beginning: Haznedar’s (2001) study of a young L1 Turkish-speaking child learner of English revealed that he varied between use of the full form, contracted form and omitted auxiliary from within the first 6 months of English acquisition. Similar findings have been made for adult Persian-speaking learners of English, who varied between the full and contracted forms (though with the latter highly dominant), while they still produced null forms for ‘is’ and ‘are’ (Samar 2003).

By contrast, in examination of the BE in the English speech of young L1 African American English-speaking (AAE) children, Labov (1969: 50) and others (e.g. Pfaff 1980:172) have suggested that the contracted ‘I’m’ could be an example of lexicalisation, citing productions in emphatic equational constructions (i.e. uncontractible contexts for native speakers) such as example (28). Labov (1969) suggests that the contracted copula ‘I’m’ could be analysed as an allomorph of ‘I’ by the children. Subsequently, L1 AAE-speaking children find segmenting the contracted copula ‘am’ into ‘I + am’ challenging.

(28) Researcher: You’re not David!
   Child: Yes, I’m am!

He further noted that similar-aged white children (i.e. native speakers of Standard North American English) and also adolescent African American children did produce the full forms, and did not produce clauses like example (28)25. Garrity and Oetting

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24 Though note a possible counter-example in the sentence within footnote 25.
25 My own native-English speaking daughter has produced emphatic “I am!” clauses throughout her early years (2:6-4:3 yrs). This is, however, younger than the children in Labov’s study.
(2010: 1315) likewise found that young L1 AAE-speaking children also produced utterances like “I’m is” and “I’m are” in Standard American English testing contexts, and interpret these as reflections of AAE treatment of ‘I’m’ as a ‘single morpheme’

The conclusion that the SCHOOL data demonstrate a relationship of strong L1 transfer is similarly predicated on the assumption that the 1sg variant ‘AM’ does not have the underlying analysis of ‘I’ plus a contracted or cliticised auxiliary in either HOME or SCHOOL contexts. As mentioned in the introduction to this chapter, strong evidence for the analysis advanced here - i.e. that ‘AM’ is a single morpheme - comes from the fact that there are no tokens of an uncontracted 1sg auxiliary in the corpus. This is despite the presence of other contracted and uncontracted ‘be’ auxiliaries i.e. ‘is’ and ‘are’ (mostly confined to the SCHOOL context). However, the lack of sampling of contexts in which BE is uncontractible in SAE (in particular, emphatic expressions) means that this conclusion is questionable to some extent.

In summary, the pattern of ‘Am/I’ variation produced by the children in this corpus looks somewhat like the speech produced by other young learners of English: ‘I’m’ is likely unanalysed in the early stages of acquisition and is thus occasionally oversupplied. Rates of auxiliary oversuppliance are generally greater in L2 English contexts, and in particular, for L1 speakers of AAE. The dominance of the contracted form in their L1 (to the extent that some descriptions treat it as an invariant form) further obscures the analysability of the equivalent SAE form. It seems then that in addition to L1 transfer, the variable pattern of ‘Am/I’ in the SCHOOL data set might be the result of several forces that conspire to make the acquisition of the full English ‘am’ auxiliary a challenge for young L1 speakers of closely related languages.

In addition to the main focus of evaluating the relationship between L1 and L2 variable grammars, it was noted in the introduction to this chapter that the pronominal variant ‘AM’ , as well as im ‘him’ and them ‘them’, are of special interest considering their role

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26 Their interpretation of ‘I’m are’ as acceptable AAE cites the work of Green (2002). My own reading of Green’s description suggests this might be a misinterpretation of her work. For example, Green states that in emphatic progressive auxiliary contexts, the full form is used ‘I + AM + Ving’, running counter to the unanalyzed morpheme account. Although others (e.g. DeBose & Farclas 1993) have made this claim.

27 SCHOOL context: Full ‘is’ [N=10], full ‘are’ [N=2], contracted ‘are’ [N=2] (contracted ‘is’ given as ‘is’ form in 3sg section

Table 7-1). There are more tokens in the nominal-predicate clauses dataset, but I have not calculated these.
in several new Australian mixed languages. In Light Warlpiri Am and Im are the first and third singular non-future subject pronouns, and they form part of a subject pronominal paradigm in which English ‘I’m’ has been reanalysed as -m\(^a\), which has non-future tense function across all subject pronouns (see Table 7-2 above). This means that only the am form occurs in present temporal reference clauses. It was further noted that although the Am and Im forms present in Gurindji Kriol have received the same analysis, there is not yet a fully formed subject paradigm a la Light Warlpiri. The present data is interesting then, as it shows these same pronominal forms and possibly reveals a snapshot of an earlier stage of paradigm development: ‘AM’ still exists alongside a second variant in present temporal reference clauses, and retains in its variable patterning loud echoes of its distribution in the superstrate language English (by being favoured by Ving). It is also of note that Vbat patterns with Ving. It seems likely that while this is the case speakers are more likely to analyse the -m-marked form as an aspectual clitic than a temporal one. Perhaps, should the form spread throughout the paradigm, the non-marked forms (i.e. I, they, he etc) may become lost from present temporal reference clauses. This would allow for the reanalysis of -m as temporal inflection (per Light Warlpiri and Gurindji Kriol).

**Figure 7-4:** Subject pronoun contexts per person/number, HOME context

![Pie chart](image)

On the question of whether the -m marked pronominals arise with the 1sg before spreading to the other pronouns, there are several interesting pieces of evidence here. Firstly, for some pronouns we run into issues of small sampling numbers (as shown in

\(^a\) And also possibly due to the reduction of past tense auxiliary bin to -m.
Figure 7-4). In particular, for 1pl (where there is a form *wim* in Light Warlpiri), there are only 20 tokens of this subject pronoun in the data. So absence of a *wim* form may be attributable to sampling. Conversely, there are a substantial number of 2nd person contexts (N=188) none of which contain use of the *yum* form. We can be reasonably certain that this form has thus far not entered Alyawarr English.

The 3rd person subject variants *im* ‘he’ and *them* do appear in the HOME (and SCHOOL) data set (see Table 7-1). While there are only 4 tokens of the latter, we can examine the incidence of *im* in more detail. Firstly, *im* is the preferred form in the HOME data: with 73 tokens to only 15 of *i* ‘he’. The distribution of contexts favouring the use of *im* is very similar to that of 1sg *am*. Specifically, the aspectual marked verbs favour the -m marked forms (categorically in the case of Ving)—see Table 7-12.

<table>
<thead>
<tr>
<th>Verb form</th>
<th>%im</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vbat</td>
<td>91</td>
<td>21</td>
</tr>
<tr>
<td>Ving</td>
<td>100</td>
<td>21</td>
</tr>
<tr>
<td>V</td>
<td>72</td>
<td>46</td>
</tr>
<tr>
<td>Total</td>
<td>83</td>
<td>88</td>
</tr>
</tbody>
</table>

In the small corpus of adult Alyawarr English speech, there are 35 present temporal reference clauses with expressed 3sg pronominal subjects. Three of these are *i* ‘he’ and 32 are *im* ‘him’, with the latter restricted to aspectually marked verb contexts (i.e. Ving, Vbat & some present (continuous) Alyawarr verbs). There are few tokens of non-aspectually marked verbs in the sample (i.e. V). While these do only appear with the *i* pronoun, this apparent categorical split must be assessed as tentative. While the L1 (HOME) and T1 patterns are similar, the former is variable, while the latter appears to be categorical.

While we can’t be sure whether -m marked pronouns have arisen first with the 1sg or 3sg forms, they are both clearly early sights of use of this form. Also worth noting is that it has not been necessary for the form to achieve categorical use in one person/number before spreading to another (although this may be necessary for it to spread to other

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29 Especially since two of these tokens are reflexive, and one is with main verb ‘got’ which, as we've seen in the previous chapter, is never marked with -ing or -bat and so may impose a categorical restriction on the subject variant as well.
It is also perhaps unsurprising that these particular pronouns variants should appear first in the 1sg and 3sg slots (and possibly 3pl), since they are likely reinforced by the existence of 'I’m’, ‘him’ and ‘them’ in English. While these latter two are object forms, researchers have suggested that the same reassignment of ‘him’ to a subject role occurs in early native English speech arises from mis-analysis of ‘him’ in clauses that omit the beginning of complex sentences such as “See him running” (Kirjavainen et al 2009; Tomasello 2003). Thus, both *am* and *im* have possible sources in English, in addition to the possibility that one arises by analogous extension of the other.

### 7.8 Conclusion

In the HOME and SCHOOL data sets the variation between the two 1sg subject pronouns ‘AM’ and ‘I’ is strongly conditioned by the verb form. In the HOME, the presence of Ving and Vbat verbs in the clause promotes the use of the ‘AM’ form, and the presence of a V verb in the clause promotes the use of ‘I’. In the SCHOOL data this pattern is replicated: Ving verbs promote the use of ‘AM’, while ‘V’ verbs promote the use of ‘I’. This suggests that the L1 pattern has been transferred into the L2. However, there is evidence of transformational processes happening in the L2, specifically in terms of the greater rate of use of ‘I’ in the SCHOOL context. This may be an early sign that the children in this corpus are on their way to reanalysing ‘AM’ as ‘I + am’ in the SCHOOL context.

In addition to L1 transfer, the variable pattern of ‘AM’/’I’ in the SCHOOL data set might be the result of several forces that conspire to make the acquisition of the full English ‘am’ auxiliary a challenge for the children in this study. Specifically, separating out ‘I’m’ into ‘subject + copular/auxiliary’ is also a lengthy process (compared to other subject person/numbers) for young native-English speakers, and L2 learners whose first language also has an ‘AM’ 1s subject pronoun form. In short, ‘AM’ is the ultimate in transparency phenomena, since while conforming to the L1 target, its presence in the interlanguage obscures a different underlying analysis of an equivalent L2 input form ‘I’m’. Now we turn to a feature of a somewhat different kind, one in which the HOME variable has no equivalent at all in SAE.
8 VARIATION IN TRANSITIVE MARKING

8.1 Introduction

Australian traditional and contact languages typically make morphological distinctions between transitive clauses and intransitive clauses. In traditional languages, such as Alyawarr, transitive clauses are marked by the addition of the ergative marker on the agent (Yallop 1977, Moore 2012). Transitive verbs in Australian contact languages, such as Kriol, take a verb stem-final -im marker (Sandefur 1979. See also Hudson, 1983; Schultz-Berndt et al 2013). This morpheme is also derivational: “it can create transitive verbs from intransitive verbs (e.g. ran ‘run’ > ranim ‘run into’, weik ‘be awake’ > weikim ‘wake s.o.’) and also from nouns (e.g. totj ‘torch’ > totjim ‘set alight’)” (Schultze-Berndt et al 2013). The likely origin of -im is as a reanalysis of contracted English 3sg object pronoun ‘him’ or 3pl pronoun ‘them’, motivated by the substrate principle of “rigid distinction between transitive and intransitive clauses” (Koch 2011b: 503).

This morpheme is also present in Alyawarr English, and used extensively by the children in this corpus. However, its use is not categorically determined by ‘canonical’ transitivity, i.e. whether there is a grammatical object in the clause (either expressed or unexpressed): the rate of -im marking in the HOME data is 65%. Example sentences (1) to (3) demonstrate some instances of variable usage in the HOME and SCHOOL. In example (1) Shamus is talking to the pre-school teacher who is making a dinosaur out of packaging items. His first clause has the object ‘foot’ fronted, while the second attempt has the object following the verb, but this time the verb receives no -im marking.

(1) Foot, you **makim?** ... **Make** foot.  
(to non-Indigenous teacher)  
[SJD-055-24 Shamus SCHOOL]

(2) I **got** five ... Am **gotim** five.  
(to non-Indigenous teacher and Alyawarr Teaching Assistant, respectively)  
[SJD-059-10 Shamus SCHOOL]
(3) **Hu gat** thet thing wan … Thisan wen im **gatim** dres.
   hu gat thet thing wan …Thisan wen im gat-im dres
   who has that thing one … DEM SUB 3SG.SBJ has-TR dress
   ‘Who’s got that thing…This one that’s got the dress.’
   (to playmate at home) [SJD-069:878 & 881 Lucy HOME]

In example (2) Shamus first informs the non-Indigenous teacher that he has five
rewards tokens (which are currently being tallied). He uses the SAE subject pronoun ‘I’
and no -im marking on the verb. When it is clear the teacher has not heard him (above
the fray), he turns to the Alyawarr Teaching Assistant who is sitting close to him and
reformulates the clause in two ways: the use of the ‘Am’ subject pronoun (discussed in
Chapter 7) and marking the verb with -im. In example (3) the verb in the first clause is
unmarked, while the same verb (gat) in the second clause is marked.

This is different to the pattern of marking in the small adult Alyawarr English sub-
corpus. Here there are 72 clauses with two or more participants, all of which have the
main verb marked with -im (i.e. the rate of non-marking is zero). See sentence (4) for an
equivalent. Conversely there are 161 single participant clauses, none of which have the
main verb marked with -im (i.e. the rate of non-marking is 100%). See sentence (5) for
an example. Marking with -im therefore appears to be a categorical feature of canonical
transitive clauses (i.e. those with two or more participants).

(4) **Dubala faindim nantew na irrepern.**
   dubala faind-im nantew na irrepern
   DEM.DUAL find-TR horse NA darling_thing
   ‘These two find a horse now, darling’
   [SJD-073:4]

(5) **Im craing ahern-itwew.**
   Im crai-ing ahern-itwew
   3sg cry-ING ground-LOC
   ‘He’s crying on the ground.’
   [SJD-055:59]

Standard Australian English does not make such morphological distinctions between
transitive and intransitive clauses, and for this reason transitive marking is an
interesting variable through which to examine the L1:L2 relationship and its impact on
children’s language use. Recall that in preceding chapters the L1:L2 relationship was that
of a three-variant system to a two-variant system (Ch 5&6: V~Vbat~Ving > V~Ving)
and of a two-variant system to a one-variant/categorical system (Ch 7: ai~am > I). This
chapter therefore looks at a third type: a two-variant (-im ~ -Ø) system to a no-variant system in the target variety.

Because English has no transitive marking, it might seem like -im marking would be the easier variable for children to grapple with, since it essentially requires them only to stop using a morpheme in the school context. However, while SAE does not have transitive marking many speakers variably produce the ‘h’ at the beginning of words such as ‘have’ > ‘ave’, ‘her’ > ‘er and ‘him’ > ‘im. In Australia, this has been discussed in terms of dialect or ‘sociolect’ variation in the major cities, with greater deletion associated with ‘lower working class’ groups (Horvath 1985 for Sydney; Ingram 1989 for Brisbane) and also in terms of regional geographic variation (Buchan & Jones 2014). This latter study examined /h/ deletion in maternal speech in Katherine English (a regional dialect spoken in the remote town of Katherine, some 850km to the north of Ipmangker). It put the rate of /h/ deletion for ‘him’ at 83% which was the highest of any lexeme in the study. A further possibility is the dropping of ‘th’ at the beginning of object pronoun ‘them’, illustrated from the current corpus in example (6).

(6) Are your ears listening? Turn ‘em on. [SJD-005-A:48 Teacher]

Variable production of /h/ on ‘him’ and /th/ on ‘them’ would oftentimes render the object pronoun identical to the L1 -im marker and therefore could interfere with children’s detection of the pattern of zero transitive marking in SAE. Abetting this might be the fact that there is a high rate of unexpressed objects in the children’s Alyawarr English, and so sentences such as (7) are not uncommon. The Alyawarr English structure of ‘-im marked verb plus unexpressed object’ is identical (on the surface) to the SAE structure of ‘verb plus 3sg pronoun object’ (pronounced with h-dropping) - per the made-up example (8).¹

(7) Am getim Ø! [SJD-063:467 Simon HOME]

Am get-im
1SG.SBJ get-TR
I’m getting (it)!

¹ An alternative analysis of (7) is that the -im is actually a 3sg object pronoun, making this an example of zero transitivity marking rather than zero object expression. I will examine this possibility further in the discussion section below (§8.7), but for the initial analysis such clauses will be treated as cases of unexpressed objects.
A: Someone’s on the phone for Doug.
B: I’ll get ’im.

Furthermore, the fact that children’s use of the -im marker is variable while use of this feature by Alyawarr English-speaking adults appears to be categorical could indicate that this feature is still undergoing acquisition in the L1 and is thus vulnerable to backwash from SAE (i.e. where the L2 pattern influences L1 use). All of these facts make the children’s acquisition and use of -im marking a far from trivial feat, and one which can potentially elucidate the impact of L1:L2 relationship on the acquisition of linguistic features.

For the rest of this chapter I will investigate what might contribute to the variable production of -im in the HOME data, and see if this pattern is replicated in the SCHOOL data. The process for doing this should now hopefully be familiar to the reader. In the following section (§8.2) I will outline the factors which potentially account for the variable use of the -im marker in HOME and SCHOOL contexts. Following this, the data is explored in detail, beginning with the presentation of the HOME and SCHOOL repertoires (§8.3) and the envelope of variation (§8.3). The speaker-related factors (age and speaker) conditioning variation are then examined (§8.5), followed by the variable rule-analyses of the internal factors (§8.6). The discussion (§8.7) will consider the nature and degree of similarity between the HOME and HOME data, and the relationship of each data set to its ‘target’ variety. Concluding remarks are presented in the final section (§8.8).

8.2 What factors might explain the variation?

To examine variable -im marking in the present corpus, I will make use of the work of Hopper & Thompson (1980) (based heavily on the work of Keen 1972 - henceforth referred to as H&T/Keen) which examines transitivity as a ‘more or less’ property of clauses, rather than a binary property tied to the presence or absence of a grammatical object. There is precedence for applying this work to the examination of variable transitive marking, and that is the study of this feature in contact Englishes by Meyerhoff (1996), which I will discuss below. H&T/Keen argue that transitivity is a universal and central property of human language that reflects the need to encode effective action on a recipient. Crucially, this conceptualisation of transitivity goes deeper than a binary property of the verb (arising from its relationship to a thematic
They propose that transitivity is a notion of component parts (presented in Table 8-1), which allow whole clauses to “be characterized as more or less transitive” (Hopper & Thompson 1980:253). The world’s languages are necessarily selective about which component(s) of transitivity are reflected in morphosyntactic oppositions, though the authors demonstrate that, cross-linguistically, “morphosyntactic markings tend to be sensitive to Transitivity as a whole, rather than to the actual presence or absence of a second participant” (expressed or not) (p254). For example, many languages encode “less than ideal patients…with various trappings found in intransitive clauses” such as peripheral case marking. Antipassive and O-incorporation constructions also express such ‘low-medium transitivity’ conditions.

<table>
<thead>
<tr>
<th>Table 8-1: Parameters of Transitivity (from Hopper &amp; Thompson 1980:252)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transitivity Condition</strong></td>
</tr>
<tr>
<td>Participants</td>
</tr>
<tr>
<td>Kinesis</td>
</tr>
<tr>
<td>Aspect</td>
</tr>
<tr>
<td>Punctuality</td>
</tr>
<tr>
<td>Volitionality</td>
</tr>
<tr>
<td>Affirmation</td>
</tr>
<tr>
<td>Mode</td>
</tr>
<tr>
<td>Agency</td>
</tr>
<tr>
<td>Affectedness of O</td>
</tr>
<tr>
<td>Individuation of O</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

This account of transitivity presents some interesting, and testable, possibilities for understanding variable transitive marking. Transitive marking in contact Englishes of the Australian and Pacific region has largely been reported to be a variable phenomenon i.e. it is not categorically used for clauses with two participants. However, there has been little in the way of analysis of why some transitive verbs, in some clauses, do not receive transitive marking (though see Meyerhoff 1996 for an overview), and so our understanding of the full functional scope of the marker is necessarily limited while this remains unresolved. In an attempt to both rectify this, and to test the utility of Hopper & Thompson’s theory of transitivity, Meyerhoff (1996) undertook a variable rule.
analysis\(^2\) of the -IM\(^3\) marker in a number of contact Englishes, including Australian Kriol, operationalising the components of transitivity proposed by H&T/Keen as factor groups.

Meyerhoff (1996) found that, firstly, the more high transitive features possessed by a clause, the more likely it was to also have the -IM marker. Secondly, when looking at which specific components of transitivity had the most impact on the likelihood of transitive marking, clauses with individuated objects were categorically marked with -IM. This accords with the fact that the likely source for -IM in the language varieties examined in this study is the English third person pronoun (see Koch 2011b). Factors significant in the variable rule analysis conducted on the remaining non-individuated objects were, in order, number of participants, mood, aspect & punctuality, and affectedness of object (volition, agency, affirmation and kinesis were not significant factors). Meyerhoff’s (1996) approach therefore takes the analysis of -IM marking beyond its relationship to the number of participants, and helps elucidate “why transitive clauses in English, for instance, do not correspond perfectly with -IM marked clauses” (p74) in the contact English varieties in question.

All clauses in the corpus were coded for the presence/absence of -im as a suffix on the verb stem. In the cases where there was no overt object expressed, the interpretation of post-verbal -im as belonging to the verb stem, and thus as a transitive marker (as opposed to interpretation as 3sg object pronoun) was formed on the basis of stress: if the morpheme was unstressed it was counted as a transitive marker\(^4\). Each of the transitivity parameters discussed above are possible factor groups for analysis\(^5\). The parameter ‘participants’ has two conditions per H&T/Keen: in the HIGH condition the clause has two or more participants, and in the LOW condition the clause has only one participant. In this corpus, transitive marking never occurs on single participant clauses; it only occurs (variably) in clauses with two or more participants. Since there are no tokens of the LOW condition this factor group will not feature in the variable analysis,

\(^2\) Using Macvarb, a predecessor to Goldvarb, which is the statistical package used in the present study

\(^3\) This capitalized morpheme stands for all the variations on the transitive marker present across the varieties studied

\(^4\) In the analysis of aspect in chapters 5 & 6 these had been coded as ‘ambiguous’. I will consider the alternative possibility that these are in fact 3p object pronouns in the discussion section of this chapter§8.7.

\(^5\) Unfortunately Meyerhoff (1996) doesn’t provide details on how these parameters were operationalised in that study so I cannot be sure that the procedure outlined here replicates the original.
but will be considered in the delimitation and comparison of the envelope of variation below (§8.4).

Kinesis, Aspect, Punctuality, Volitionality, Affirmation, Agency, Affectedness of O and Individuation of O were all included. For each of these, tokens with the HIGH transitivity condition are expected to favour transitive marking. Details of the coding procedure for each of these factor groups is presented in Appendix II. The last factor group ‘Individuation of O’ has multiple possible means of operationalisation. For the purpose of this analysis, object number (singular=HIGH; mass/plural=LOW) and object referentiality/definiteness (referential/definite=HIGH; non-referential=LOW) were both initially included. Object number ended up with the more equivocal results (i.e. not much differentiation across HIGH/LOW conditions) and so was then excluded from analysis. Mode was not included as irrealis contexts have been excluded a priori from examination in this thesis (as discussed in Chapter 5, §5.4).

In addition to the transitivity parameters proposed by H&T/Keen, the form of the object was also initially included as a factor group. This decision was inspired by Meyerhoff’s (1996) analysis, in which the favouring of transitive marking in clauses with zero objects compared to pronominal/NP objects was taken to evidence a residual effect of the transitive morpheme’s etymology as 3sg OBJ pronoun⁶. As noted above, unexpressed objects turned out to be a categorical environment for the marking of transitive verbs in the HOME data, it was therefore not included as a factor group for the HOME data.

Tokens were also coded for two external factors: individual speaker and age. The former allows exploration of the individual contribution to the overall variation. The latter was specifically coded to see if there were any learning effects, such that transitive marking overall should be expected to decline over time in the HOME data.

8.3 The HOME and SCHOOL repertoires

We now turn to the quantitative data to address research question 1: In present temporal reference clauses, what is the system of transitive marking in the children’s L1 (Alyawarr

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⁶ As it turned out, Meyerhoff concludes that as there was no distinction between zero and pronoun/NP objects, (both equally favoured transitive marking) “the data provides little evidence one way or another about the continued semantic transparency of -IM” (p72).

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English) and their L2 (SAE)? This section will specifically address part a) What are the HOME and SCHOOL repertoires? I.e. what are the range of forms (i.e. variants) in each context and their frequencies?

The overall rate of marking is presented in Figure 8-1 below. The rate of marking in the SCHOOL basic context (26%) is substantially lower than in the HOME basic context (61%). So while -im marking has not disappeared completely, this dramatic decline in rates does suggest it is on the way out.

Figure 8-1: Rate of use of -im marker in HOME and HOME variable contexts

The multivariate analysis will allow us to determine if the transitive marker, when it does appear, is patterning the same way (i.e. is constrained by the same variable grammar) in both HOME and SCHOOL varieties. If the same set of factors (with the same constraint hierarchies) are found to be significant in the modelling of both data sets, then we have grounds to conclude that transitive marking is operating with the same variable grammar in both data sets. Since overt transitive marking on verbs is not a feature of English, the children do not need to incorporate a (potentially) competing system of marking into their L2 usage. Therefore it seems plausible that there should not be any substantial re-analysis of the -im morpheme as evidenced by a change in the underlying variable grammar: the HOME system of variable -im marking will be the template for the HOME usage pattern. If this is the case, the substantive difference between HOME and SCHOOL speech varieties will be in the rate of use. On the other hand, the decline in the rate of use could be accompanied by a decline in functionality, reflected in fewer factor groups being found significant in the HOME data. In terms of speaker-related factors, we expect to see a strong age effect in the SCHOOL data, reflecting
the gradual extinction of this form from the SCHOOL speech variety. The envelope of variation is also an important locus for change, and I’ll consider this in the following section.

8.4 The variable context

In discussing which contexts were excluded from analysis it is first important to reiterate that the same a priori exclusions from previous chapters apply (see Chapter 5 §5.4.1). That is, the focus remains on present temporal reference clauses, and how variable -im marking operates within them. This section will address the pockets of invariability in the data: in present temporal references clauses, where does -im marking always, or conversely, never occur? This addresses research question 1b) *What is the variable context in HOME and SCHOOL contexts?*

As noted above (§8.2) variable -im marking is confined to verbs in clauses with two or more participants: ‘canonically transitive’ verbs. Single-participant clauses therefore fall outside the envelop of variation. Further, on verbs with two or more participants, the use of -im is 100% on verbs when followed by -bat and 0% on verbs marked with -ing). Close examination of the data set has revealed that V(-im) is similarly invariant in the following conditions, tokens of which have been excluded from analysis:

a. When the object is unexpressed, the verb is always marked with -im [257 tokens excluded from HOME (see example (9)); not categorical in SCHOOL]

(9) Minyu taiimap iya. [SJD-007: 330 Shamus HOME]

    minyu  tai-im-ap    iya
    1PL.SBJ tie-TR-up  here

    ‘We tie it up here.’

b. When the verb is reflexive, -im is always present [5 tokens excluded from HOME (see example (10); no tokens in SCHOOL):]

(10) Thismab, thei sheyaim eniwei. [SJD-062:1213 Alysha HOME]

    thismab,    thei sheya-im   self eniwei
    DEM.PL,  3PL.SBJ share-TR  RECIP any_way

    ‘These guys, they share with each other, any way.’
c. When the grammatical object is fronted, -im is always present [18 tokens excluded from HOME (see example (11)); not categorical in SCHOOL]:

(11) Wan mo men, am faindim.⁷
    wan mo men, am fain-im
    one more man, 1SG.SBJ find-TR
    ‘One more man, I find.’

   d. When the object is in the form of the pronoun it, -im is never present [21 tokens excluded from HOME (see example (12)); 32 tokens excluded from SCHOOL (see example (13))]:

(12) I get it.
    i get it
    3SG.SBJ get it
    ‘He gets it.’

(13) I feel it.

   e. When the object is im ‘him’ [34 tokens excluded from HOME (see example (14); 2 tokens excluded from SCHOOL see example (15)]

(14) Yos kisim im.
    Yos kis-im im
    2POSS kiss-TR 3SG.OBJ
    ‘Yours kisses it.’

(15) You have im him two.

<p>| Table 8-2: Summary of exclusions from the envelope of variation in both HOME and SCHOOL data sets |</p>
<table>
<thead>
<tr>
<th>Exclusion</th>
<th>Home</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>single participant clauses</td>
<td>-Ø [N= 366]</td>
<td>-Ø [N= 183]</td>
</tr>
<tr>
<td>preceding -ing on transitive verbs</td>
<td>-Ø [N= 20]</td>
<td>-Ø [N= 56]</td>
</tr>
<tr>
<td>object is ‘it’</td>
<td>-Ø [N=21]</td>
<td>-Ø [N=32]</td>
</tr>
<tr>
<td>unexpressed object</td>
<td>-im [N=257]</td>
<td>variable [N=32]</td>
</tr>
<tr>
<td>preceding -bat on transitive verbs</td>
<td>-im [N=190]</td>
<td>-im [N=13]</td>
</tr>
<tr>
<td>object is ‘him’</td>
<td>-im [N=34]</td>
<td>-im [N=2]</td>
</tr>
<tr>
<td>object fronting</td>
<td>-im [N=18]</td>
<td>variable [N=7]</td>
</tr>
<tr>
<td>reflexive -self suffix</td>
<td>-im [N=5]</td>
<td>?no data</td>
</tr>
</tbody>
</table>

⁷ An alternative analysis is that the -im is a 3p pronoun clitic. I will discuss this possibility below (§8.7).
A summary of these exclusions from the envelope of variation in both HOME and SCHOOL data sets is presented in Table 8-2. There are four shared exclusions (single participant clauses, before -bat, with -ing, 'it' object), two exclusions that pertain only to the HOME data (object fronting, unexpressed object), and one exclusion (reflexive) for which the lack of comparable data in the SCHOOL context rules-out comparison. What does an examination of these shared and not-shared exclusions tell us about the pathway by which the HOME and SCHOOL data are becoming distinguished? First, where there is zero marking in the HOME data, it is unsurprising that this should be replicated in the SCHOOL data, since the opposite would imply an expansion of -im marking in the context of a zero marking 'target' language. But given the very new territory being covered in this thesis it is perhaps worth making the mundane observation that while anything could have happened (e.g. encountering SAE could have produced a wildly different pattern of marking in the SCHOOL context) the most instinctively logical pattern prevailed in this respect.

Second, the 13 tokens of -im+bat in the SCHOOL data are mostly used by the youngest speakers in their first few months of pre-school8, and so the use of the -im marker seems wedded to the (outgoing) use of -bat. The most interesting exclusions are those that switch from being categorical (always marked) in the HOME data to being part of the envelope of variation in the SCHOOL data. Again, it is logical that invariability in these contexts would have to become variable at some point as -im marking recedes. But what is interesting is that the rate of -im marking in object fronting and unexpressed object contexts (combined) is actually a lot higher (64%) than the overall rate of -im use in the SCHOOL data (26%). In fact, it is virtually identical to the rate of -im marking in the HOME data (61%). These formerly categorical sites for -im have become places where -im marking is lagging behind trend towards abandonment of the -im marker in the SCHOOL language.

---

8 Also discussed in Chapter 6 (§6.2)
**Figure 8-2:** Distribution of HOME context verbs marked with -im [blue shades; N=656] and unmarked -Ø [orange shades; N=507]. Bolded segments represent variable context, lighter shaded segments represent invariant contexts.

- **Unmarked [Ø]**
- **Object ‘it’** 8%
- **Preceding -ing** 2%
- **Single participant clauses** 31%
- **Object is ‘him’** 3%
- **Reflexive** 0%
- **Object fronting** 1%
- **Preceding -bat** 16%

**Figure 8-3:** Distribution of SCHOOL context verbs marked with -im [blue shades; N=64] and unmarked -Ø [orange shades; N=412]. Bolded segments represent variable context, lighter shaded segments represent invariant contexts.

- **Unmarked [Ø]**
- **Object ‘it’** 7%
- **Preceding -ing** 12%
- **Single participant clauses** 38%
- **Object is ‘him’** 0%

The preceding two figures depict the contexts for variable and categorical use of -im or zero (Ø) marking for the HOME (Figure 8-2) and SCHOOL (Figure 8-3) data sets. The envelope of variable -im marking is represented by the darkest blue and orange segments (called ‘unmarked’ and ‘marked’), while the lighter segments represent the areas of categorical use i.e. the proportion of tokens which only appear marked or unexpressed.

- **Object ‘it’** 8%
- **Single participant clauses** 31%
- **Object is ‘him’** 3%
- **Reflexive** 0%
- **Object fronting** 1%
- **Preceding -bat** 16%

- **Preceding -ing** 2%
- **Object ‘it’** 7%
- **Preceding -ing** 12%
- **Single participant clauses** 38%

- **Object is ‘him’** 0%
- **Object fronting** 1%
- **Preceding -bat** 16%
- **Object ‘it’** 7%
- **Preceding -ing** 12%
- **Single participant clauses** 38%

220
unmarked and are therefore excluded from the variable rule analysis. The relative proportion of variable tokens appears to increase in the SCHOOL data, as previously categorical sites for -im marking now become variable.

8.5 Analysis of speaker-related factors

In this section I’ll explore research question 1c) What speaker-related factors (specifically age) best account for the variation in -im marking in each context? There is a considerable range in the rate of -im marking per speaker in the HOME context: 48% (Tiffany) to 76% (Simon). This range is even greater in the SCHOOL context, with two speakers not using any -im marking: 0% (Alysha and Ramona; Tiffany also meets the threshold for categorical non-marking) to 56% (Simon). These results are displayed in Figure 8-4. Tests of significance were performed and in the HOME contexts speakers were not behaving differently to each other with respect to frequency of -im marking, while speaker effects were found in the SCHOOL context⁹.

Figure 8-4: Rate of transitive marking in HOME and SCHOOL contexts, per SPEAKER¹⁰

Similarly, there is a strong age effect in the SCHOOL data (see Figure 8-5) whereby transitive use drops dramatically in the second half of the fifth year (age 5;6-11) and continues a steady decline to reach near-categorical absence in the second half of the

⁹ SCHOOL $p = 9.4E-08$ (Alysha & Ramona excluded, Fisher exact test) and HOME $p = 0.154$ (Chi-square).

¹⁰ Speakers for which there is no comparable HOME and SCHOOL data are excluded [3 speakers; 18 tokens].
seventh year. Tests of significance reveal both HOME and SCHOOL context patterns to be significant\textsuperscript{11}.

Figure 8-5: Rate of transitive marking in HOME and SCHOOL contexts, per AGE\textsuperscript{12}

Recall, however, that this study adopts a partial longitudinal/cross-sectional design, such that no age bracket has contributing tokens from all speakers. At the extremes this means that only one or two speakers are responsible for the tokens of that factor level: for example, Lenora is the only contributor of the data for the 7;6-7;11 age group in the HOME context. As such, there is potential for an individual speaker to skew the age effect, and vice versa. It is therefore informative to consider the interaction of age and speaker. Figure 8-6 shows that when we consider the data in this way, three groups of speakers emerge in the SCHOOL context: Simon, Shamus and Deanna are the group of declining markers, Tiffany and Alysha are the group of non-markers (probably representing the continuation of the declining pattern exhibited by Simon, Shamus and Deanna), and Lenora is an outlier, declining in her rate of marking but much later than the other children.

\begin{footnotesize}
\begin{itemize}
  \item HOME context \textit{p}=0.031 using Chi-square; SCHOOL context \textit{p}=1.4E-16 using Fisher exact
  \item excluded tokens for which age of speaker not recorded in HOME context [N=6]
\end{itemize}
\end{footnotesize}
In the HOME context speakers (Figure 8-7), predictably, show non-systematic patterns of marking, with each speaker showing quite a considerable range in their rate of -im marking across time intervals\(^{14}\). Variation in the rate of -im marking across time in the HOME context might be more attributable to sampling than development. It seems that for most children the rate of -im marking peaked during the second field trip, so there may have been something about the toy sets provided on that occasion that elicited a higher rate of marking. Importantly, there is no clear evidence of a ‘wash back’ effect: the clear decline in each student’s rate of marking in the SCHOOL data is not mirrored here. Although the averaged rate of marking per student in the HOME does appear to bear some resemblance to their usage relative to other students at school (see Figure 8-4 above).

While it would be of interest to delve further into the relationship between speaker and age in order to determine which of these factors contributes more to the overall

\(^{13}\) Note that speakers for whom there is data at only one time interval has been excluded from this figure.

\(^{14}\) Range per speaker, in order of magnitude: Alysha range=5, Deanna range=18, Tiffany range=28, Lenora range=37, Shamus range=35, Simon range=39.
variation in marking (particularly in the SCHOOL context), the small number of tokens makes the regression analysis needed to do this unreliable. Instead, we will accept that both age and speaker are significant contributors to the overall variation (though the extent of each contribution will remain unresolved), and move on to examination of the linguistic factors.

8.6 Multivariate analysis of linguistic factors

We’ll now turn to consider the H&T/Keen transitivity features outlined above. This will address research question 1d) What factors in the immediate linguistic context (i.e. the clause) best account for the variation in -im marking in each context? Because Alysha [N=9], Tiffany [N=35] and Ramona [N=2] do not use any -im marking in the SCHOOL context and therefore do not contribute to the variation, their tokens have now been removed. This has changed the overall rate of marking in that context to 33%.

Distributions of the eight H&T/Keen-inspired transitivity components warranted the exclusion of some of these on the grounds of poor spread of tokens across the HIGH and LOW transitivity conditions\textsuperscript{15}. The distributions of the remaining transitivity-related factors (kinesis, aspect, punctuality, volitionality, and object individuation (HOME context only)) are presented in Table 8-3 below. For the factor group KINESIS, there are 100 clauses that were coded as the high transitivity condition ‘action’, in the HOME context, and 83% of these had -im marking. This rate is above the baseline of 61% marking in all HOME context clauses, so ‘action’ verbs have an increased likelihood of marking, and non-action verbs have a decreased likelihood of marking. Likewise in the SCHOOL, 52% of ‘action’ clauses were marked with -im, which is an increase over the overall baseline rate if marking of 33%. For each of the remaining factors the distribution is also as predicted by H&T/Keen’s theory: -im marking is favoured by the high transitivity condition in both the HOME (respectively, telic [77%], punctual [76%]),

\textsuperscript{15} Excluded factor groups due to poor data distribution in HOME context: affirmation [Negative = 4], Agency [Low=14], Object affectedness [not affected=10]. Excluded factor groups due to poor data distribution in SCHOOL context: affirmation [Negative = 7], Agency [Low=15], Object affectedness [not affected=4], Object Individuation [Low=17]. I cannot offer an explanation regarding why negative clauses and those with low agency and low object affectedness were not sampled in higher numbers in this data. This does not mean that these parameters do not impact on the variation in -im marking, simply that impact could not be tested here.
volitional [75%], and definite/referential [65%]) and SCHOOL (respectively, telic [51%], punctual [38%], and volitional [46%]) basic context.

Table 8-3: Distribution of -im marker in HOME and SCHOOL contexts, per INTERNAL FACTORS. Bracketed figures indicates that factor group not run in VRA below

<table>
<thead>
<tr>
<th></th>
<th>HOME</th>
<th>SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td><strong>Kinesis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>action</td>
<td>83</td>
<td>100</td>
</tr>
<tr>
<td>non-action</td>
<td>46</td>
<td>152</td>
</tr>
<tr>
<td><strong>Aspect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>telic</td>
<td>77</td>
<td>94</td>
</tr>
<tr>
<td>atelic</td>
<td>51</td>
<td>157</td>
</tr>
<tr>
<td><strong>Punctuality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>punctual</td>
<td>76</td>
<td>111</td>
</tr>
<tr>
<td>non-punctual</td>
<td>49</td>
<td>131</td>
</tr>
<tr>
<td><strong>Volitionality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>volitional</td>
<td>75</td>
<td>129</td>
</tr>
<tr>
<td>non-volitional</td>
<td>46</td>
<td>123</td>
</tr>
<tr>
<td><strong>Object Individuation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>definite/referential</td>
<td>65</td>
<td>174</td>
</tr>
<tr>
<td>non-referential</td>
<td>50</td>
<td>58</td>
</tr>
<tr>
<td><strong>Object form</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unexpressed</td>
<td>(100%)</td>
<td>(257)</td>
</tr>
<tr>
<td>NP/Pronoun</td>
<td>(61%)</td>
<td>(252)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>61</td>
<td>252</td>
</tr>
</tbody>
</table>

Object individuation is excluded from the SCHOOL variable rule analysis (VRA) since the number of tokens in the 'non-volitional' condition is too low [N=17]. From the distribution we can see that this factor group looks to be non-significant: the overall rate of marking for the 108 tokens coded for this feature is 24% and the rates in each condition are identical (definite/referential 24%; non-referential 24%). I will discuss this further below. The distribution for the additional factor ‘object form’ is also included in Table 8-3. As discussed above, the form of the object is categorical in the HOME data set (unexpressed objects always occur with -im marking) so it is excluded from further analysis of variation in that context. In the SCHOOL context, clauses with unexpressed objects highly favour -im marking [68%].

---

16 excluded tokens from HOME context [N=1] and SCHOOL context [N=1], ambiguous
17 excluded tokens from HOME context [N=10] and SCHOOL contexts [N=5], ambiguous
18 excluded tokens from HOME context [N=20]
19 excluded tokens of ‘other’ in SCHOOL context [N=2].
While a number of the parameters of transitivity seem to influence -im marking in the manner predicted, H&T/Keen also suggested that it is likely the case that individual languages will differ in terms of the parameters that have the strongest impact on structures that are responsive to or expressive of transitivity. The variable rule analysis allows us to see which of these above factors is the most important in the present case. The results of two variable rule analyses are presented in Table 8-4.

| Table 8-4: Constraints on the use of the -im marker in HOME and SCHOOL contexts |
|---------------------------------|-----------------|-----------------|
|                                  | HOME            | SCHOOL          |
| input (overall rate)            | .63 (61%)       | .31 (33%)       |
| Total N                         | 252             | 144             |
| Prob                            |                 |                 |
| %-im N                          |                 |                 |
| Kinesis                         |                 |                 |
| action                          | .74             | .76             |
| non-action                      | .33             | .68             |
|                                  | 83              | 68              |
|                                  | 100             | 31              |
| Range = 41                      |                 |                 |
| Object Individuation            |                 |                 |
| definite/referential            | [ ]             | [ ]             |
| non-referential                 | [ ]             | [ ]             |
|                                  | 65              | 52              |
|                                  | 174             | 62              |
| Range = 41                      |                 |                 |
| Volitionality                   |                 |                 |
| volitional                      | [ ]             | [ ]             |
| non-volitional                  | [ ]             | [ ]             |
|                                  | 75              | 46              |
|                                  | 129             | 69              |
| Range = 41                      |                 |                 |
| Aspect                          |                 |                 |
| telic                           | [ ]             | [ ]             |
| atelic                          | [ ]             | [ ]             |
|                                  | 77              | 51              |
|                                  | 94              | 53              |
| Range = 41                      |                 |                 |
| Punctuality                     |                 |                 |
| punctual                        | [ ]             | [ ]             |
| non-punctual                    | [ ]             | [ ]             |
|                                  | 76              | 38              |
|                                  | 111             | 63              |
| Range = 34                      |                 |                 |
| Object form                     |                 |                 |
| Unexpressed                     | .42             | .76             |
| NP/Pronoun                      |                 |                 |
|                                  | 24              | 68              |
|                                  | 111             | 31              |
| Range = 34                      |                 |                 |

In the HOME context, kinesis was the only factor group found to exert a significant linguistic constraint on the use of the -im marker, such that the higher transitivity condition (action) produces significantly more marking (83% [prob=.74]). As a comparative analysis to Meyerhoff’s (1996) examination of regional contact Englishes (including Top End Kriol) this is of interest in that it returns a somewhat different result: kinesis was not found to be significant in that data set. A number of explanations for this difference are possible. It could be a natural language fact—a difference in the components of transitivity that receive morphological expression. It could be a developmental effect, since the present study consists of child language data, and the various corpora utilised by Meyerhoff feature adult speech. Another possibility is that
that the assumption of an historical relationship between Top End Kriol (in Meyerhoff’s analysis) and the variety examined here, and the concomitant assumption of shared features, is not warranted. A final important consideration is that Meyerhoff’s data was not restricted to present temporal reference clauses. It may be the case that the relationship between transitive marking and the transitivity parameters examined here operate differently across different tenses. Further examination of each of these possibilities is beyond the immediate concerns of this thesis. The present interest of this result lies chiefly in its comparison to the SCHOOL data set: are the same set of constraints in operation?

Kinesis is a shared constraint: it is significant in constraining the variation of -im in the SCHOOL data set such that action clauses are at least twice as likely to receive marking than non-action clauses (rate for action clauses is 52%, prob=.65). Also significant, and with a modestly larger relative strength than kinesis (indicated in the table by the larger range and confirmed by the fact that the statistical model selected it first), is the form of the object. If the object is unexpressed, the verb is marked with -im around two thirds (68%) of the time (prob=.76). Conversely, verbs with expressed objects are marked around one quarter (24%) of the time. Recall that this factor group was categorical in the HOME data: verbs with unexpressed objects were always marked with -im. The SCHOOL data therefore closely resembles the HOME data with respect to the impact of object form on transitive marking. Remaining factor groups are not significant.

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20 Other comparative variationist work (discussed in Chapter 3) provides a precedent for running a different suite of factor groups for each data set. This has been particularly relevant when there are factors (such as ‘length of stay’ in country) that would apply to a learner group, for example, but not a native speaker sample. In that scenario the multivariate analysis is tailored to determine the best model of variation for each data set. If a factor group such as ‘length of stay’ is significant for the learner group, then it is accountable in the interpretation and analysis of the global differences between data sets. However, there is a statistical issue here, since the inclusion of an additional factor group affects the capacity for the other factor groups in the model to be significant, and thus the statistical comparison is not exactly like-with-like. I have chosen to take the former, ‘best model’ approach here. However, it is worth noting that when a ‘best comparison’ approach is taken (i.e. OBJECT INDIVIDUATION is excluded from the HOME model, and OBJECT FORM was excluded from the SCHOOL model) in both contexts KINESIS was the only significant factor group in the model [HOME ‘action’ factor weight = .74; SCHOOL ‘action’ factor weight = .69]. These results are consistent with the analysis and conclusions developed here (based on the ‘best model’ data modeling).

21 While the remaining factor groups are not significant, there is strong evidence of interaction indicated by the close factor weights (with flipped orders in some cases e.g. VOLITIONALITY in the HOME data set and PUNCTUALLY in the SCHOOL data set). This was confirmed by cross-tabulation of each factor group with the other, and chi-square significance tests on the interaction tables. There are two options for how to proceed when factor groups are revealed to be strongly violating the assumption of independence fundamental to multiple regression analysis, such that interactions are visible in the data output: first the factor groups can be combined to create interaction groups, so long as this can be done in a linguistically principled way. In the present case, this option led to unwieldy interaction groups making subsequent interpretation of significance difficult. Instead, multiple independent regression analyses can be performed, and log likelihoods compared. The analysis with the log likelihood closest to zero represents the
8.7 Discussion

As in previous chapters, this discussion section will focus on drawing an overall picture of the similarities and differences between the HOME and SCHOOL date sets. This addresses research question 2: Are the two varieties (L1:Alyawarr English and L2: SAE) comparable for transitive marking? Specifically:

a) Are the HOME and SCHOOL repertoires the same? I.e. are the variants the same in each context and do they appear in similar frequencies?

b) Is the variable context the same in both HOME and SCHOOL contexts?

c) Are the probabilistic constraints the same, per the ‘three levels of evidence’ proposed by Poplack & Tagliamonte (2001: 92): (i) statistical significance, (ii) relative strength and (iii) shared constraint hierarchies.

A summary of results is presented in Table 8-5. The frequency of -im marking in the HOME is 61% while the inverse is the case in the SCHOOL, where the rate of marking is 33%. The analysis of individual speaker and age confirm that there is a declining trend towards zero marking for all students (who were still using -im marking when recording began). There are two major differences in the envelope of variation: in the HOME data fronted and unexpressed objects are a context for obligatory -im marking, whereas marking is variable in these contexts in the SCHOOL.

In terms of the variable rule analysis, kinesis is a shared factor group, with the constraint hierarchy identical in both HOME and SCHOOL data (i.e. action verbs favour -im marking). Object form is also shared, though this is categorical in the HOME data, and variable in the SCHOOL data. Again there is a shared constraint hierarchy, with unexpressed objects favouring -im marking.

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best fit of the data. This latter course was opted for. However, as the results mirror those already discussed here with respect to the factors offering the best fit of the data, I have opted to present the results in the more usual way.
Table 8-5: Summary of categorical and variable constraints in two systems of variable -im marking, HOME and SCHOOL contexts. [Points at which SCHOOL differs from HOME are underlined; up arrows indicate probabilities greater than .5, down arrows indicate probability values lower than .5]

<table>
<thead>
<tr>
<th>HOME VARIANTS (&amp; FREQUENCY)</th>
<th>SCHOOL VARIANTS (&amp; FREQUENCY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-im (65%), -Ø (35%)</td>
<td>-im (34%), -Ø (66%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXCLUSIONS FROM VARIABLE CONTEXT</th>
<th>PROBABILISTIC CONSTRAINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>single participant clauses [-Ø]</td>
<td>-im (~ -Ø)</td>
</tr>
<tr>
<td>preceding -ing on transitive verbs [-Ø]</td>
<td></td>
</tr>
<tr>
<td>object is 'it' [-Ø]</td>
<td></td>
</tr>
<tr>
<td>preceding -bat on transitive verbs [-im]</td>
<td>variable</td>
</tr>
<tr>
<td>object fronting [-im]</td>
<td></td>
</tr>
<tr>
<td>unexpressed object [-im]</td>
<td></td>
</tr>
<tr>
<td>reflexive -self suffix [-im]</td>
<td></td>
</tr>
</tbody>
</table>

When the significant factors are tabulated, a very similar picture of the conditioning of use of -im marking emerges, see Figure 8-8. The number of participants is the numerically most important categorical restriction, with -im marking never appearing on single participant clauses in both data sets. Object form is the next most impactful constraint (variable in the SCHOOL data and categorical in the HOME), followed by kinesis (variable in both contexts). This supports the predicted hypothesis that the same pattern of transitive marking (with respect to linguistic factors) is operating across the children’s bi-varietal speech repertoire. The main difference between the HOME and SCHOOL is in the rate of use of the transitive marker, and the expansion of variable usage to clauses with fronted and unexpressed objects.
Presentation of the data in this way allows us to see some interesting features of a system in decline. As the rate of transitive marking rapidly declines in the SCHOOL context, the categorical restriction of object form becomes a variable one. This is consistent with Weinreich, Labov & Herzog’s (1968:188) previously-cited postulate that “not all variability and heterogeneity in language structure involves change; but all change involves variability and heterogeneity”.

Turning now to research question 3: How do the children’s L1:Alyawarr English and L2: SAE systems compared to the ‘target’ systems for each variety (i.e. the target for L1 is ‘T1:adult Alyawarr English’ and the target for L2 is ‘T2:native speaker SAE’)? In the small sample of adult Alyawarr English usage described above (§8.1) -im marking is categorical: it always occurs on ‘canonical’ transitive verbs (that is, verbs with 2 or more participants). This raises the interesting possibility that the data presented here demonstrate ‘backwash’ from English. Rates of -im marking in the HOME data prior to the commencement of schooling would be needed to test this hypothesis. Although recall that there did not seem to be any downward trend in the HOME data per age (§8.5).

Another possible explanation for the non-categorical use of the -im marker in the HOME is that this is a developmental pattern in which transitive marking is variable on the way to the categorical rule being applied. Prior to categorical transitive marking being achieved by children, there are several steps in the acquisition process. First, all children must detect that transitivity is a property of human language. This typically arises very early on in language acquisition; children as young as two years old make a distinction between transitive and intransitive clauses (Clahsen, 1986; Slobin 1985) and not always in a manner that mirrors adult usage. Early orientation to transitivity (in the sense of H&T/Keen) can lead to children mobilising formal morphological distinctions in their language to distinguish more and less transitive clauses. For example, Adone (1994)
observes very young speakers of Mauritian Creole (around the age of 1;9-2;0) using long forms\textsuperscript{22} of the verb in intransitive clauses, and short forms in transitive clauses; and Clahsen (1986) that children acquiring German first use verbal agreement morphology to encode clause transitivity (per H&T/Keen) rather than grammatical relations.

Children then need to learn how their particular language treats transitive and intransitive verbs. Brooks & Tomasello (1999) demonstrate that the detection of verb classes and their association with permissible argument structure constructions can take several years for English-speaking children; up until around 4;6. If there is specific verbal morphology associated with distinguishing transitive clauses/verbs from intransitive ones, this also needs to be acquired. In Hebrew, a change in transitivity entails a change of verb-morphology, such that nonce verb items can be introduced with enough semantic context that children can make accurate predictions about their morphological features (Berman 1993:644). On known words (i.e. Hebrew verbs) children display correct use of verb morphology not before 3 years, but certainly by 8 years of age. On nonce verbs, the performance of 8 year olds is somewhat weakened, particularly for transitive to intransitive alternations (Berman 1993:657). This aspect of transitivity encoding, therefore, seems to be part of a long tail of language acquisition within which the more subtle and complex elements of a language reside. This is also likely related to the regularity and transparency of the overt transitive marking in question. It is therefore possible that the variation shown in the HOME data set reflects ongoing acquisition of this feature, and if so it is not inconsistent with findings for other languages with morphological expression of transitivity.

The ‘target’ of the children’s English (as operationalised by the SCHOOL data set) is Standard Australian English, and this language has no morphological marker of transitivity. The rapid decline of transitive marking that occurs in the SCHOOL data set is perhaps best characterised as unlearning of a L1 feature. Why is this feature so ‘unlearnable’? One clue might lie in the fact that this feature seems to be a salient contrastive feature for at least one of the children: example sentence (16) records an exchange in which the transitive marker is picked up on as aberrant in the SCHOOL context by Tiffany (aged 6;6). A small group of lower primary students is engaged in

\textsuperscript{22} In adult usage, the long/short alternation actually relates to whether the verb is directly followed by another clausal element, so is more about the expression of post-verbal components rather than the transitivity of the verb.
making patterns with coloured beads and blocks. Lucy and Tiffany are seated on the floor next to the teacher. Lucy asks the teacher for a blue bead. In doing so she formulates her request with an -im marked verb. Tiffany picks up on this and repeats Lucy’s request, emphasising the verb. She then tells Lucy that the teacher doesn’t understand ‘your language’ i.e. the transitive marker.

(16) Lucy: Can you give-im me blue? [SJD-039-B: 328-333]

Tiffany: Can you g- give-im me blue. (0.70) He don’t know- He don’t know your language.

While the role of sociolinguist or perceptual salience, their causes and how they help or hinder second language acquisition has been hotly debated within dialect studies (e.g. Kerswill & Williams 2002; Trudgill 1986; Auer, Barden and Grosskopf 1998 - see also discussion in chapter 2 §2.2) it remains unresolved exactly how this fact of some language features contributes to learnability. But it seems reasonably uncontroversial to observe here that the contrast between an overt L1 feature (transitive marking) and a null L2 feature (no transitive marking) might contribute to the salience of this form (despite the kind of pronominal object contractions likely to occur in the SAE input, discussed in the introduction to this chapter), and that this in turn contributes to the rapid (un)learning of this form. I will return to this in the Discussion chapter (Chapter 9).

In the forgoing analysis, the im in sentences like (17) was analysed as the transitive marker. The alternative analysis for this sentence is that the im is a 3rd person pronominal object clitic (either for 3sg im ‘him’ or 3pl them ‘them’), which entails the analysis that this sentence is a case of zero transitive marking. What makes this hard to unravel (and so interesting!) is that there is probably a little bit of both going on: variability in transitive marking and variability in object expression, particularly in the SCHOOL data.

(17) Hei, yumab gatiim na. V-im + Ø or V ‘im

hei, yumab got-im na
hey, 2PL.SBJ got-TR NA OR
‘Hey, you lot have got (it) now.’

hei, yumab got=im na
hey, 2PL.SBJ got=3sg NA
‘Hey, you lot have got it now.’

[SJD-062:1002 Lenora HOME]
The most productive line of enquiry for sorting this out is to examine the person of the object referent: if the V-im/V'im token occurs when the (unexpressed) object referent is 1st or 2nd person, then we can more safely conclude that the im is a transitive marker. In the HOME data, when the object is expressed, the rate of transitive marking is almost constant regardless of the person of the object referent: 65% [N=245] for 3p referents (examples (18)), 66% [N=41] for other referents (example (19)).

(18) Ai putim bendij.
   ai    put-im     bendij
   1SG.SBJ put-TR bandage
   ‘I put the bandage (on)’
   [SJD-021:173 Alysha HOME]

(19) Ai pokim yu.
   Ai    pok-im     yu
   1SG.SBJ poke-TR 2SG.OBJ
   ‘I poke you.’
   [SJD-021:301 Deanna HOME]

When the object is unexpressed [N=257], an examination of the context could help reveal the referent. In example (17) above Lenora is telling the other children she is playing with that they already have one toy tree (after they request the second toy tree she is holding). So ‘tree’ is a 3sg referent, and therefore it is not possible to distinguish based on the object referent whether im is a transitive marker or object pronoun. However in a large number of cases at HOME, while a 3p referent is possible, and seemingly most likely, it is still impossible to be certain. This ambiguity particularly arises when the referent is a toy figurine of a human/animate creature (e.g. a soldier, a dinosaur, a doll): the children often enact the toys as extensions of themselves, referring to a toy as mi-akely ‘little me’ or yu ‘you’\(^{23}\). So it is not possible to conclude with certainty how the reference to an unexpressed object would have been made. What we can note is that this ambiguous structure (V-im or V ’im) occurs in contexts where a 3p referent is a logical and possible interpretation given the context.

In the SCHOOL data there is not the same ambiguity, since the referents are school-based items (such as books, pencils and not toys) not commonly animated as oneself. It turns out that most expressed objects have a 3p referent (per example (20)), only one does not (example (21)).

\(^{23}\) For similar reasons it is problematic to assume the referent of unexpressed subjects - see footnote (11), Chapter 5.
This is possibly a vestige of the corpus design: in the school students are always by definition talking to teachers, so this probably reduces the likelihood of 1p or 2p object referents. In clauses in which the object is unexpressed, the referent is always 3p. So it is possible that the -im that occurs in 66% of ‘unexpressed’ object clauses could be a phonologically reduced 3p pronoun—represented by the alternative glossing of example (22).

In most of these ambiguous tokens, the grammatical target form is in fact ‘it’ as the referent is non-human/non-sentient. But, this form does not become a feature of the children’s interlanguage until the second year of schooling, around the time when -im marking drops off considerably24. The use of ‘it’ in the HOME data is a similarly late occurrence with 86% of the tokens occurring in the second year of schooling or later. Mostly, non-human object referents are referred to with im ‘him’. So a possible alternative explanation for the SCHOOL data pattern is that in the first year of schooling, the verb final morpheme im is a phonologically reduced 3p pronoun in 3p object contexts. Following this, children learn to use ‘it’ to refer to non-human object referents and so the over-use of phonologically reduced ‘im’ gives way to this feature.

In the HOME data, the analysis of the verb final im as a transitive marker in clauses like (17), results in a more parsimonious statement of facts regarding transitive marking and object expression. Compare rule set #1, the ‘unexpressed objects’ account on which this

24 The incorporation of ‘it’ doesn’t seem to prompt a restriction of ‘-im’ or ‘him’ to animates.
chapter is based, with rule set #2. The latter is made more complicated by the need to deal with the phonological reduction of pronominal objects and its effects on transitive marking.

#1 Transitive marking occurs variably with expressed objects. In clauses with 3p NP object referents, the object can be dropped when the verb is marked for transitivity.

1. -im > (-im) / __ + OBJ
2. OBJ\textsuperscript{3p}NP > (OBJ) / V\textsubscript{im} + __

#2 Transitive marking occurs variably with expressed objects (objects are always expressed). When the object is expressed as a 3p pronoun ('him' or 'them'), transitive marking occurs categorically: all the time when the object is not reduced, or never when the object is reduced to 'im (i.e. h-dropping).

1. -im > (-im) / __ + OBJ\textsuperscript{NP}
   > -im / __ + OBJ\textsuperscript{HIM/ THEM FULL FORM}
   > -Ø / __ + OBJ\textsuperscript{HIM/ THEM CONTRACTED FORM}

If we accept the more economical account of the HOME data, then the more straightforward account of the SCHOOL data is that there is initial transference of the L1 pattern into the interlanguage. The additional predicate pattern possible in the SCHOOL data (but not the HOME data), represented by sentence (23) below, can be understood as the addition of transitive dropping (the ‘target-like’ adaptation) in clauses in which object dropping is already permitted (i.e. the second part of rule #1 above). The alternative analysis, if carried through into the SCHOOL data, would have to interpret (23) as a pattern of object dropping emerging in the interlanguage, which seems a strange thing to start doing, particularly in an L2 that doesn’t tend to permit this. So it seems that objects are variable with transitive marking in the children’s Alyawarr English, and so this too needs to be ‘unlearned’ in the L2.

(23) I put here? \text{V-im + (OBJ) [HOME]} \gg \text{V(-im) + (OBJ) [SCHOOL]}

[SJD-039-C:60 Lenora SCHOOL]
8.8 Conclusion

This chapter has shown that underlying the very different rates of transitive marking in the children’s Alyawarr English and English, there are systems with similar sets of constraints in both languages. A close examination of the envelope of variation has revealed that the differences that do exist are consistent with linguistic systems in flux: categorical rules becoming variable. Moreover, the seemingly simple task of not using a L1 morpheme in L2 contexts has further consequences for the acquisition of other L2 features. The surface similarity between the transitive marker and English phonologically reduced 3p pronominal objects makes analysis of this form challenging, and avoidance of verb final *im might lead to failing to express pronominal objects. These down-river consequences for (un)learning transitive marking would be an interesting area of continuing study, particularly into the next age/stage.
9 Discussion

9.1 Summary of findings

Over the previous four chapters, three variables of present temporal reference clauses were examined: aspectual verb morphology, 1st singular subject pronouns and transitive marking. In evaluating the relationship between the variable HOME and SCHOOL systems I have considered the variants and their relative frequencies, the variable context (also called the envelope of variation) and the probabilistic constraints. For this last component I have referred to ‘three levels of evidence’ proposed by Poplack & Tagliamonte (2001: 92): (i) statistical significance, (ii) relative strength and (iii) shared constraint hierarchies. A summary of these analyses is presented in Table 9-1. First, aspect morphology differs quite fundamentally in the HOME and SCHOOL data in two ways: the Vbat form did not appear in the SCHOOL data, and verb transitivity restricted Ving (to intransitive clauses) in the HOME but not the SCHOOL. Aspect is a significant factor group in both contexts, however it has a different effect on V and Ving in the SCHOOL, and this is largely accountable by the absence of Vbat in that context. Of the two remaining factor groups (subject person and subject number) these were not always found to be significant, however, when they were, the constraint hierarchies operated in the same way. The same relative ordering of significant factor groups was found in every comparison.

Table 9-1: Summary of comparison of three variables and their shared (✔) or not-shared (✘) patterns of use in HOME (L1) and SCHOOL (L2) contexts.

<table>
<thead>
<tr>
<th>variants</th>
<th>rates</th>
<th>variable context</th>
<th>(i) statistical significance</th>
<th>(ii) relative strength</th>
<th>(iii) order of constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspect morphology</td>
<td>✘ (Vbat)</td>
<td>✘</td>
<td>✘</td>
<td>✗aspect</td>
<td>✗person</td>
</tr>
<tr>
<td>1st subject pronoun</td>
<td>✔</td>
<td>✘</td>
<td>✔</td>
<td>✗verb form</td>
<td>✔</td>
</tr>
<tr>
<td>Transitivity marking</td>
<td>✔</td>
<td>✘</td>
<td>✘</td>
<td>(object form)</td>
<td>✔</td>
</tr>
</tbody>
</table>
The differences between the use of the 1sg subject variants in the HOME and SCHOOL were not so great. The main difference was in the rate of use of the ‘I’ variant, which increased substantially in the SCHOOL. There was one difference in the variable context (‘I’ was invariant before nat ‘not’ in the HOME only) although this was attested only by a small amount of data. The only difference in the variable grammar was that speaker was a significant factor in the HOME, but not the SCHOOL. Otherwise in both contexts, aspectually marked verbs (Ving and Vbat) favoured the use of the ‘AM’ variant, and verb form was the most significant constraint on this variation.

A similar comparative description applies to variable transitive marking. Both the HOME and the SCHOOL data shows variable use of -im and -Ø marking, though the rates differ substantially. Moreover, there is an important difference in the envelope of variation: unexpressed and fronted objects receive obligatory -im marking in the HOME while this is a site of variable -im marking in the SCHOOL. In fact this becomes the strongest probabilistic constraint in the SCHOOL variable grammar. Otherwise the hierarchy of constraints is the same, with action verbs favouring marking in both HOME and SCHOOL.

Based on these criteria it is clear that for no variable are the HOME and SCHOOL data identical. The differences between HOME and SCHOOL 1sg subject pronouns and transitive marking are in the rate of use, variable context and one unshared factor group. To reflect this, in Table 9-2 I use the notation ‘≈’, since the HOME and SCHOOL contexts are almost equal. The differences for aspectual morphology are greater due to the absence of the variant Vbat in the SCHOOL. I reflect this with the use of the notation ‘∈’ since the SCHOOL contains elements of the L1 but these can operate in different ways.

In the discussion section of each chapter I also explored what is known about the use of these variables in the target varieties. The target for the HOME data (or the ‘T1’) is adult Alyawarr English. The target for the SCHOOL data (or the ‘T2’) is adult SAE. In Table 9-2 I present a summary of the L1:L2 relationship (just discussed) in the centre column. In the left column lies a summary of the relationship between the HOME (L1) data and the adult Alyawarr English (T1) data. In the case of aspect morphology and transitive marking adults appear to use a categorical pattern (Ving on intransitive and Vbat on transitive; verbs with two-or-more participants always marked with -im). While the
direction of this categorical pattern is reflected in children’s usage (e.g. Ving restricted to intransitive verbs; Vbat more numerous in transitive clauses; variable transitive marking only occurring on verbs with two-or-more participants) it is not completely replicated. For this reason the relationship between T1 and L1 for these variables is expressed with the notation ‘≠’. In the case of 1sg subject pronoun, there was data presented to confirm the existence of ‘I’ and ‘AM’ variants in the adult corpus, but not to be confident of their restrictions. For this reason, the notation ‘?’ has been used.

<table>
<thead>
<tr>
<th>T1:L1 relationship</th>
<th>L1:L2 relationship</th>
<th>L2:T2 relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aspect morphology</strong></td>
<td>L1 ≠ L1</td>
<td>L2 = T2</td>
</tr>
<tr>
<td>categorical in T1</td>
<td>L1 ∈ L2</td>
<td>L2 conditioning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>approximates T2 aspectual semantics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>1sg subject pronoun</strong></th>
<th>L1 = L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1 ≠ L1</td>
<td>L2 ≠ T2</td>
</tr>
<tr>
<td>(insufficient data)</td>
<td>categorical in T2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Transitivity marking</strong></th>
<th>L1 = L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1 ≠ L1</td>
<td>L2 ≠ T2*</td>
</tr>
<tr>
<td>categorical in T1</td>
<td>categorical in T2</td>
</tr>
</tbody>
</table>

*For the three participants who categorically did not use transitivity marking in the SCHOOL: L1≠L2=T2

When the SCHOOL data is compared to descriptions of English (presented in the right column of Table 9-2), a similar pattern emerges for transitive marking and 1sg subject pronoun: both are categorical rules in SAE (transitive marking never occurs, and ‘I’ is the only 1sg subject pronoun form). For this reason I have expressed the L2:T2 relationship for these variables with the notation ‘≠’. For aspect morphology, in fact this could be understood as a variable feature in SAE (as discussed in Chapter 5 §5.2.1). The discussion of the relationship between the SCHOOL data and SAE (§6.7) showed that the conditioning of V and Ving in the SCHOOL data approximates the aspectual semantics ascribed to these forms in descriptions of English grammar. However, without a commensurate variable rule analysis of SAE usage, this conclusion is tentative. For this reason, I have reflected this relationship with the notation ‘=?’.
9.2 Understanding bi-varietal language use

In chapter 2, I outlined the findings of the modest research program addressing second dialect acquisition. Here, the specific nature of acquiring a second language that is similar to the first was encapsulated as a matter of code-separation. This is because speakers start out using their first dialect in second dialect contexts and gradually change components of their ‘D1’ to make them more like the ‘D2’. In order to do this, speakers must first detect differences between the D1 and D2 (which can be impeded by camouflaging forces) and then acquire these differences (which can be impeded by the degree and nature of the required ‘restructuring’ of the D1 feature). What has the analysis of the three variables (summarised in the previous section) illuminated about these processes? Research question four asks, given the relationships outlined above:

what does this tell us about the nature of bi-varietal language use in young children? Specifically, is code-separation evidenced and can we relate this to aspects of variable detection (such as salience/transparency) and of the variable relationships (i.e. how similar the L1 variable is to the 'target' variable).

As a general observation, the HOME and SCHOOL data sets are more alike—in the fact of their variability—than either is to its respective target variety (perhaps with the exception of SCHOOL aspectual morphology and SAE). In the case of transitive marking and 1sg subject pronouns the same two variants are present in both HOME and SCHOOL data and the variable grammar is largely the same. In the case of aspectual marking, the key piece of evidence for L1 transfer in the system is the fact that Ving is present from early on in the SCHOOL data, so there is no evidence of over-reliance on V (per the pattern for other L2 learners). This supports the hypothesis that the L1 is indeed the base from which the L2 is built. However, there are important differences between HOME and SCHOOL use of each of the variables, enough to conclude that code-separation is occurring.

In the case of transitive marking and 1sg subject pronouns this state of affairs is evidenced predominantly in the differing rates of use of the two variants in HOME and SCHOOL contexts (within the variable context), and in differences in the variable context itself. In both cases the rates of use were reversed, with the preferred SCHOOL variant being the more target-like variant (i.e. zero transitive marking and 'I'). Beneath this
averaged out rate of use, it was shown that three children had ceased using the transitive marker at SCHOOL, while all others tended towards zero across the first two years of schooling. The differences in the variable context for these variables also make the SCHOOL data more English-like: in the former case 'I' is used in clauses negated with 'not', and in the latter case clauses with unexpressed and fronted objects begin to receive zero transitive marking.

Code-separation is most strongly evident in the use of aspect morphology. First, Vbat is not used in the SCHOOL data, and the rates of V and Ving (the latter in particular) are increased in the SCHOOL data as a result. There is also one substantial difference to the variable context, and that is that Ving is used in transitive clauses in the SCHOOL data but not the HOME. Furthermore, in the absence of Vbat in the SCHOOL, some fairly complex reorganisation of the variable grammar has taken place, the main thrust of which is that V is preferred in Non-stative habitual clauses (in the HOME this condition favoured Vbat). Further, while Ving was categorically absent in this condition in the HOME, its move into transitive clauses means that it is now used in clauses with these aspecual semantics in the SCHOOL. So while aspect is the strongest conditioning factor group in both HOME and SCHOOL contexts, the functions of V and Ving around this feature have changed somewhat.

In summary, code-separation in the case of aspect morphology has extended to functional reorganisation of the variable (evidenced by changes in the variable grammar i.e. meanings probabilistically expressed by V and Ving). By contrast code-separation in transitive marking and 1sg subject pronouns can be summarised as using less of the non-target-like variant and doing this in previously invariant contexts. This results in language usage that is on average more target-like.

The second part of research question four asks if these differing patterns of code-separation can be related to features of the variables themselves, specifically issues of variable detection (such as salience/transparency) and of the variable relationships (i.e. how similar the L1 variable is to the ‘target’ variable). First, let’s revisit what is meant by the terms transparency and salience. The former terminology is taken from the bandscaling documents discussed in the introduction to this thesis (§1.2). ‘Transparency phenomena’ is used somewhat a-theoretically in these documents to refer to linguistic
features or sub-systems that are similar enough in the L1 and L2 that students and teachers alike have trouble identifying the differences between them. This negatively impacts on L2 acquisition in subtle ways and via multiple mechanisms: for example, because students don’t readily detect a difference they don’t learn the target, and because teachers don’t detect a difference they don’t support learning or identify when learning has/hasn’t taken place. This term is used commensurately with terms like ‘camouflaged’ or ‘hidden’ features, which were discussed in chapter 2 (§2.2).

In the present data set, transitive marking and 1sg subject pronouns are both cases in which a lack of transparency between the differing L1 and L2 systems may have had an impact on the detection of particular SAE features. In the case of 1sg subject pronouns, the ‘AM’ variant is very similar to the phonologically equivalent ‘I’m’ in SAE. As discussed in chapter 7, it is likely that the presence of ‘I’m’ in the input and the pre-existence of ‘AM’ in the L1 impacts on L2 acquisition in two respects. First it might impede detection of the fact that SAE virtually only has one 1sg subject form ‘I’, and it might obscure the existence of 1sg auxiliary form ‘am’. By the end of the recording schedule it was still the case that no child was producing full auxiliary ‘am’ forms, while subject ‘AM’ persisted (with both V and Ving verbs). However, the strong preference for ‘I’ forms in the SCHOOL contexts does indicate a wariness of ‘AM’ that may indicate that the wheels of reanalysis are in motion. It would be interesting to see if, even once the full SAE pattern (including contraction rules re: ‘I’m) is acquired, the ‘naturalness’ of the ‘Am + V’ construction in Alyawarr English continues to interfere in SAE usage, producing occasional ‘I’m V’ constructions.

Transitivity marking is also likely to be subject to forces of transparency. As discussed in chapter 8, SAE speakers often produce reduced 3sg/plural object forms (‘him’/’them’ > ‘m) in precisely the location that transitive marking occurs. While this actually doesn’t seem to have impacted on the acquisition of zero transitive marking (three students have already ceased using transitive marking at SCHOOL, and the rest tend strongly towards zero marking by the end of the second year in school) it may have consequences for the acquisition of variable 3sg/pl object contraction. This kind of variation (between full form and phonologically reduced object pronouns) is a sociolinguistic variable in SAE. It has not been studied in any detail, although a study cited in Chapter 8 put the rate of /h/ deletion in maternal speech in a regional variety of
Australian English at 83% (Buchan & Jones 2014). It is perhaps fair to say that acquiring native-like command of everyday SAE requires some facility with this variation (at least in a receptive sense). Thus a seemingly transparent feature can render other language features, with similar surface characteristics, less visible.

Recall that the reason for choosing the variables in this study was because they all differed in terms of the relationship between the variable in the children’s Alyawarr English and in the ‘target’ of their L2 English speech. These differences are summarised in Table 9-3. Do these different relationships between variables have any impact on code-separation? In chapter 2 ($2.2), I examined a study (Rys 2007) which investigated the hypothesis that the acquisition of second dialect (phonological) features was easier when the L1:L2 relationship approached 1:1. She found that the many-to-one relationship did impact on learning the D2, while the one-to-many did not. However, other researchers have found the opposite: that acquiring new (phonological) contrasts is harder than acquiring new mergers (e.g. Trudgill 1986). While those studies have not been directly replicated here, certainly some observations about the relationship between the variable in the L1 and target varieties can be made as summarised in Table 9-3.

<table>
<thead>
<tr>
<th>aspect morphology</th>
<th>Alyawarr English</th>
<th>Standard Australian English</th>
<th>L1:L2 relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>transitive marking</td>
<td>V<del>Ving</del>Vbat</td>
<td>V~Ving</td>
<td>3 : 2</td>
</tr>
<tr>
<td>1sg Subject</td>
<td>Am~I</td>
<td>I</td>
<td>2 : 1</td>
</tr>
<tr>
<td></td>
<td>-im ~ -ø</td>
<td>-</td>
<td>2 : 0</td>
</tr>
</tbody>
</table>

First, all the variables in this study primarily involve some kind of merger since one of the HOME variants (‘Vbat’, ‘AM’, ‘-im’) is not present in the target (though similar surface forms perform other or related functions in the case of ‘AM’ and ‘-im’). However, as we’ve seen, the categorical use of SAE ‘I’ is also inherently bound up in the acquisition of auxiliary/copular ‘am’. Therefore there is a kind of merger plus a set of secondary contrasts: children must learn to produce zero auxiliary ‘am’ with V and auxiliary ‘am’ with Ving, and also to variably contract ‘I + am’ to get ‘I’m’.
Notably the two variants that seem the most readily ‘unlearned’ are those that do not exist at all in SAE. Vbat is very quickly abandoned in the SCHOOL context, which is likely aided by the fact that Vbat (nor anything remotely phonologically similar) exists in the SAE input. This seems to prompt a reanalysis of the functions and distributions of V and Ving. So even though Ving and V seem like obvious candidates as transparency phenomena (since their range of use is different in the HOME and SCHOOL systems), perhaps the salience of Vbat shines a light on the whole aspectual system, rendering it more visible than would otherwise be the case if Alyawarr English and SAE were both bi-variant systems (i.e. Ving and V) with different underlying aspectual semantics (say if Alyawarr English was telicity oriented, rather than stativity oriented).

Transitive marking is similarly quite smartly abandoned (by the end of the second year of schooling, and earlier for some children). This process might be slowed (relative to Vbat) by the incidence of 3sg/pl object pronoun contraction in the SAE input (as discussed above). The opposite case is of course ‘AM’, which has a very similar form (‘I’m’) in SAE, and shows signs of relative intractability in the L2 as a result. Showing that this is not attributable to a difference between verb morphology and subject morphology, the pattern for 1sg subjects is also very different from another subject pronominal variable, 3sg, in which the main HOME variant is ‘him’ (mainly an object form in SAE, except for some coordinated and fronted constructions in spoken discourse). While ‘him’ is used in 76% of HOME clauses, this is dramatically reduced to 13% in SCHOOL clauses (in favour of standard SAE variants he/she/it). Again, the absence of the L1 variant in the equivalent SAE role seems to support code-separation here.

It seems, then, that the L2 features that are readily learnable are those that are conspicuously different from the L1 rather than partially overlapping1. In this case a ‘zero’ target morpheme (i.e. one in which there is no equivalent morpheme/function in the L2) constitutes a kind of morphological salience which it endows on the entire variable. And transitive marking does seem a particularly salient variable, to the point of conscious awareness. Recall this example from Chapter 8 (§8.7) when Tiffany remarks on Lucy’s use of -im:

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1 Of course features that are exactly the same do not need to be ‘re-learned’ at all, although presumably an evaluation of some sort regarding this needs to be made at some point.
(1) Lucy: Can you give-im me blue?

Tiffany: Can you give-im me blue. (0.70) He don’t know- He don’t know your language.

Therefore, an overall ratio effect seems to be tied up in related issues of transparency and variant type (i.e. zero or phonologically similar form). While this analysis has not provided straightforward support or otherwise for the notions of transparency or the L1:L2 relationship as explicators for language acquisition, it has explored some of its complexity when applied to morphological features. Hopefully this allows for future research design that can more directly test and tease apart these interwoven vectors of code-separation and acquisition.

Returning now to the notion of code-separation, recall that the methodology used to create the HOME and SCHOOL data sets involved excluding data from ‘intervening’ contexts. The HOME and SCHOOL data sets were created in order to have two maximally distinct samples on the basis that if some kind of code-separation were occurring, it would most likely be evidenced by comparison between the children’s language use at home with another Alyawarr person and at school with a non-Alyawarr teacher. Contexts in which more mixed language use were evidenced or likely were set aside. Analysis of this excluded data would be very useful in examining the full range of language use by the participating children. For example, when they are at school and talking to each other, does their use of the variables examined better reflect the HOME or SCHOOL data, or is there a more mixed pattern of use? For example, do the rates of variant use differ (e.g. is transitive marking used at the same rate as at HOME, or at a reduced rate?), are all the HOME variants used (in particular is Vbat used?), are there differences in the variable contexts (e.g. is Ving used in canonically transitive clauses like the SCHOOL data or still restricted to intransitive clauses like the HOME data), and is the variable grammar the same as, or more like, the HOME or SCHOOL data? An examination of the use of the variables in these intervening contexts would potentially be very revealing about whether there is a cline of language use, or a reasonably abrupt separation of ‘codes’. So while it is clear there is code-separation occurring between the
HOME and SCHOOL data, these may be two extremes of some more complex ‘mixed’ language use.

I have so far addressed the issues of camouflaging, L1:L2 relationship, and code-separation in a way that focus on a progression of influence primarily in a linear fashion: the T1 (adult Alyawarr English) influences the L1 (child Alyawarr English) which is the model for the L2 (Australian English). Differences between the L1 data (HOME) and L2 data (SCHOOL) are because of the children targeting ‘standard’ adult Australian English. This is depicted in Figure 9-1. However there is also the possibility that the Alyawarr English spoken by the children in this study is influenced by contact with Standard Australian English.

**Figure 9-1:** The languages of analysis (square shape), their target varieties (circle shapes)

For each of the variables examined there is (limited) evidence that adult Alyawarr English speakers use a categorical rather than variable pattern. Transitive marking appears categorically on canonically transitive clauses (i.e. those with two-or-more participants) and likewise Ving and Vbat forms are confined to intransitive and transitive clauses respectively. The variable use of these features by Alyawarr children might indicate ‘backwash’ from English. The kind of evidence needed to test this would include further data from both before and after the age range in this study. The former would identify whether the data in this study reflects a ‘dip’ in use, and the latter would allow us to see if children eventually (and when) learn the adult Alyawarr English pattern. Of course another possibility is ongoing language change in Alyawarr English, which is not unlikely given the young nature of this speech variety. The detailed of examination of variation in the HOME and SCHOOL data therefore provide solid grounds for comparing the current data set to data that may be collected on this language in the future.
9.3 Revisiting key issues in modelling transformation and the study of bi-varietal language use and languages in contact

In chapter three I outlined one of the key theoretical concerns within the area of language variation: what drives language transformation in contexts of language transfer? A key difference in the kind of transformation in linguistic features that occurs in cases of diffusion and creole-formation versus that which is evidenced in the speech of second language learners is that the latter are motivated to (eventually) replicate (as near as is needed) the ‘target’ or ‘input’ patterns. In describing in detail the variation that is occurring on the path to SAE acquisition, we see a nice demonstration of transformation (of the L1 into the L2) that evidences replication of L2 norms.

In terms of elucidating why transformation occurs at all on the way to acquisition (a possible result of exact replication being too “cognitively demanding” per Meyerhoff 2009a:313) this study rather takes the approach that further detailed description of what such transformation looks like is needed before this question can be answered. Since we know that learners can eventually replicate both variable and categorical features of the target, detailed description of these intermediate states of transformation will yield insights into progress through this to full acquisition. To that end I will now address some important aspects of the modelling of variation that this study has highlighted.

One important feature of the present study is the attention that has been given to examining and comparing the linguistic contexts which fall outside of the variable context. This allows us to examine how contexts that were variable become categorical (and vice versa) and how this can also be part of transformation. In the variable ‘aspect morphology’ Ving was invariant with respect to transitivity in the HOME data, that is, it only occurred in intransitive contexts. So ‘transitive clauses’ were outside the envelope of variation for Ving. This was not the case in the SCHOOL data since Ving was found in transitive clauses. This change in the envelope of variation for Ving is one of the ways in which code-separation is evidenced. Furthermore, the variable pattern for Ving in the SCHOOL contained echoes of its previously categorical pattern, since Ving continued to be disfavoured in transitive contexts.

A second example comes from the analysis of transitive marking. In the HOME data unexpressed and fronted objects were sites of obligatory transitive marking i.e. outside
the envelope of variation. In the SCHOOL data transitive marking was variable in these conditions. Again, the rate of marking in these contexts was higher than in clauses with objects, showing the remnant of the previously categorical system. Both of these examples indicate that movement from outside to within the envelope of variation can be an important locus for change. A potential typology of differences in the L1:L2 relationship with respect to the envelope of variation is presented in Table 9-4. The first column contains the list of exclusions to the variable context for aspect morphology from the HOME data (using just V and Ving) and the second column contains possible SCHOOL exclusions. The second of these (denoted by ‘≈’) reflects the actual findings (presented in Chapter 6) wherein transitivity becomes variable for Ving, but the other exclusions remain the same. It is also possible that there could be no change to the variable context, and this is depicted in the first row (denoted by ‘=’). If the target language has its own unique exclusions to the variable context then these too need to be acquired. The third row (denoted by ‘∈’ depicts this fictive situation: two of the HOME exclusions become sites for (variable) Ving use in the SCHOOL (‘punctual’ and ‘transitive’) and a new exclusions is acquired (V verbs are the only form used with verbs of cognition). This reflects a situation in which acquisition is both the replication of target variable grammar plus sites of categorical usage (and commensurate abandonment of L1 only exclusions). If not, then one possible ‘end state’ of acquisition is depicted in the fourth row, where there are no exclusions at all. Still another possibility is that there are no shared exclusions and only exclusions unique to the L2 (depicted in row five).

Table 9-4: Possible relationships between L1:L2 variable contexts for V and Ving variants

<table>
<thead>
<tr>
<th>HOME</th>
<th>SCHOOL</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘got’ [V]</td>
<td>‘got’ [V]</td>
<td>identical</td>
</tr>
<tr>
<td>punctual [V]</td>
<td>punctual [V]</td>
<td></td>
</tr>
<tr>
<td>transitive [V]</td>
<td>transitive [V]</td>
<td></td>
</tr>
<tr>
<td>≈</td>
<td>‘got’ [V]</td>
<td>two shared exclusions</td>
</tr>
<tr>
<td></td>
<td>punctual [V]</td>
<td>(transitive now variable)</td>
</tr>
<tr>
<td>∈</td>
<td>‘got’ [V]</td>
<td>one shared exclusion ;</td>
</tr>
<tr>
<td></td>
<td>cognition verbs [V]</td>
<td>one new not shared</td>
</tr>
<tr>
<td>≠</td>
<td>none</td>
<td>no exclusions in SCHOOL.</td>
</tr>
<tr>
<td>≠ cognition verbs [V]</td>
<td>only exclusions that aren’t shared</td>
<td></td>
</tr>
</tbody>
</table>
Greater attention to the envelope of variation as a locus of change has been raised in previous studies. As mentioned in chapter 3 (§3.2.3), Torres Cacoullos & Travis (to appear) identified differences in the variable context for variable subject expression in Spanish and English as a conflict site that can ultimately serve as a diagnostic of contact-induced change (rather than as a sign of cross-linguistic tendencies) in the speech of Spanish-English bilinguals (disentangling multiple explanations for shared variation is a theme I’ll return to in a moment). A study by Aaron (2010) has taken analysis of contexts external to the envelope of variation in another direction. She looks at variable rule analyses of two Spanish future constructions, and compares these to how one of these constructions operates in non-future epistemic contexts (i.e. a context outside the envelope of variation for the future constructions). Aaron (2010:4) states that such explorations of the feature outside of the variable context “can help us to envision the entire emergent life cycle of a construction, including its ebbs and flows, which can, in turn, offer clues into patterns within the variable context that might otherwise seem inexplicable”. The parallel investigation in the present study would be to analyse the variants of aspect (V, Ving, Vbat) and transitivity marking in other temporal reference systems (past/future) and moods. I completely concur that exploration of the functioning of these forms in these contexts is necessary to fully understand the forms themselves, and would also undoubtedly throw greater light onto their use in present temporal reference contexts. This thesis, therefore, provides further support for greater attention to the variable context, and movement in and out of it, as an important component of code-separation, language acquisition and change.

As well as including changes in the envelope of variation more centrally in comparative work, the results of this thesis support some rethinking of how we relate the variable grammar to typologies of language change. Recall that chapter 3 (§3.2.1.2 & §3.2.2) contained descriptions of several studies that employed criteria with which to evaluate the relationship between two data sets—a summary is presented Table 9-5. The aim of these criteria is to compare patterns of variability across data sets as evidence of the degree of grammatical sharing between languages. In the case of creole formation, ‘grammatical sharing’ refers to sub- or superstrate influence. In the case of language acquisition ‘grammatical sharing’ has referred to replication of a target feature in
‘interlanguage’ or learner grammar. Here the criteria are applied to assess the degree of sharing of L1 features in the interlanguage/L2. For convenience I have re-presented Table 9-1 from above (now appearing as Table 9-6).

Table 9-5: Five possible L1:L2 relationship types for languages in contact, based on degrees of similarity in underlying variable grammar

<table>
<thead>
<tr>
<th>Relationship type</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variability to categoriality</td>
<td>Variation that exists in the L1 is instead expressed as categorical use of one variant or another in the L2; or vice versa</td>
</tr>
<tr>
<td>Unrelated variable systems</td>
<td>The pattern of variation in the L1 is substantially different from that of the L2: no overlap in factor groups that are significant</td>
</tr>
<tr>
<td>Weak replication/transfer or weakly shared systems</td>
<td>Where the same factor groups are significant constraints on a variable in the L1 and L2</td>
</tr>
<tr>
<td>(Strong) transfer or substantially shared systems</td>
<td>Where the same factor groups are significant in both L1 and L2, and the ordering of these factor groups is the same in both L1 and L2</td>
</tr>
<tr>
<td>Calquing or shared systems</td>
<td>Where the same factor groups are significant in both L1 and L2, and the ordering of these factor groups is the same in both L1 and L2, and the factors within groups have the same ranking in L1 and L2.</td>
</tr>
</tbody>
</table>

Table 9-6: Summary of comparison of three variables and their shared (✔) or not-shared (✘) patterns of use in HOME (L1) and SCHOOL (L2) contexts. Repeated from Table 9-1

<table>
<thead>
<tr>
<th>Variable grammar</th>
<th>variants</th>
<th>rates</th>
<th>variable context</th>
<th>(i) statistical significance</th>
<th>(ii) relative strength</th>
<th>(iii) order of constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspect morphology</td>
<td>✘ (Vbat)</td>
<td>✘</td>
<td>✘</td>
<td>✔aspect</td>
<td>✘</td>
<td>✘</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✘person</td>
<td></td>
<td>✘</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✘number</td>
<td></td>
<td>✘</td>
</tr>
<tr>
<td>lsg subject pronoun</td>
<td>✔</td>
<td>✘</td>
<td>✘</td>
<td>✔verb form</td>
<td>✘</td>
<td>✔</td>
</tr>
<tr>
<td>Transitivity marking</td>
<td>✔</td>
<td>✘</td>
<td>✘</td>
<td>✘(object form)</td>
<td></td>
<td>✘</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✘kinesis</td>
<td></td>
<td>✘</td>
</tr>
</tbody>
</table>

Of the five relationship types we can rule out the first two—‘Variability to categoriality’ and ‘Unrelated variable systems’—for all three variables. The task then, is to determine

2 Adapted from Meyerhoff (2009a:303); Schleef, Meyerhoff & Clark (2011: 207); Mougeon et al (2004)
whether the patterns of variation constitute shared or replicating systems, and if so, at what level. Transitivity marking and 1sg subject pronouns appear to meet the criteria for calquing or shared systems. Verb form most strongly constrains the variation in both data sets, and with the same constraint hierarchy. With transitivity marking, object form is a shared constraint, albeit one that is categorical in the HOME data while variable in the SCHOOL data. This kind of situation is not considered in this modelling. Above, I (following others) argued that consideration of the variable context needs to feature more centrally in variationist accounts.

Aspect morphology is more complex. Only one factor group appears significant in all variable rule analyses and that is ‘combined aspect’, and it is always the factor group with the highest relative strength. Subject person is not significant in HOME intransitive contexts, while it is significant in HOME transitive and SCHOOL contexts. For Ving, aspect and Subject person are shared constraints, whereas Subject Number is not. However, when these factor groups are significant (and indeed when they are not), their constraint hierarchies remain the same. The detail of a system undergoing reorganisation is really in the constraint hierarchies for aspect (which I have reproduced in Table 9-7). These show that while Ving is most favoured in (non-stative) Durative clauses and least favoured in Stative (durative) clauses in both HOME and SCHOOL contexts, it also starts to be used in (non-stative) habitual clauses in the SCHOOL. And while V is the most preferred in stative contexts in all HOME and SCHOOL data sets, both the order of favouring (from 1 to 3) and the ‘cut’ (the point at which favouring turns to disfavouring, indicated by the arrows) are not consistent.

<table>
<thead>
<tr>
<th>Aspect</th>
<th>HOME (Tr)</th>
<th>HOME (Intr)</th>
<th>SCHOOL (Intr)</th>
<th>HOME (Intr)</th>
<th>SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stative Durative</td>
<td>1 ↑</td>
<td>1 ↑</td>
<td>1 ↑</td>
<td>2 ↓</td>
<td>3 ↓</td>
</tr>
<tr>
<td>Non-Stative Durative</td>
<td>2 (↑)</td>
<td>2 ↓</td>
<td>3 ↓</td>
<td>1 ↑</td>
<td>1 ↑</td>
</tr>
<tr>
<td>Non-Stative Habitual</td>
<td>3 ↓</td>
<td>-</td>
<td>2 ↑</td>
<td>-</td>
<td>2 ↓</td>
</tr>
</tbody>
</table>

However, the criteria imported from the sources cited in Table 9-5 above do not specify what to do about reordering that could be the result of the absence of a third variant in a data set. Schleef et al (2011) studies the variable pronunciation of (ing) focusing on
variants /ŋ/ and /m/. In this study, a third variant /ŋk/ was present in the speech of the Polish teenagers, but was excluded because it did not feature (substantially) in the speech of the native English speakers (and because the presence of /ŋk/ in the Polish teenagers’ speech is explicable on the grounds of L1 transfer). Thus the issue of the third variable did not emerge, or was dealt with via exclusion in these studies.

It was not justifiable to exclude Vbat from the analysis of the *HOME* data. The variable in focus here is aspectual expression, and removal of one variant is likely to have a far more significant impact on how we analyse the remaining variants than is the case with the phonological variable. Not only that, if Vbat was excluded, so too would all transitive clauses, since there would then be no variation there (all tokens would be V). The choice to include the third variant has had several consequences for how the analysis has been conducted: the *HOME* data had to be investigated as two data sub-sets, transitive and intransitive.

There are two logical possibilities for how the L1 and L2 variants could relate to each other, once other criteria for shared systems are met (i.e. once at least some factor groups are shared across both systems). If there are shared factor groups, and shared ordering of these factor groups, but not a shared factor hierarchy (i.e. ’substantially shared systems’), then the ‘third’ L1 variant is being reorganized among the two L2 variants. That is, environments that favour the third variant in the L1 will sometimes favour one of the L2 variants, and sometimes the other. In the case of calquing or shared systems, the functions of L1 third variants will be directly replaced by only one of the L2 variants. This seems to fit within Meyerhoff’s (2009a) expanded use of the term ‘calque’ as a kind of “creative mapping”, an example of which is the importation of an exclusivity distinction in Bislama: in Bislama this is realised through independent pronouns that are derived and semantically transparent, whereas in the substrate language, Panen, pronouns are non-compositional. Similarly Meyerhoff (2009a:299) notes that lexical calques are often not direct translations, rather “suitable candidates within the wider semantic field [of each morpheme]… are selected”. Here, the replacement of one (L1) variant for another ‘suitable candidate within the (L2) aspectual morphology sphere’, so long as it operates within the same underlying variable grammar, can still constitute a kind of calquing. Using this criterion, it would appear
that aspect morphology best meets the criterion of “(Strong) transfer or substantially shared systems”.

At this point it might be worth asking the question: ‘can it be otherwise?’ In other words, can data of language acquisition of closely-related languages ever meet the criteria for the lower transfer categories? If these represent a cline in L1:L2 relationship types, can they also be used to represent stages of divergence (in the case of diachronic language change) or stages of acquisition? Should we expect learners who initially replicate the L1 pattern (i.e. ‘calquing or shared systems’ in the parlance of the typology) to recede step-wise such that first constraint hierarchies change, then the relative strength of factor groups change, then the degree of overlapping factor groups reduces. It seems the answer to this is variable dependent, depending on what the degree of similarity is between the L1 and the target in the first place. We have seen with the case of both 1sg subject and transitive marking (the latter most particularly) that the rate of use very much indicates that the non-target variable is on the way out in the SCHOOL (itself a strong sign of acquisition). But on the way out it is maintaining its variable grammar. For this reason I characterised these variables above as ‘doing less of the same thing’ in the SCHOOL. For these variables, ultimately we would expect variability to resolve into categorality (per the first type of relationship above) since this is how they pattern in SAE. But the progression from calquing to categorality does not appear to be a staged process wherein constraint hierarchies change etc - although it is highly possible that the modest number of tokens prevents detection of this.

Furthermore, I would argue that it is unlikely that ‘aspect’ as a factor group could cease to be the strongest significant constraint on V/Ving variation in the SCHOOL, since this is what these morphemes ‘do’ in SAE too. It’s unlikely then that the two HOME and SCHOOL data sets could look like anything less than ‘substantially shared systems’. Rather the ‘locus of change’ in this relationship is in the reordering of the factor levels (i.e. stative, durative, habitual) and in changes to the envelope of variation and variants themselves (since Vbat is discontinued in the SCHOOL). So this typology might be too blunt an instrument for conceptualising the important components of separation of variable grammar that occurs in the acquisition of closely-related speech varieties. Further, it seems that what might be as important to our understanding of language acquisition as a type of language change (involving process of transfer and
transformation) is situating the variable grammar within the broader set of categorical (or near-categorical) constraints operating on the system (per the comparison of the envelope of variation discussed above). In the present case, it is clear that when this is taken into account, for each variable we have two systems that are substantially more different than the focus on the 'three lines of evidence' alone suggests.

One of the challenges for interpretation in this study has been ruling out competing explanations for the components of the HOME and SCHOOL variable grammar that were both shared and different. If a factor group is shared in the HOME and SCHOOL data, then this is likely because it has been 'transferred' from the L1 into the L2 (per the hypothesis that Alyawarr English is the basis for the children’s developing SAE, discussed above). However, another possible explanation is that this shared factor group reflects a cross-linguistic tendency. For example, in the analysis of aspect morphology, Subject Person was significant in multiple HOME and SCHOOL variable rule analyses. Each time it was found significant, the hierarchy of constraints was the same: contrary to the pattern predicted by the descriptive literature on English, speech act participants (the most animate subjects) favoured V, while other (3sg) subjects favoured Ving. This may be because the children’s HOME and SCHOOL language has not been differentiated along this factor (i.e. a case of L1 transfer). Or it may be that this is the way the factor behaves in both Alyawarr English and SAE (and perhaps other languages too) and the previous literature on English was wrong. I proposed that the correlation between V forms and SAP subjects (and the inverse: Ving with 3sg subjects) might arise from a tendency for people to comment on their own states (which favour V forms) and others’ actions (which favour Ving forms). This seems like an explanation that would befit other varieties of English. If subject person is a significant factor in the choice of verb form in native-speaker SAE, then it is in fact not a very useful factor with which to delineate L1 transfer from L2 acquisition, since the fact of it being found significant is expected in both the L1 and L2.
Features that are known to operate differently in SAE and Alyawarr English are much more useful diagnostics of L1 transfer and acquisition in the L2. In the case of transitive marking and 1sg pronominal subjects it is known that these are not variable in SAE, so the continuation of variable usage in the SCHOOL strongly implies L1 transfer over a cross-linguistic pattern. However, with the case of 1sg pronominal subjects a competing analysis for the pattern of variation in the SCHOOL data is that of universal L2 acquisition patterns. It was shown that other learners analyse ‘I’m’ in English as a subject variant, and thus produce a variable pattern on the way to acquiring ‘I’ as the singular subject pronoun (plus ‘am’ as an auxiliary/copula). To see if there is anything particularly special about the way the children in this study are acquiring SAE ‘I’ (for example, something that might support the analysis that the L1 is the initial model for the L2) then we’d have to compare the pattern of variability displayed in the SCHOOL data to equivalent data of other (child) learners of L2 English. It may be the case, for example, that other L2 learners produce allomorph-style variation between ‘I’m’ and ‘I’, confining their use of the former to Ving contexts (as appears to happen with young L1 learners of English). Thus isolating which factor groups and which contexts outside of the envelope of variation (as discussed above) might constitute the ‘locus of change’ (Torres Cacoullos & Travis, to appear) specific to L1 transfer requires further comparative investigations into the use of these variables in very different data sets.
In this section I have examined some of the results of this study in the context of both the theory and practise of comparative variationist research. I considered that before further inroads can be made in understanding the drivers of ‘transformation in transfer’, modelling of such transformative language data in a greater array of contexts is needed. In particular I examined how consideration of the envelope of variation can be essential to understanding language acquisition data. I also explored how one attempt to convert the ‘three lines of evidence’ in to a typology of synchronic relatedness does not easily capture language acquisition data, where the L2 is closely related to the L1. Finally, I pointed out that further comparisons to both SAE-native speaker norms (for aspect morphology) as well as the acquisitional data of other types of learners (i.e. foreign language speakers learning English) are essential to isolating which factors groups and factors constitute reliable delineators of L1 transfer versus, cross-linguistic similarities and universal ‘L2’ acquisition patterns. In addition to this, I now offer some reflections on the specific methodology used in this thesis, where it worked well and the specific challenges that arose along the way.

9.4 Reflections on the methodology

This thesis represents a methodological experiment of sorts, with the application of a methodology established primarily for the examination of sociolinguistic variation to the relatively unchartered territory of child bi-varietal language use. In any ‘Choose Your Own Adventure’ novel there are paths taken, and paths left behind. And with any methodology, for all the advantages, there are also costs. Hopefully the advantages of the approach advanced here are evident enough. But I will now explore some of the methodological challenges that have arisen along the way.

In chapter 3 (§3.1), I described the problems entailed in imposing formal criteria to tag clauses in the Imangker corpus as the children’s first language versus attempts at something different (i.e. something more like SAE). These problems directly arise out of the fact that the corpus consists of 1) child learner data and 2) data of a previously undescribed language. In Chapter 4 (§4.5.1) I proposed the work-around used in the present study: assigning clauses based on the combination of location and interlocutor (home/Indigenous versus school/Indigenous). This approach has its own consequences.
As it happened, a large proportion of the data (around a third of all present temporal reference tokens) were relegated to various sub-contexts, and excluded from analysis. This may appear concerning, however this has resulted in HOME and SCHOOL data sets that are likely to be maximally differentiated from each other. The next (future) step is naturally to explore the sub-contexts to see if they behave more like one of these maximally distinguished datasets (HOME or SCHOOL) or if there is a more mixed or otherwise different pattern of use. Without first having established the behaviour of the variables in HOME and SCHOOL datasets, there would be no means of comparison with the sub-context data sets. So while it is prudent to flag the consequences of this methodological approach here, I do not consider them shortcomings.

The second challenge arose in identifying variables and their variants in a previously undescribed language. The sphere of present temporal reference was chosen for reasons outlined in Chapter 4 (§4.5.2). One consequence of choosing a functionally defined variable (as opposed to taking several verb forms/or constructions and scoping out their temporal/aspectual uses) was that some clauses were more difficult to code for temporal reference than others since the interactional context had to be closely examined. In particular, in the SCHOOL context the use of bare V verbs was not unexpected, since learners tend to show some reliance on unmarked forms prior to the acquisition of verbal morphology. But since past tense is marked in English with a verbal morpheme (and in Alyawarr English with a pre-verbal auxiliary), I had to be cautious about whether a V form was doing present or was an attempt at conveying a past meaning. In conversation with a native speaker, language learners have the opportunity to build on the temporal frame set in place by their interlocutor, and don’t need to rely on verbal morphology. An example of such a case from the corpus appears in extract (2).

(2) Teacher: Have you swum in a beach like this before?

Lenora: I bin swim-. I swim over there, I swim ((pointing at picture of beach))

[SJD-018:145-8 SCHOOL]

The teacher and two students are reading a book about water safety, featuring different places where people can swim. The current page depicts a family visiting a surf beach. The teacher asks if the students have ever swum (past temporal reference) at a beach. Lenore replies initially using the past tense auxiliary *bin*, but cuts this off and
reformulates the clause without it. This time she uses the verb form ‘swim’ which in this context would read as a statement of habitual occurrence if used by a native speaker. However this is not the case; Lenora doesn’t habitually visit the beach (not least because she lives some 800kms from the coast). Given the past temporal framing in the teacher’s question, and the initial use of the bin past tense auxiliary, I found it fair to conclude that the following two clauses (‘I swim’) were also attempting past temporal reference. Other examples of these coding decisions are discussed above in chapter 5 (§5.4.1).

When conversations such as these did occur I closely examined them for this kind of anchoring as well as variation between tensed forms (as shown in example (2)) and other indicators of the tense meaning, besides the verbal morphology (such as temporal adverbs). This is a time-consuming and subjective process, that requires good understanding of both the linguistic context and the community. One of the (perhaps unfortunate) features of the SCHOOL data is that there are in fact few instances when something that could be called a conversation takes place. The motivation for choosing present temporal reference was largely in response to this issue. Present temporal reference seemed to capture the most data since students, when talking to the teacher, mostly seemed to be commenting on the things that were happening in the immediate present of the classroom activities.

A further consequence of choosing a function-to-form analysis is that, as has been pointed out elsewhere (e.g. Long & Sato 1984), it is incomplete without the commensurate form-to-function investigation (and vice versa). The full picture of the children’s Alyawarr English and L2/SAE tense-aspect-modality systems will only be complete when the scope of the V, Ving and Vbat forms across their other functional landscapes (e.g. in past and future reference too) are examined. This, I leave to the future.

Related to this, a challenge for working with previously undescribed languages is that there is a good deal of work examining the corpus for what might constitute the envelope of variation for a particular variable. Many variationist analyses face this challenge to some extent, of course, and this stage of data examination can reveal new insights about the extent of variable use of particular variants even for reasonably well described languages (for example see Torres Cacoullos and Travis 2014’s discussion of
variable 1sg subject expression in English). It is always possible that invariable contexts have been missed, and this is perhaps more so a risk in the context of languages that do not have a wealth of grammatical description behind them.

Some of the factor groups and factors also provided their own challenges. Most particularly the factors which required some interpretation of the semantics of a clause or clause components were more challenging than factors which required simply coding for the presence of particular morphemes. Examples of the former include the coding for the transitivity parameters (chapter 8, also described in appendix II) and coding for lexical and sentential aspect in the examination of aspect morphology (chapter 5, §5.5.2). These were challenging for a variety of reasons. First, the independent coding methodology for lexical aspect was based on the semantics of English verbs yet it is possible that one of the differences between Alyawarr English and SAE is in this area. I discussed this issue in chapter 5 (§5.5.2.1) above. Likewise, when I and the coder employed to do inter-rater reliability checks coded for the transitivity parameters, for some of these factors we had to interpret verb semantics so issues of similarity between SAE and Alyawarr English verb semantics are also relevant there.

The coding for sentential aspect was similarly semantically reliant. In coding for this factor I also encountered an additional challenge. Recall that the factors for this group were ‘punctual’, ‘habitual/iterative’ and ‘durative/continuous’ (see chapter 5 §5.5.2.2) and the aim in coding was to ignore the verb ending and attend instead to the action in the immediate context as much as possible (as well as other relevant linguistic cues). In practice it was often possible that a particular clause token could have multiple possible interpretations. This, I think, is largely a result of the corpus consisting of data that could be largely characterised as talk-in-interaction between friends rather than socio-linguistic interviews collected one not known to the participants. In a socio-linguistic interview, in order to adequately convey the temporal and aspectual information needed for a stranger to understand anecdotes from personal histories, it seems likely that speakers would do a lot of things (in addition of choice of verb form) to signal different aspectual semantics. Compare, for example, ‘I only got punched once by the school bully’ (punctual) versus ‘I got punched every week by the school bully that first year of school’ (habitual). This additional work to make things clear for the interviewer also helps the researcher. By contrast, information that is recoverable from the immediate
action taking place in a play session can be underspecified. The following example (3) illustrates this:

(3) Shamus, yu getimbat thetsaid. [SJD-063:206 Emerson HOME]

Shamus, you’re getting the things on that side.

It is unclear from the video what Emerson is observing as the action of ‘getting’ in this case. It could be a one-off grab (punctual), or multiple repeated actions (iterative) or something more like holding (durative). Because the context is clear to both children this sentence can minimally specify what is happening (even the object can be left out). Such tokens were coded as ambiguous and excluded from consideration of the impact of sentential aspect (this applied to 12% of HOME tokens and 3% of SCHOOL tokens). In spite of this caution, inter-rater reliability (on 10% of the corpus) remained moderately low at 70% for this factor group. In cases of low inter-rater reliability one option is to resolve inconsistencies via negotiation in favour of one coder’s determination over another’s. This was possible for the 10% subset given to the second coder, however, it was not logistically feasible in this study to have them examine every relevant token in the video corpus. I accept that this is a weakness of this study. It was largely for this reason that I decided to examine lexical aspect separately, since it was coded on the basis of more independent criteria. A further important mitigating factor is the fact that despite its problems, the coding for sentential aspect was consistently applied across the HOME and SCHOOL data sets, the comparison of which was the main thrust of the analysis.

A further difference between adult sociolinguistic interview data and child interactional data is that the referent for unexpressed subject or object participants might be more reliably recoverable from the discourse context in the former case than in the latter. In the case of unexpressed subjects and objects where the referent is clearly a toy that the speaker is manipulating, the referent cannot be reliably interpreted as 3rd person (‘he’ or ‘it’, or a name). I noted above (§5.5.1.1 & §8.7) that children might talk about the toy (i.e. 3rd person referent) or to the toy (2nd person referent) as the toy. In the latter case the referent is of course first person (e.g. mi-akely lit. ‘me-little’; mi-arropante ‘me-
pretend’). This is one example of how the same assumptions regarding language use by adults don’t necessarily apply to child language data.

9.5 Conclusion

This study has broken new ground in the description and modelling of variable language use by child speakers of two closely-related languages. It has shown that the concepts of code-separation, transfer, transparency and the similarity between L1 and ‘target’ systems are complex and interrelated. For some variables (here transitive marking and 1sg subject pronouns) code-separation takes the form of ‘doing less of the same thing’. That is, while the same variable grammar is deployed, non-target variants are increasingly avoided (i.e. transitive marker -im and 1sg subject pronoun ‘AM’) and thus the envelope of variation for the ‘target’ variant (i.e. -Ø and ‘I’) expands as its range of use increases on the way to becoming the categorical variant in the L2. For other variables, such as aspectual morphology, the locus of change is located within the variable grammar: in the ordering of constraints (i.e. ‘stative’, ‘durative’, ‘habitual’) and in the factors that constrain variation (though not their relative strength). However, this is in addition to the envelope of variation and the range of variants, which remain central considerations in the use of all three variables.

These findings have a number of implications for how we model transformation in the use of closely-related languages in contact. First the findings show that consideration of the envelope of variation, its expansion and contraction and the shifting of parameters in and outside of it are crucial to understanding how code-separation proceeds. Second, proposed typologies of transfer that explain synchronic relationships between creoles and substrates are inadequate in capturing the kind of cross-variety relationships examined here. In particular, systems that differ in the number of variants need to be more thoroughly addressed. Third, while it perhaps tends towards the banal to proffer solutions for methodological and analytical shortcomings that begin with ‘if we had more data’, in this case I have outlined how specific types of additional comparative data (e.g. showing adult-SAE and other L2 SAE learner norms) for the variables in question would allow for further refinement of which factor groups can be used as reliable diagnostics of code-separation as opposed to shared cross-linguistic or universal L2 acquisition patterns.
Finally, working with child language data of a previously undescribed language has invited a degree of methodological innovation. Most fundamentally, in order to cope with the large amount of variation in the corpus, variation itself became the focus of study. Each subsequent decision (HOME and SCHOOL dataset formation, variable selection and coding for specific factors) responded to specific analytical challenges thrown up by the data, and in turn has brought new challenges for analysis and interpretation. I hope that the frank evaluation of this process presented here can inform future adventures into similarly daunting and complex linguistic terrains.
10 CONCLUSION: BI-VARIETAL LANGUAGE USE IN PEDAGOGICAL AND FUTURE PERSPECTIVE

In the introduction chapter, I situated the research subsequently presented in this thesis within the concerns raised by education professionals engaged in developing appropriate assessment tools for Indigenous learners of SAE as an additional dialect. So it is fitting to return to some of the concerns that have arisen in that endeavour and consider them in light of the findings of the present study.

One of the bandscale criteria cited was the following:

Is developing awareness (if creole speaker) of differences in language varieties (i.e. SAE v. Home Languages) and needs assistance from teachers to expand these early understandings to avoid the student adapting HL rather than learning SAE

[EB_MP_L Level2_Descriptor (cited in Hudson & Angelo 2014:59); emphasis mine]

Is there now evidence to support what ‘adapting Home Language (HL)’ versus ‘learning SAE’ might look like, and be identifiable as, for teachers? In fact, the findings of this thesis strongly support the view that, in a global sense, adaptation of the HL is the main pathway of SAE acquisition for children speaking a language like Alyawarr English. They start out speaking Alyawarr English in the classroom and gradually modify it to be closer to SAE, while retaining Alyawarr English for speaking at home. So it would seem that that the idea that adapting HL as an alternative path to learning SAE is not supported; it is the path. At a feature-specific level, this is exemplified very well by the children’s use of transitive marking in the first two years of school. Most of the children continue to use this morpheme in the same way they do at HOME (as evidenced by the similarity in the variable grammar) but to an ever decreasing extent until it is not used at all (as was the case with three participants). Here it seems that adapting the HL and learning SAE are one-and-the-same process.

The 1sg subject pronouns show a similar pattern: the main difference between the HOME and SCHOOL data is that children seem to somewhat avoid the non-target form (‘AM’) in
the SCHOOL, evidenced by the lower frequency of this form in the school data. However, if students continue indefinitely to use ‘AM’ and ‘I’ variably, using the same variable grammar as in their L1, then they will continue to produce clauses that are non-grammatical from the perspective of SAE (i.e. those with ‘I Ving’ (1) and ‘AM V’ (2)).

(1) I drawing moon. [SJD-060:3 Simon SCHOOL]

(2) Am haveim. [SJD-058:351 Shamus SCHOOL]

So perhaps it is possible to delineate ‘HL adaptation’ from ‘learning SAE’ in the following way: ‘HL adaptation’ is evidenced by changes in the rate of use of non-target-like features while ‘learning SAE’ is rather more a process of changing the L1 variable grammar to better reflect that of the target L2 (be it variable or categorical). This means conforming to the probabilistic or categorical constraints operating in the target, in addition to emulating the rate of use of specific variants. With aspect morphology we have seen evidence of both: changes in the rates of use of non-target variants (i.e. Vbat is completely dropped early on in SCHOOL English) and also changes in the variable use of V and Ving that appear to reflect target SAE usage. So specific language features themselves differ to the extent that ‘HL adaptation’ is separable from a process of ‘learning SAE’. For transitivity marking, increasingly avoiding the -im marker until it reliably ceases to be used in SCHOOL contexts is the process of SAE acquisition. While for other variables, like aspect morphology, learning is a process of acquiring new patterns (e.g. using Ving with transitive verbs).

In addition to notions of adaptation versus learning and how these might map onto specific acquisition processes, this thesis might offer some insight regarding the impact of similarity between L1 and L2 features. In the introduction, I noted that apparent formal ‘transparency’ between forms can obscure different underlying meanings in the L1 and L2. Educators are concerned that this can lead to teachers thinking that their students’ facility with SAE is greater than what it is. However, in their reflections on the development of assessment tools, Hudson & Angelo (2014:56) appealed for a more “thoroughgoing incorporation [of this phenomenon]…beyond ‘mistaken L2 proficiency’”. With the case of ‘AM’/‘I’m’ we have seen that similarities in the function and distribution of these forms make it hard for children to detect subtle differences between the L1 and L2. On the other hand, forms that are distinctly non-target (like
Vbat, and transitive -im) are more readily ‘unlearned’. If the concept of transparency is to usefully make its way into assessment tools, this could be by additionally focusing it on what it means for the children themselves. This means attending to the fact that not all features are going to be as challenging to acquire as others.

Previous classroom activities designed to build awareness of Kriol, such as Fostering English Language In Kimberley Schools (FELIKS) (e.g. see Berry & Hudson 1997 and mentioned in the introduction chapter 1), have engaged in comparing L1 language features with SAE as a means of supporting code-separation and L2 acquisition. A whole inventory of contrastive features are examined, with anything that is different between Kriol and SAE a candidate for exploration. But the different behaviour of the variables in the present study suggests that variants that do not have a L2 equivalent (per -im and Vbat) are acquired quite quickly. Focus on these morphemes could be characterised as ‘a difference without a meaningful distinction’ for pedagogical purposes. That is, while explicitly discussing ‘Vbat’ or transitive marking might bring greater awareness in general about the distinctness of Alyawarr English from SAE in a general sense, it might be superfluous to the acquisition of those specific features. In the time-limited classroom day, attention might be better focused on specific and challenging language features (like I/AM). However, since this thesis has not tested the utility of different pedagogical approaches, the utility of focusing on known areas of challenge versus a more general run-down of L1:L2 comparisons would need to be examined. Indeed, the two need not be mutually exclusive and could be mutually reinforcing. In order to evaluate the relative merits of each activity, it is important that educators understand the motivations for each: the former is about removing the veil of apparent transparency of specific contrastive language features, and the latter is about general awareness raising of the distinctness of the L1 from the L2 as separate languages, as well as beginning a conversation between teachers and students about this.

In terms of a specific recommendation for assessment that arises from the differential rates of attainment of specific features demonstrated here, one type of bandscale assessment criteria that could meaningfully indicate a progression in acquisition is whether a student ceases to use ‘HL-only’ morphemes in SAE-focused school work; and decline in the use of ‘HL-only’ morphemes is a sign of progression towards this criterion. This might be a practical criterion since it will allow teachers to ‘grab on’ to
features that they themselves (as speakers of SAE) are equipped to identify. A further consideration for educators is that because of the likely different rates and processes of acquisition of specific linguistic variables, global assessments of ‘progress in English’ necessarily average these out and as a result overlook that very different patterns of code-separation and acquisition may prevail across different language features. Furthermore, without an understanding of the differences between the L1 and SAE, assessments that appear to indicate progress may in fact reflect stasis, and conversely, language use that looks non-target may actually reflect progress. It therefore might be more meaningful for teachers to engage in tracking in detail specific language features over time and using this information to inform and adjust teaching.

A final observation regarding the classroom and educational context. This thesis clearly demonstrates that it is by no means any kind of inherent hindrance or disadvantage to speak a contact language as a mother tongue. Although children in this study have actually received very little in the way of deliberate and explicit SAE language instruction, it is clear that code-separation is occurring and some fairly complex reorganisation of Alyawarr English into something more like SAE is taking place. Students can maintain control of separate grammars, switching out Vbat for other verb forms when addressing a teacher and popping it back in again when chatting to a friend at home. This is despite the fact that non-Alyawarr English speakers are usually outnumbered in that environment by a rate of around 10:1. When students rely on classroom activities conducted by a few English-speaking teachers for their main source of SAE interaction, that input needs to be more carefully curated to ensure enough exposure to the more challenging language features, in this case those that are camouflaged by formal similarity to Alyawarr English. Moreover, there needs to be much greater opportunity for students to actually produce full clauses in SAE. As I noted previously, it was surprisingly challenging to gather enough of these to constitute a SCHOOL data set. More often students provide single-word or short phrases answers that themselves are not out of place in the question-answer routines of the classroom. In the daily throws and bustle of a primary school classroom, the lack of extended speech on the part of students can be easily overlooked.

I would like to conclude this chapter, and dissertation, by examining a trio of questions on the significance of the findings beyond speakers of Alyawarr English, beyond present
temporal reference, and beyond early childhood. First, how applicable are the findings beyond child speakers of Alyawarr English? I have demonstrated that the children of Ipmangker studied here do conform to a set of speech norms such that they can be termed a ‘speech community’. In terms of the acquisition of SAE they also appear to constitute a ‘community of learners’. It would be of interest to determine whether speakers of other Australian contact varieties (such as Gurindji Kriol and Light Warlpiri) each constitute a separate ‘community of learners’ or if there is more in common with the children in this study than not. Similar fine-grained examination of the process of early SAE use by speakers of other Australian contact languages are needed to answer this question.

Second, how applicable are the findings beyond present temporal reference clauses? I noted in the previous chapter the need to turn this function-to-form analysis on its head and now address the functions of aspectual morphology and transitive marking in other frames of temporal reference (‘AM’ is only used in present temporal reference clauses). Understanding how these forms pattern in past, future reference clauses, and those marked for mood will further reflect back on our understanding of these form within the sphere of present temporal reference. This work can be done from the present corpus. Further mining of the corpus could also include an investigation of input effects, by examining teacher talk. Factors like input frequency, priming and recency effects might all shed further light on the differences between the variables, beyond issues of transparency.

Finally, how applicable are the findings beyond the 5-8 year old children studied? Since some of the features were still not completely SAE-conforming by the end of the study, it would be of great interest to continue to watch the development of these variables over time. In particular, the acquisition of ‘I’ as the categorical SAE 1sg pronoun variant has implications for the acquisition of auxiliary/copular ‘am’ and also then variable contraction of ‘I + am’ to ‘I’m’. Furthermore, the study identified potential wash-back effects in the Alyawarr English data. One way of seeing if this is the case would be to examine the speech of children prior to schooling. For example, if these children use transitive -im categorically like their parents or, if variably, with a higher rate than the children exposed to English at school, then this would support the hypothesis that the variable use of transitive marker in the HOME is to some degree the result of wash-back
from SAE (rather than variable L1 acquisition of this feature). Moreover, tracking the use of these variables as the participating children get older might just document further innovations in the ongoing development of Alyawarr English as a new Australian language.

In conclusion, and as is ever the case, the findings of the present enquiry have opened up a further set of tantalizing questions. What I hope has been well-demonstrated is the fact that the methodology employed here has provided a robust basis with which to pursue these multiple possible lines of further enquiry. By isolating tokens based on contextual criteria (location and interlocutor - emic categories for language selection) a maximally contrastive set of data allows for the detection of code-separation without the use of analyst-imposed formal criteria. The use of the Comparative Variationist method focused the quantitative analysis on a comparison of variants, their rates of use, the variable context and modelling the probabilistic constraints through multivariate logistic regression. This revealed that the locus of change is not always situated within the variable grammar itself, but rather acquisition of some variables can be characterised as a process of ‘doing less of the same thing’. Conversely, for L1 variables targeting a different type of variability in the L2, changes within the constraint hierarchies are important components of a grammar undergoing reorganisation. By taking this procedure ‘on the road’ and applying it to data from other age groups, across past/future temporal reference systems and even across language groups, the extent and nature of language transformation and bi-varietal language use can become better-charted territory.


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## APPENDICES

### Appendix I: Lexical Aspect coding for chapters 5 & 6

The column ‘Lexical Aspect code’ shows the class that each verb was ultimately assigned to in this study:

- S = State
- A = Activity
- C = Accomplishment
- H = Achievement
- F = Semelfactive

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</table>
Appendix II: Coding for parameters of transitivity in Chapter 8.

**Kinesis** is defined by Hopper & Thompson (1980: 252) in terms of whether the verb encodes an action: “Actions can be transferred from one participant to another; states cannot. Thus something happens to Sally in *I hugged Sally*, but not in *I like Sally*”. Each clause token was therefore considered in terms of whether action was transferred between participants. An example of the high transitivity condition is given in (1), and an example of the low condition is given in (2).

(1)  Wel am kadim im, reken.  [SJD-063:456 Emerson HOME]
    wel  am  kad-im  im  reken
    well 1SG.SBJ cut-TR 3SG.OBJ reckon
    ‘Well, I’m cutting it, I reckon.’

(2)  Yu wandim this kain?  [SJD-063:288 Shamus HOME]
    yu  wand-im  this  kain
    2SG.SBJ want-TR DET kind
    ‘Do you want this kind?’

**Aspect** is defined by Hopper & Thompson (1980: 252) as a contrast based on clause telicity since an “action viewed from its endpoint, i.e. atelic action, is more effectively transferred to a patient than one not provided with such an endpoint”. While lexical telicity had been coded for in the analysis of aspect presented in chapters 5 and 6, this did not capture telicity at a clause level, which was required here. Therefore, clauses were coded using the criteria from Shirai & Andersen (1995:749) for separating out (clause-level) activities and states (atelic) from accomplishments and achievements (telic). An example of the high transitivity (telic) condition is given in (3), and an example of the low condition (atelic) is given in (4).

(3)  Minyu taiimap, theya.  [SJD-007:360 Shamus HOME]
    minyu  tai-im-ap  theya
    1PL.SBJ tie-TR-UP there
    ‘We’re tying it up, there.’

(4)  We hold the green ones.  [SJD-044-B:488 Tiffany SCHOOL]

**Punctual** actions are those “carried out with no obvious transitional phase between inception and completion” Hopper & Thompson (1980: 252) and they “have a more
marked effect on their patients than actions which are inherently on-going; contrast *kick* (punctual) with *carry* (non-punctual)*. Coding for this factor was recycled from the sentential aspect factor group from chapters 5 & 6, wherein clauses were already coded for punctual (of limited duration). Some clauses of iterative semantics were also included in this group, where they constituted something like repeated punctual instances. An example of the high transitivity (punctual) condition is given in (5), and an example of the low condition (non-punctual) is given in (6).

(5) Teigimaut thet men, theya. [SJD-063:69 Shedrach HOME]
teig-im-aut thet men theya
take-TR-out DET man there
‘Take out that man, there.’

(6) Am meik a brekfis fo yuma inti. [SJD-040:667 Tiffany HOME]
am meik a brekfis fo yumab inti
1SG.SBJ make DET breakfast for 2PL.OBJ TAG
‘I’m making breakfast for all of you, hey.’

Regarding **volitionality**, Hopper & Thompson (1980:252) observe that the “effect on the patient is typically more apparent when the A is presented as acting purposefully; contrast *I wrote your name* (volitional) with *I forgot your name* (non-volitional)*. Thus each clause was coded for how purposeful the action of the subject was. An example of the high transitivity (volitional) condition is given in (7), and an example of the low condition (non-volitional) is given in (8).

(7) Ai jes shoim yu fes. [SJD-062:1067 Alysha HOME]
ai jes sho-im yu fes
1SG.SBJ just show-TR 2SG.OBJ first
‘I’m just showing you first.’

(8) Yu niid this kain, luk, fo eplein. [SJD-069:189 Deanna HOME]
yu niid this kain luk fo eplein
2SG.SBJ need DET kind look for airplane
‘You need this kind, look, for an airplane.’

The coding for **affirmation** was recycled from the coding for ‘polarity’, described in Chapter 5 (§5.5.4). An example of the high transitivity (affirmative) condition is given in (9), and an example of the low condition (negative) is given in (10).
Agency was coded as a subject feature, and made use of coding already completed for the subject agency factor group in Chapter 5 (see §5.5.1.1). Hopper & Thompson (1980:252) describing agency as relating to the fact that “participants high in Agency can effect a transfer of an action in a way that those low in Agency cannot. Thus the normal interpretation of George startled me is that of a perceptible event with perceptible consequences; but that of The picture startled me could be completely a matter of an internal state”. An example of the high transitivity (affirmative) condition is given in (11), and an example of the low condition (negative) is given in (12).

(11) Am gedim fulap na, haha! [SJD-011:916 Shamus HOME]
am ged-im fulap na, haha
1SG.SBJ get-TR many NA [laughter]
‘I’m getting all of them now, haha!’

(12) I meikim nois-akely. [SJD-046-A:169 Alysha HOME]
i meik-im nois-akely
3SG.SBJ make-TR noise-little
‘It [a truck] makes a little noise.’

Hopper & Thompson (1980:252-3) related the affectedness of object to “how completely the patient is affected; it [transfer of action] is done more effectively in, say, I drank up the milk than in I drank some of the milk”. Coding for this was therefore done on the basis of the presence of such quantifying elements in the object NP. An example of the high transitivity (affected) condition is given in (13), and an example of the low condition (not/partially affected) is given in (14).

(13) Yu gatim dres. [SJD-069:828 Lenora HOME (talking to doll)]
yu gat-im dres
2SG.SBJ get-TR dress
‘You have a dress.’

(14) We need some water too. [SJD-068:178 Alysha SCHOOL]
The parameter ‘individuation of object’ “refers both to the distinctness of the patient from the A and to its distinctness from its own background” (Hopper & Thompson 1980:253). The properties which can distinguish highly individuated objects from non-individuated objects are shown below (from Hopper & Thompson 1980:253).

<table>
<thead>
<tr>
<th>INDIVIDUATED</th>
<th>NON-INDIVIDUATED</th>
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<tr>
<td>proper</td>
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<tr>
<td>human, animate</td>
<td>inanimate</td>
</tr>
<tr>
<td>concrete</td>
<td>abstract</td>
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<tr>
<td>singular</td>
<td>plural</td>
</tr>
<tr>
<td>count</td>
<td>mass</td>
</tr>
<tr>
<td>referential, definite</td>
<td>non-referential</td>
</tr>
</tbody>
</table>

Object number (singular=HIGH; mass/plural=LOW) and object referentiality/definiteness (referential/definite=HIGH; non-referential=LOW) were both initially coded, though the latter was the only factor group used. Hopper & Thompson (1980:253) illustrate the impact of definiteness thus: “In Fritz drank the beer, there is a possible or even probable implication that he finished the (available) beer; but in Fritz drank some beer, this implication is achieved only with difficulty.” An example of the high transitivity (referential, definite) condition is given in (15), and an example of the low condition (non-referential) is given in (16).

(15) Am leik them kofis.  
    am leik them kofis  
    1SG.SBJ like DET coffees  
    ‘I like those coffee (ones).’

(16) Wel, yu gatim boi o gel?  
    wel yu gat-im boi o gel  
    well 2SG.SBJ have-TR boy or girl  
    ‘Well, do you have a boy or a girl?’