Variation and change in Abui : the impact of Alor Malay on an indigenous language of Indonesia

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Chapter 6

Variation and change in verb usage

6.1 Introduction

A verb typically refers to an event or state. An event can be highly complex and multifaceted. As a result, languages differ greatly with regards to which components of an event they encode lexically and grammatically.

Abui and Alor Malay are two languages that differ in how they encode a number of events. For example, in Abui, within the event domain of *visual perception*, speakers use the verb *-wahai* 'look at' when they are 'looking at a photo' or 'looking at their interlocutor', typically with some sort of control or intention. However, speakers use the verb *-ien-* 'see' when they happen to 'see a rat' or 'see a banana on the floor', typically as a sort of experience, without much control. In this respect, one of the features that distinguishes these two events is [± CONTROL]. Alor Malay speakers, on the other hand, use only one generic verb for the event of visual perception, *lihat* 'see, look at'. They typically do not distinguish by the choice of verb they use whether they are 'looking at a photo' with control, or whether they happen 'to see a banana on the floor', without much control. Therefore, in Alor Malay, the semantic feature [± CONTROL] is not relevant for distinguishing these contexts lexically. The same is true of other event domains, such as *falling* or *change of state* for example, which also distinguish a semantic feature in Abui but not in Alor Malay.

These subtle differences across languages make the lexical semantics of

verbs highly volatile during contact (Ameel et al., 2009). Typically, in bilingual settings, speakers whose dominant language does not distinguish a given feature, such as in Alor Malay, often have trouble using verbs in the right context when learning a language that does make a distinction, such as Abui. This is usually attributed to the fact that conceptual representations associated with the distinction have not been carved out (Jarvis & Pavlenko, 2008). When speaking Abui, older more Abui dominant speakers typically encode the distinctions alluded to above by using the verbs in their appropriate contexts, yet many younger, more Malay dominant speakers generalize one verb to contexts requiring another verb. For example, they often generalize *-wahai* which originally means 'look at' to 'see' contexts requiring the verb *-ien-*. Thus, instead of using two verbs to encode a distinction [± CONTROL], they simply use one verb in two contexts, thereby simplifying the system.

The main aim of this chapter is to examine to what extent this *generalization*, a form of simplification, is found across the four age-groups, (pre)adolescents, young adults, adults, and elders. The secondary aim is to investigate how the sociolinguistic variables of age and gender can account for the variation. Since younger age is correlated with less exposure to Abui and more dominance in Alor Malay, it is expected that the younger a speaker is, the more likely they will be to overgeneralize a verb to another context. In addition, (pre)adolescent boys in particular are expected to overgeneralize more than girls because they too appear to have less exposure to Abui than girls due to their socialization patterns (see §2.4.2.2 for discussion of gender in the speech community).

Furthermore, given that production and comprehension represent different modalities of language processing and that production data might not always provide the complete picture, the final aim of this chapter is to explore what differences in production and comprehension can tell us about how entrenched a given change is among the various age-groups. Here, it is expected that despite generalization being exhibited in speakers' production, their comprehension will reveal that they still retain some knowledge of how to use these verbs.

The methodology used in this chapter involves the Surrey Stimuli production task as well as the forced-choice comprehension task (see §3.5.2). Both of these tasks were carried out by the four age-groups. Out of the 40 clips shown in the Surrey Stimuli task, the clips eliciting verbs pertaining to

the events of *visual perception*, *falling*, and *change of state* were isolated for investigation in this chapter. These three domains were selected purely for the reason that they seemed to be most salient in the stimuli. Furthermore, out of the 30 clips used in the forced-choice task, which investigated a variety of topics, 12 clips that also focused on the verb use of these three event domains were isolated.

This chapter is structured as follows: Section 6.2 discusses generalization as an outcome of contact. An explanation of verb usage in both Abui and Alor Malay is provided in §6.3. The present study is discussed in §6.4, including a production task (§6.4.2) and a comprehension task (§6.4.3). A general discussion is offered in §6.5, followed by a conclusion in §6.6.

6.2 Generalization as an outcome of contact

Generalization, also referred to as *widening*, *extension*, and *broadening*, is a commonly attested semantic change where the range of meanings of a word expands to a wider array of related contexts (Blank, 1999; Traugott & Dasher, 2001; Campbell, 2013). For example, the Latin word *adripare/ arripare* used to have the specific meaning of 'reach the river's shore'. It then took on the more generic meaning of 'reach any destination' (Blank, 1999; Traugott & Dasher, 2001). Generalization is a type of prototypical change whereby a prototype of a category is taken to refer 'to another member of the category or to the [entire] category itself' (Blank, 1999, p. 76). In this sense, it is a type of simplification because it involves the loss of a specific feature.

Generalization has been attested both in the absence of contact (Blank, 1999; Traugott & Dasher, 2001) and in the presence of contact (Ameel et al., 2009; Jarvis & Pavlenko, 2008; Gathercole & Moawad, 2010). In the presence of contact, when a verb in an L1 is more generic than a translation equivalent in an L2, this could result in generalization taking place on the model of the L1. This may be considered a type of lexical calque (Ross, 2013).

This section provides case-studies of generalization as an outcome of contact (§6.2.1), sketches underlying mechanisms behind generalization (§6.2.2), sheds light on the types of bilinguals most prone to experiencing generalization (§6.2.3), describes the role of polysemy and frequency in the generalization of verbs (§6.2.4) and discusses the spread of generalization in a speech community (§6.2.5).

6.2.1 Case-studies of generalization

Generalization has been attested as an outcome of contact in a number of different bilingual settings. Most often this is characterized as a form of loan translation or lexical calquing. This may take the form of copying either the semantic polysemy or the syntactic polysemy of the model language into the recipient language (Ross, 2013).

Both forms of lexical calquing have been attested in heritage speaker communities as well as groups of second language learners. In all of these cases, speakers spoke an L1 which had one generic verb and were learning an L2 that had more specific verbs. Put differently, the L1 had a wide system, while the L2 had a narrow system (Gathercole & Moawad, 2010). What these two complementary bilingual settings exhibit is that generalization is a process that is favoured by the bilingual mind and at the same time may spread into a community.

An early examination of this took place in the Yiddish community in the United States which was bilingual in both American English and American Yiddish. Yiddish used to have two lexical items to describe the event of 'going': *gejn* 'to go on foot' and *forn* 'go by vehicle'. Yiddish was in prolonged contact with English, a language that has one generic verb *go*, which is unspecified for MEANS OF TRANSPORTATION. As a result of contact, the Yiddish verb *gejn* (which originally meant 'to go on foot') displaced *forn* 'go by vehicle' and became the generic verb to encode motion (Weinreich, 1953, p. 54).

Other examples of contact-induced generalization can be found in a contemporary heritage speaker community, such as the Turkish heritage community in the Netherlands. Turkish, as spoken in its homeland, typically differentiates between two types of 'do' verbs, *yapmak* and *etmek*. The difference between the two verbs is not semantic, but syntactic instead. The verb *yapmak* is more syntactically polysemous than *etmek* (which is mostly used with a few words of Arabic origin) and is also much more frequent (Backus et al., 2011). Due to contact with Dutch, which only has one verb for 'do' (*doen*) Turkish speakers generalize *yapmak* to contexts in which Turkish homeland speakers would use *etmek*.

Studies on generalization as an outcome of contact in bilingual communities can also be supplemented by studies looking at L2 acquisition of lexical semantics. These studies have the advantage that they provide

enough fine-grained analyses of the causes of semantic generalization and can isolate certain variables. In addition, they involve instances of unbalanced bilingualism as a result of imperfect learning, so they bear some similarities to the Abui speech community. A number of these studies have looked at how bilingual speakers deal with translation equivalents which have different conceptual representations. Specifically, they focus on speakers whose L1 does not specify for a particular feature and whose L2 does.

Pavlenko and Driagina (2008) looked at American learners of Russian and their use of directional verbs corresponding to 'run' and 'roll'. In these verbal domains, English is underspecified compared to Russian: Russian encodes lexical aspect, while English does not. In particular, English does not use different 'running' verbs to distinguish between a) 'running unidirectionally to a given point' and b) 'running multidirectionally (back and forth)'. Russian, on the other hand, does lexically distinguish between multidirectional verbs such as *begal* 'he was running (back and forth)' on the one hand and its unidirectional counterpart *pobezhal* 'he ran (from A to B)' on the other. In a corpus of narratives elicited by American learners of Russian, it was found that speakers overgeneralized the multidirectional verbs to contexts where monolinguals would have used unidirectional verbs.

A study on Saudi Arabic L1/English L2 bilinguals also yielded similar results (Gathercole & Moawad, 2010). One of the conditions tested was speakers' use of English verbs which were more specific than their Arabic translation equivalents. This includes English verbs like *to hunt* and *to fish* which correspond to the Arabic verb *yistad* 'to hunt/to fish'. The authors found that speakers were more likely to use one generic English verb, as opposed to differentiate between *to hunt* and *to fish*.[1] In addition, they found a stronger effect for words which had senses which were conceptually close together, such as between Ar. *yistad* 'to hunt/to fish' and En. *to hunt* and *to fish*, where 'hunting' and 'fishing' can both be subsumed under the umbrella notion of 'catching an animal for provision'. This effect was weaker for words which were not conceptually close together, such as between Ar. *darb* 'to hit/to multiply' vs. English *to hit*, *to multiply*, where there does not appear to be a

[1]The authors tested for both verbs and nouns and their conclusions did not differentiate the two. However, word mappings onto referents or concepts (prototypical nouns) and word mappings onto events and states (prototypical verbs) have been shown to vary greatly, with verbs showing more vulnerability than nouns during contact (Ameel et al., 2009).

semantic relationship between 'hitting' and 'multiplying'.

The conclusion from all of these studies is that L2 speakers whose L1 makes fewer distinctions conceptually have trouble learning the conceptual distinctions in the L2.

6.2.2 Mechanisms of generalization

All of these case studies indicate that speakers copy the lexical semantics of verbs in their dominant language onto verbs in their weaker language. There are a number of cognitive, psychological, and structural mechanisms to explain why the semantic change of generalization is favoured. A number of accounts explaining the causes are presented below.

Weinreich (1953) stated that the surface similarity between two lexical items in two different languages 'fool' the bilingual into thinking that the underlying lexical semantics are the same. This seems heightened by a bias towards functional or processing economy, where the more simple system is favoured. In other words, this could be prompted by the need to eradicate a 'seemingly uninformative distinction' referring here to the distinction that the verbs make in one language but not in another (Alferink & Gullberg, 2014, p. 34). Blank (1999, p. 77) argues that speakers have a natural tendency to reduce 'superfluous complexity in the lexicon', striving to communicate at the 'lowest possible costs'.

Jarvis and Pavlenko (2008) offer an additional perspective on why generalization takes place. They first point to errors in simply memorizing several L2 lemmas for each L1 lemma. Additionally, and more importantly, they argue that this generalization takes place due to mental representations still being mapped onto schemas created by the L1. In other words, they suggest that speakers have not yet become sensitivized to the cognitive component which might split a concept into various lemmas, each with their own distinctions. Pavlenko and Driagina (2008) point out that in order for English learners of Russian to fully grasp the verbs of motion which were differentiated based on lexical aspect and use them in their appropriate contexts, speakers must transform the previously undifferentiated conceptual representations of 'running' into representations that account for distinctions between unidirectionality and multidirectionality. Until speakers establish the appropriate mental representations, they will continue to use these verbs interchangeably in spontaneous speech because the pair

of verbs is loosely attached to one, single L1 mediated conceptual representation. The frequent and appropriate production and comprehension of these words should sensitize speakers to particular conceptual distinctions, and this may lead to new mental representations referred to as *language-mediated concepts* (Jarvis & Pavlenko, 2008). These distinctions should then allow speakers to perform naming, identification, comprehension, and inferencing tasks along similar lines (p.115).

6.2.3 Type of bilingualism and generalization

As with any area of language sensitive to contact, the type of bilingualism in question can play a role in the prevalence of generalization. Type of bilingualism can be broken down into a number of important components, such as age of onset, duration of exposure, proficiency, mode of acquisition, consistency of parents speaking a given language, and domains of language use (Ameel et al., 2009). As Gathercole and Moawad (2010) suggest, it is crucial to apply a developmental perspective on bilingual semantics and document these features as closely as possible. It is thus important to have a thorough description of the bilingualism profile of a particular group (for the Abui case, see §2.4.2). Ameel et al. (2009) caution that results emerging from studies of one type of bilingual setting should not necessarily be generalized to other types of bilingual settings. Gathercole and Moawad (2010) highlight the need to investigate how, for example, late bilinguals might differ from early bilinguals. Presently there are some predictions that can be made for the outcomes of a given type of bilingualism, although more research comparing them is needed. We have seen that processing economy, and a lack of mental representations were characterized as being some of the cognitive factors responsible for the process of generalization. These two cognitive factors interact differently with type of bilingualism.

Ameel et al. (2009) discuss three broad types of bilinguals: compound bilinguals, subordinate bilinguals, and coordinate bilinguals. Compound bilinguals were simultaneously raised in two languages, with their parents having spoken their own language to them consistently throughout the years. Subordinate bilinguals refer to second language learners. These bilinguals consist of speakers who were raised monolingually but then learned a second language after their first language had been acquired. The prediction here is that lexical transfer is highly likely to take place from the L1 to the

L2, regardless of the complexity level of the L1, especially in the early stages of learning the L2. Eventually, as speakers gain more exposure to the L2, the L1-specific mappings influencing the L2 will be replaced by L2-specific mappings. Coordinate bilinguals refer to bilinguals who use their two languages in distinct environments with no overlap. Although some interaction between the languages is expected, it is unclear what this type of bilingualism will do to the complexity of a given category. However, the problem with such categories is that they don't always account for bilingualism settings which are more fluid and complex, such as those found in Takalelang and in other parts of the world.

Perhaps a more appropriate strategy is to take an ontogenetic approach. Gathercole and Moawad (2010) investigated the role of age of acquisition of the L2 on speaker's likelihood of generalization. They tested Arabic learners of English as an L2 at age 6 (early bilinguals) and compared them to Arabic learners of English as an L2 at age 12 (late bilinguals). They found that both early and late bilinguals were likely to generalize an English word on the model of Arabic, but that late bilinguals were even more likely to do so. The reasons the authors give for this are that late bilinguals already have an L1 system in place, meaning that the L2 is more likely to be modeled on the L1. Specifically, they remark that new L2 words will be learned in non-linguistic contexts that will be 'understood according to the conceptual organization already in place and will [thus] be linked with associated L1 words that are similarly associated with the given contexts' (p. 404). This is because, at the early stages of L2 acquisition, the L1 is used as an intermediary for access to meaning for the L2 lexical item (Kroll & Stewart, 1994). As Abutalebi (2008, p. 470) puts it, 'the L2 is mediated through L1 translation while L1 is concept-mediated.' Early bilinguals, on the one hand, do not have a fully developed L1 and its associated conceptual underpinnings, suggesting that for them each language can develop alongside one another with little overlap (Gathercole 2007). Each language can thus develop its own conceptual organization, and as a result, the lexical items can remain separate.

Even for the late bilinguals (age of onset > 12), who generalize due to transfer from their L1, there is evidence to suggest that, with sufficient exposure to the L2, their lexical semantic processing can improve. In fact, Indefrey (2006) has argued that age of L2 acquisition plays little role in lexico-semantic processing, with L2 proficiency and exposure being much more important. With more exposure to the L2 and as proficiency rises, the L2

learner will develop an emergent semantic system with its own conceptual system and rely less on that of the L1 (Pavlenko 2009). Abutalebi (2008) also points to the importance of improving L2 proficiency to reduce the dependency on the L1. The convergence hypothesis (Green, 2003) further supports this notion, postulating that 'any qualitative difference between native speakers of a language and L2 speakers of that language disappear as proficiency increases' (p. 204).

To conclude, what these studies imply is that semantic transfer and generalization in particular can take place when the L2 is acquired after the age of 6. The propensity for this to happen increases with age. At the same time, even late bilinguals, with enough exposure and input to an L2, can develop L2 mediated conceptual representations and as a result use the lexical items appropriately.

6.2.4 The role of frequency and polysemy

The studies above have offered explanations as to why generalization takes place in a given bilingual setting. However, it was not always clear why a particular verb would get selected for generalization while another would become displaced. Some studies point to word frequency and polysemy as being crucial in predicting semantic change more generally, and I argue that these are also relevant in explaining generalization as well.

Word frequency refers to how often a word typically occurs in a language, as measured by large text corpora or print materials, which may in turn offer approximations for the distribution of words in spoken language (Carterette & Jones, 1974; Dahan & Magnuson, 2006). *Polysemy* refers to the coexistence of many possible meanings that a word may have, especially when used in different contexts. Verbs often have multiple senses, all of which share some systematic relationship among one another (Booij, 2007).

Winter, Perlman, and Majid (2018) found that words that are more frequent and cognitively accessible are frequently 're-used to express other concepts' (p.7). This is thus closely linked to polysemy: higher frequency words are more likely to be used in a variety of contexts, which will then lead to the acquisition of additional senses (Zipf, 1945; Calude & Pagel, 2011; Winter et al., 2018). Weinreich (1953) also claims that low frequency words are more subject to replacement. With regards to polysemy, the *law of innovation* states that more polysemous words have a higher rate of semantic

change (Hamilton, Leskovec, & Jurafsky, 2016). In a situation of incomplete acquisition, it thus follows that both frequency and polysemy are good predictors of whether a word will undergo generalization.

6.2.5 The spread of generalization in the community

So far, we have addressed the topic of how a change, or deviation from the norm, might emerge in the mind of a single speaker due to lexical semantic processing and the influence of one language on another. That it may emerge in the mind of a single speaker also implies that it has the potential to emerge in the minds of multiple speakers independently of one another. In addition, speakers may also spread this deviation from the norm to one another based on a number of socio-pragmatic factors. Taken together, these two forces result in innovations in a select few speakers, and gradually this variation may increase such that the innovation becomes a fully-fledged change. This process might even be heightened in a bilingual speech situation that is gearing towards gradual shift and is in a state of language attrition. In this scenario, a combination of not enough input from the narrow system and more dominance from the wide system, will lead to semantic generalization, as subtle distinctions between words are lost in favour of more generic words that express the core meaning and leave the subtleties to context or leave them out of the frame altogether.

This section focuses on the socio-pragmatic reasons why this deviation from the norm spreads across speakers. It addresses the broader question of how generalization might spread within the speech community by the adoption of both a speaker and interlocutor's communicative needs: when does a semantic innovation in one speaker's mind become adopted by other speakers and eventually lexicalized in a language (Blank, 1999)?

People produce semantic innovations on a daily basis, yet they rarely become adopted by other members of the community (Blank, 1999). Speakers must not only be exposed to the innovation, but they must be motivated to (re)produce it in public, exposing it to others in the process (Enfield, 2008). When they do become adopted by other members of the community, this is often due to a combination of a pragmatic decision based on the innovation's good cognitive performance (Blank, 1999) as well as biases involving personality traits and social relations of the innovator (Enfield, 2008).

The innovation that comes about from generalization involves the tri-

umph of two competing elements: economy over expressibility. When a set of highly specific lexical variants give way to one generic variant, speakers lose some expressibility offered by the highly specific set but gain economy. What happens in a semantic innovation is the association of a word with other potential concepts in its conceptual space. It sometimes happens that a speaker uses a word in a sense that is slightly different to how it had been used before. Due to context, the interlocutor probably understood what was meant (Blank, 1999). If the relation was deemed efficient, the interlocutor might use the word in a similar context or adopt this new sense. This innovation may spread to enough people, in which case it may then become lexicalized, thus becoming more polysemous (Blank, 1999). When a shift in semantics becomes adopted by other community members it is often a pragmatic decision based on the innovation's good cognitive performance (Blank, 1999). Enfield (2008) argues in favour of a bias relating to the properties of the variant (innovation). Here content and frequency play important roles. An innovation that is considered useful or advantageous will be intrinsically more attractive, sometimes even irrespective of the prestige of the innovator. Its higher frequency will in turn make it more attractive. Further, Blank (1999, p. 76) has indirectly suggested that once some speakers begin innovating by generalizing a word, this variation has a high chance to become a fully-fledged change. This is because, as Enfield (2008) argues as well, this will automatically lead to even higher frequency which will in turn make the new sense more attractive.

6.3 Three event domains in Abui and Alor Malay

This section discusses the three event domains in Abui and Alor Malay that were selected for investigation: *visual perception, falling,* and *change of state*. The main differences between Abui and Alor Malay is that, within each domain, Abui uses a narrow system while Alor Malay uses a broad system. This means that for each of these three events, Abui uses at least two verbs to lexically distinguish two contexts, while Alor Malay simply uses one verb to encode each event.

In this respect, Abui distinguishes between contexts based on a given semantic feature, while Alor Malay does not. For example, in the event domain of 'visual perception', Abui lexicalizes verbs in accordance with whether

they involve [± CONTROL]: the verb (-)*wahai* 'look at' encodes the component [+CONTROL] because it implies an event of visual perception involving control, while the verb *-ien* 'see' encodes the component [–CONTROL] because it implies an event of visual perception lacking control. This is illustrated for three event domains, visual perception, falling, change of state, in Table 6.1.[2]

Table 6.1: Event domains

Event Domain	**Semantic Feature**		[± Feature] **Sense**	**Abui form**
Visual perception	[±CONTROL]	⟨	[–] 'see'	*-ien*
			[+] 'look at'	(-)*wahai*
Falling	[±ELEVATION]	⟨	[–] 'fall over'	*-quoil-*, *-kaai-*
			[+] 'fall from above'	*hayeei*
Change of state	[±CHANGE OF POSTURE]	⟨	[–] 'wake up (INTR/TR)'	*-minang-*/ *-tein-*
			[+] 'get up'	*-rui-*

Sections 6.3.1, 6.3.2, 6.3.3 discuss these three event domains in detail. They elaborate on the distinctions lexicalized in Abui and compare them to the generic verbs found in Alor Malay.[3] Each of the three event domains is split according to [±FEATURE] and examples of the use of each verb in its designated context are given. In addition, discussions of polysemy and token counts of word frequency are also presented in order to further understand the distribution of these verbs in the lexicon.

[2]These distinctions are found in other Alor-Pantar languages, such as Kamang, for example. Sometimes, the Abui forms are also cognate with the Kamang forms, though this is not always the case. Compare Kamang *kawaila* 'fall over' vs. *mo'tan* 'fall from above' (Schapper & Manimau, 2011) and Abui *-quoil-* 'fall over' vs. *hayeei* 'fall from above'.

[3]These three event domains represent a small sample of domains that where Abui uses a narrow system, while Alor Malay uses a broad system. Another example includes the verbal domain of 'eating': Abui, *nee* 'eat soft food' and *takai* 'chew/ eat hard food', Alor Malay, *makan* 'eat, chew on'. There are of course numerous examples where Alor Malay uses a narrow system, while Abui uses a broad system. One example is Abui *buuk* 'drink; smoke' and Alor Malay *minum* 'drink' and '(*isap*) *rokok* 'smoke' (Kratochvíl p.c.). However, not too many of these examples were found in the corpus of Surrey Stimuli data.

6.3.1 Verbs of visual perception

Given that vision has been shown psychologically to be the dominant human sense (Alais & Burr, 2004; Stokes & Biggs, 2014), many studies have shown that a large number of languages have adapted to this by a) using visual perception verbs more frequently than verbs for other types of perception and b) lexically differentiating different types of visual perception (Viberg, 1983; Levinson & Majid, 2014; Winter et al., 2018).

What is of interest here is the lexical differentiation between different types of visual perception. Cross-linguistically, it is extremely common for languages to use a *dynamic system* where they encode a distinction between the experience verb 'see' and the activity verb 'look at' (Viberg, 1983; Majid & Levinson, 2011). *Experience* refers to 'a state (or inchoative achievement) that is not controlled', while *activity* here refers to 'an unbounded process that is consciously controlled by a human agent' (Viberg, 1983, p. 123). With these characteristics in mind, the feature [± CONTROL] is used to differentiate these two verbs. In Abui, the context 'see [– CONTROL]' is expressed by the experience verb *-ien*, while the context 'look at [+ CONTROL]' is expressed by the activity verb (-)*wahai*.

Examples (1a-b) illustrate two instances of the use of the experience verb *-ien* in a 'see [– CONTROL]' context. In (1a), the verb *-ien* is used to describe the process of 'having a dream (lit. seeing a dream)'. Having a dream in Abui is considered experiential; one does not visually perceive a dream with any sort of control.

Example (1b) is a response to a clip from the Surrey Stimuli (see §3.5.2 for discussion of stimuli) showing a man walking by, failing to 'see the banana' on the floor and then stepping on it. The experience verb *-ien* is used to describe the event of 'not seeing the banana'. Since the main activity of the scene is the man passing by and not a controlled inspection of the banana, the fact that the banana was not taken note of implies that he did not unconsciously experience the sight of the banana, which is why he stepped on it. That he was not actively engaged in the controlled act of eyeing the banana is less relevant than the fact that he did not experience it visually, which is why the experience verb, *-ien* 'see [– CONTROL]' is used.

(1) 'see [– CONTROL]'

a. *Na piei nuku* ***h-ien-i.***
1SG dream one 3.PAT-see-PFV
'I had a dream' (lit. 'I saw a dream'). (Kratochvíl & Delpada, 2008, p. 104)

b. *Neeng nuku laak-i me mai balei* ***h-ien*** *naha.*
man one walk-PFV come.IPFV COND banana 3.PAT-see NEG
'As a man passed by, he didn't see the banana.' [ss.40F.24]

The use of the activity verb *-wahai* 'look at [+ CONTROL]' is shown in (2a-b). Example (2a) is a response to clip P02 where 'a man is sitting and actively eyeing the cheese' (see Table 3.11). After looking at it carefully, he decides not to eat it. As such, he is evidently engaging in an activity of visual perception involving control. Similarly, in (2b), the the same verb is used to encode the act of 'looking at a handle'. The use of the PRIORITIVE *=se* 'before anything else' marks an imperative, [4] suggesting the act of visual perception is intended as a controlled, volitional activity.

(2) 'look at [+ CONTROL]'

a. *Neeng nuku do mit ba keju* ***he-wahai.***
man one PROX sit LNK cheese 3.LOC-look.at
'A man is sitting and looking at some cheese.' [ss.40F.24]

b. *Puna nu* ***he-wahai=se!***
handle SPC 3.LOC-look.at=PRIOR
'Look at that handle (now).' (Kratochvíl & Delpada, 2014, p. 110)

The distinctions between the two verbs are illustrated further with some minimal pairs in (3a-b). In (3a), the speaker is using an imperative *he-wahai=se* 'just look at her' to request the interlocutor to engage in an activity of visual perception. In (3b), the use of the experience verb *h-ien=te* 'just see it' is infelicitous because the experience of visual perception is expected to come to the speaker with little control. Speakers thus reject (3b) in favour of (3a).

[4] The PRIORITIVE is often used on verbs and is used in a similar way to the post verbal Alor Malay particle *dulu* 'first'. It implies that the event be done as soon as possible. For more information on the prioritive, see §4.7.2.3.

(3) a. *Fukar baai he-da-lal-i a*
F. also 3.LOC-3.REFL.PAT-laugh-PFV 2.SG
he-wahai=se!
3.LOC-look.at=PRIOR
'Fukar also laughed about it, just look at her!' (Kratochvíl corpus)

b. *Fukar baai he-da-lal-i a*
F. also 3.LOC-3.REFL.PAT-laugh-PFV 2.SG
h-ien=te!
3.PAT-see=PRIOR
?? 'Fukar also laughed about it, just see her!' Not good for: 'Fukar also laughed about it, just look at her!' [FN]

Within the event of visual perception, verbs are sensitive to the entity being perceived. This means that, even within the same event, either *-ien* or (-)*wahai* may be used depending on which object was the focus of visual perception and to what extent viewing that object is considered an experience or an activity. Therefore, in responses to the same elicitation stimuli, such as about 'a man slipping on a banana because he didn't see it', native speakers appropriately used either of the two verbs, depending on which object was the focus of visual perception. When the 'banana' is expressed as the object of visual perception, the experience verb *-ien* 'see [–CONTROL]' is used, as in (4a). When 'near his feet' is expressed as a predicate functioning as the object of visual perception, the activity verb (-)*wahai* 'look at [+CONTROL]' is used as in (4b). The rationale behind these choices may be described as follows: when the 'banana' is expressed as the object of visual perception, its perception is assumed to be experienced because observing bananas in a controlled manner is not an inherent part of the act of walking. Thus, the experience verb [–CONTROL] *-ien* is used. However, when the object of visual perception refers to 'near his feet', this essentially involves an object that a pedestrian is actively expected to be looking at, hence the use of the verb (-)*wahai* 'look at' is used as in (4b).

(4) Response to clip C20 'Man walk and step on banana'

a. 'see banana'

Neeng nuku laak-i me mai balei san
man one walk-PFV come.IPFV COND banana ripe
h-ien *naha.*
3.PAT-see NEG

'As a man walked along, he didn't see the banana (and then stepped on it).' [ss.40F.69]

b. 'look near feet'

Neeng nuku laak-i miei ya de-toku
man one walk-PFV come.PFV SEQ 3.REFL.AL-foot
peng ***wahai*** *naha.*
be.near look.at NEG

'A man came along, and then didn't look near his feet (so he stepped on it).' [ss.40F.24]

Having illustrated the basic differences between the verbs *-ien* and (-)*wahai* in their core senses 'see' and 'look at', respectively, I now turn to two crucial factors governing the distribution of these verbs: polysemy and frequency. An important point to make about the word *-ien* is that it is more polysemous than the verb (-)*wahai* 'look at'. First, it may also denote the meaning of 'find'. Second, it denote the meaning 'know, understand', especially when combined with the verb *laka*. Third, it may be combined with the aspectual suffix *-ri*(*a*) to derive 'show'. Fourth, it can be used as a noun (and is obligatorily possessed) POSS-*ieng* 'POSS-eye'. Fourth, may be combined with *ui* 'back' to derive the meaning 'backside'. Sixth, it appears to be grammaticalizing into a verb compound indexing arguments in constructions as in *hieng mielang* 'be afraid of him' (lit. 'see him, be afraid)'.

In the Kratochvíl corpus, the form *-ien* with all its senses included appears 434 tokens (6.72% out of a total verb count of 6450). This is almost double the amount that (-)*wahai* appears (226 tokens, 3.50%). However, *-ien* with the strict sense of 'seeing' actually appears less frequently (84 tokens, 0.51%) than the the verb (-)*wahai* (226 tokens, 3.50%). These figures are presented in Table 6.2. What this shows is that strictly in the domain of visual perception, (-)*wahai* is more frequent than *-ien* but that it is less polysemous.

Table 6.2: Frequency of visual perception verbs (Kratochvíl corpus)

Sense	**Verb**	**Tokens**	**% of total number of verbs (N = 6450)**
All senses	*-ien*	434	6.72%
- 'see'	*-ien*	84	0.51%
'look at'	(-)*wahai*	226	3.50%

As opposed to Abui, Alor Malay does not lexically encode a distinction between visual activity and visual experience, a tendency which is considered cross-linguistically rare (Viberg, 1983). In other words, Alor Malay *lihat* 'visually perceive' is unspecified for the feature of CONTROL, with both senses 'see' and 'look at' being expressed using the verb *lihat* much in the same way that English may use the verb *smell* polysemously to encode both the activity (i.e. 'to sniff') and the experience (for e.g. 'to smell something burning'). Examples (5a-b) show data from Alor Malay which was provided in response to the same video clips that were used to obtain the Abui examples (1b) and (2a), which elicited *-ien* and (-)*wahai* respectively. In Alor Malay, both clips elicited one and the same verb, the generic visual perception verb *lihat*.[5]

[5]Like Abui, Alor Malay does not mark tense grammatically: however, it may indicate tense through temporal adverbs. Throughout this chapter, in the absence of temporal adverbs, the default tense will be the present tense.

(5) Alor Malay

a. 'see'

Laki-laki satu jalan datang ni=yang dia tidak
man one walk come PROX=REL 3.SG NEG
lihat *pisang.*
visually.perceive banana

'As a man passes along, he does not see the banana.'[SS.40F.AM]

b. 'look at'

Laki-laki duduk ko ***lihat*** *keju.*
male sit LNK visually.perceive cheese

'A man is sitting and looking at some cheese.' [SS.40F.AM]

In summary, Abui lexicalizes visual perception verbs according to the feature [± CONTROL]. The verb *-ien* 'see' refers to an uncontrolled visual experience, while (-)*wahai* 'look at' refers to a controlled visual activity. The verb *-ien* in its specific sense denoting 'see' occurs less frequently than the verb (-)*wahai* 'look at'. However, *-ien* is much more polysemous and may be used in various grammatical contexts; when taking into account its other senses, it appears almost twice as much as the verb (-)*wahai* 'look at'. Finally, Alor Malay has one only verb *lihat* for the generic act of visual perception.

6.3.2 Verbs of falling

In the event domain of 'falling', Abui verbs are specified for the feature [±ELEVATION], lexically distinguishing between 'falling over [–ELEVATION]' and 'falling from above [+ELEVATION]'.

Even though gravity necessitates that everything 'fall down', the fundamental difference between these two contexts is in elevation, axis, and relative landing position. The context 'falling over' encodes an event where an entity is positioned upright on the ground and then falls completely to the ground. This includes humans who started off standing or walking and then fall over to the ground. This may also include inanimate entities such as trees. Because part of the entity was already on the ground, the feature [–ELEVATION] is relevant. On the other hand, in the context of 'falling from above', the entirety of an entity falls from point A to a lower point B. This includes coconuts falling from trees, balls falling from the sky and people fall-

ing from motorbikes. As such, the feature [+ELEVATION] is relevant. These two distinctions are depicted in Table 6.3.

Table 6.3: Falling verbs

Event Domain	**Semantic Feature**		**Context** [± feature]	**Abui form**
Falling	[±ELEVATION]	⟨	[−] 'fall over'	*-quoil-*, *-kaai-*
			[+] 'fall from above'	(*el ong*) *hayeei*

Abui has two synonymous verbs expressing the context of 'falling over −ELEVATION', *-quoil-* and *-kaai*, while the context 'fall from above' is denoted with the form (*el ong*) *hayeei*. All three of these verbs may index either animate or inanimate entities. For the 'falling over' verbs *-quoil-* and *-kaai*, the verb forms remain the same for both animate or inanimate entities, while for the 'fall from above' verb, the form *hayeei* indexes an inanimate referent and *el ong hayeei* indexes an animate one. The verb *ong* 'make/do' creates a causative serial verb construction while *el* refers to a non-agentive pronoun.[6] The citation form for the 'fall from above' verb is thus denoted as (*el ong*) *hayeei*.

The verbs expressing the context of 'falling over', *-quoil-* and *-kaai* are illustrated in examples (6a-c) while the verb expressing the sense of 'falling from above', *hayeei*, is illustrated in example (7). Both verbs in examples (6a-b) were judged by elders to be felicitous descriptions for clip P09, where a man was walking along, stumbled on a log, and then fell to the ground. As illustrated in (6c), elders categorically rejected the expression *del ong hayeei* '(s)he fell from above' as a response to this clip, because, in the clip, the man did not fall from an elevated surface, but was walking along a plain before falling. In other words, because his feet were on the same level throughout and the falling took place along the same axis, the verb *del ong hayeei* may not be used - as it is only appropriate for falling events where an entity started at point A and ended up at a lower point B.

[6] See §4.5.2 for a discussion of non-agentive pronouns and §4.8.3 for a discussion of causative serial verb constructions.

(6) 'fall over [– ELEVATION]'

a. *Neeng nuku laak-i me mai*
man one walk-PFV come COND
da-quoil-i.
3.REFL.PAT-fall.over-PFV
'As a man came along, he fell over.' [SS.40F.69]

b. *Neeng nuku laak∼laak-i ba me kaberang-di*
man one RDP∼walk-PFV come LNK trip-INCH.PFV
ba ***da-kaai.***
LNK 3.REFL.PAT-fall.over
'A man came scurrying along, tripped, and fell over.' [SS.30F.41]

c. *? Neeng nuku laak-i ba me kaberang-di ba*
man one walk-PFV come LNK trip-INCH.PFV LNK
del ong hayeei.
3.REFL.NAGT make fall.from.above
? 'A man came along, tripped, and fell from above.' Not good for:
'A man came along, tripped, and fell over.' [FN.40F]

In example (7a), the verb *hayeei* 'fall from above' is used to describe an event where a banana falls from above onto the flat surface of a standing log. In (7b), the animate noun, *kaai* 'dog' jumps up and then falls down, so the verb *hayeei* is also appropriately used as the dog falls from above.

(7) 'fall from above [+ ELEVATION]'

a. *Balei san nuku bataa tuku tahang* ***hayeei.***
banana ripe one wood CLF on.top fall.from.above
'A ripe banana fell on top of a log.'

b. *Kaai di da-pak-di ba* ***del ong***
dog 3.AGT 3.REFL.PAT-jump.PFV LNK 3.REFL.NAGT make
hayeei.
fall.from.above
'The dog flung himself up and then made himself fall down.'
(Kratochvíl & Delpada, 2014, p. 128)

Example (8) illustrates the distinction between *daquoili* 'fall over' and *hayeei* 'fall from above' as used in the same sentence to describe different

types of falling. In this example, the speaker has just watched a short video clip in which two football players are contesting a header. The ball falls on one of the players' heads (from above) and this is described using the clause *hepikaai hayeei* 'falls on his head'. As a result, the player then falls to the ground; this is expressed using *nuku ... daquoili* 'one (man) fell over'. In addition, as shown in (9), *-quoil-* may be substituted by *-kaai* with no change in meaning, indicating that they are indeed synonyms.

(8) *Nuku ba bal di he-pikaai hayeei yo*
one REL ball 3.AGT 3.AL-head fall.from.above MED.ADD
da-quoil-i.
3.REFL.PAT-fall.over-PFV
'The one, on whose head the ball had fallen (from above), fell over.'
(Kratochvíl corpus)

(9) *Nuku ba bal di he-pikaai hayeei yo*
one REL ball 3.AGT 3.AL-head fall.from.above MED.ADD
da-kaai.
3.REFL.PAT-fall.over
'The one, on whose head the ball had fallen (from above), fell over'
[FN.26M]

Another important difference between the 'fall over' verbs, *-quoil-* and *-kaai*, on the one hand and the 'fall from above' verb *hayeei* on the other is in their polysemy. The verbs, *-quoil-* and *-kaai*, are not polysemous, while *hayeei* has a richer array of senses than just 'fall from above'. Its core falling sense 'fall from above' has been extended metaphorically to other domains, including: 1) 'something bad befalling someone', 2) '(get) hit' 3) 'close a door', 4) '(arrive) until a certain point'.

In addition to and in spite of its polysemy, in absolute terms, it is also much more frequent, as show in Table 6.4. It accounts for 6.81% of all the 6450 verbs in the Kratochvíl corpus, while the 'fall over' verbs, *-quoil-* and *-kaai-*, combined occur in only 22 tokens (accounting for only 0.34% of the total number of verbs. Even when we exclude the additional senses, *hayeei* in its strict sense 'fall from above' still occurs in 171 tokens (2.65%), which still greatly outnumbers *-quoil-* and *-kaai-* combined.

This points to the prevalence, not only of the lexical item *hayeei* with respect to either *-quoil-* (439 vs. 16) and *-kaai-* (439 vs. 6), but also to the

prevalence of the sense 'fall from above' with respect to the sense 'fall over' (171 vs. 22).

Table 6.4: Frequency of falling verbs (Kratochvíl corpus)

Sense	**Verb**	**Tokens**	**% of total number of verbs (N = 6450)**
'fall over'	*-quoil-*	16	0.25%
	-kaai	6	0.09%
	total	22	0.34%
All senses	*hayeei*	439	6.81%
- 'fall from above'	*hayeei*	171	2.65%

Turning now to Alor Malay, there is only one lexical item available for 'fall', *jatu*, which is unspecified for ELEVATION: the senses 'falling over' as in (10a) and 'falling from above' as (10b) are both expressed by the same verb, *jatu*.

(10) Alor Malay

a. *Laki-laki satu ada jalan datang ko dia terantuk*
man one PROG walk come LNK 3.SG trip
langsung ***jatu.***
immediately fall
'As a man passes by, he trips and falls.' [SS.AM.40F]

b. *Pisang* ***jatu*** *di atas kayu*
banana fall LOC top wood
'A banana falls on top of a log.' [SS.1LM.AM.3]

In summary, Abui lexicalizes falling verbs according to the feature [± ELEVATION]. The synonyms *-quoil-* and *-kaai* 'fall over' refer to a falling event where an entity which is already partially on the ground falls completely to the ground, hence the component [– ELEVATION]. In contrast, the verb *hayeei* 'fall from above' refers to a falling event where the entirety of an entity is at a higher starting point and falls onto a lower landing point, hence the component [+ ELEVATION]. In addition to these componential differences, *hayeei* 'fall from above' is also more polysemous than *-quoil-* and *-kaai*

'fall over'. As such, in absolute terms it is also much more frequent as well. Moreover, if we only consider the strict sense of *hayeei* of 'fall from above' and exclude its other senses, then it is still more frequent than *-quoil-* and *-kaai* 'fall over'. Finally, Alor Malay uses one verb *jatu* 'fall' to encode the generic act of falling.

6.3.3 Verbs of change of state

The third event domain discussed here is 'change of state'. In this domain, Abui lexicalizes distinctions in both event semantics and argument structure. With respect to event semantics, Abui lexicalizes verbs based on the feature of [± CHANGE OF POSTURE]. The principle distinction in verbs of change of state we are concerned with is between 'wake up [–CHANGE OF POSTURE]' and 'get up [+CHANGE OF POSTURE]'.[7] Specifically, 'wake up' verbs involve a change of state from sleeping consciousness to waking consciousness without a change of posture. On the other hand 'get up' verbs involve a change of state by moving into an upright posture, without necessarily a change in consciousness. These are summarized in Table 6.5.

Table 6.5: Change of state verbs

Event Domain	**Semantic Feature**		**Senses** [± feature]	**Abui form**
Change of state	[±CHANGE OF POSTURE]	⟨	[–] 'wake up' [+] 'get up'	*-tein-*, *-minang-* *-rui-*

As illustrated in Table 6.5, the 'wake up [–CHANGE OF POSTURE]' sense further lexicalizes verbs according to argument structure, with the root *-tein-*[8] being used for transitive clauses of 'waking someone up' and *-minang-*[9] being used in intransitive clauses of 'someone waking up by themselves'. The 'get up' [+CHANGE OF POSTURE] sense, on the hand, uses one verb stem *-rui-*[10] for both transitive and intransitive clauses, with the

[7] In some parts of this chapter where space is limited, CHANGE OF POSTURE is abbreviated to COP.

[10] The root *-rui-* may or may not involve a change in conscious state.

choice of agreement prefix (*ha-* or *da-* for third person) determining transitivity. For transitive verbs, the *ha-* (3.PAT) inflection indexes a P argument, while for intransitive verbs, the *da-* (3.REFL.PAT) inflection indexes S arguments.

These distinctions in both event semantics and argument structure are exemplified in examples (11-12). Example (11a) illustrates the use of the verb *-tein-* 'wake up TR [–CHANGE OF POSTURE]'. In this example, the 'child' is woken up by the father but is not physically raised up; instead, he remains lying on the ground, hence the component [–CHANGE OF POSTURE].

Example (11b) illustrates the use of the verb *-minang-* 'wake up INTR [–CHANGE OF POSTURE]'. Here, the man woke up by himself while he was seated against a wall and he subsequently remained seated, involving a lack of change of posture.

(11) 'wake up [– CHANGE OF POSTURE]'

a. Transitive
Neeng moqu nuku anei taa ya he-maama
man child one ground sleep.IPFV SEQ 3.AL-father
di me ***ha-tein-a.***
3.AGT come.IPFV 3.PAT-wake.up-IPFV
'A small boy is sleeping on the ground, his father comes along and wakes him up.' [SS.40F.24]

b. Intransitive
Neeng nuku ... tadei haba oro marak-di ba
man one ... sleep.PFV but DST startle-PFV LNK
da-minang-di.
3.REFL.PAT-be.conscious-PFV
'A man was asleep (leaning against something), but got startled and woke up.' [SS.43F.25]

In (12), the verb *-rui-* 'get up' entails the component [+CHANGE OF POSTURE]. It is derived from the root *rui* 'be erect'. In the transitive 'get up' example, (12a), Ata was lying down, looking at his phone; then Simon came and dragged him up, causing him to be upright. In the intransitive example, (12b), the man was just sitting against the wall, awake. He then got up and left. Both (12a-b) imply a change of posture, hence the use of *-rui-* 'get up'.

(12) 'get up [+ CHANGE OF POSTURE]'

a. Transitive

Simon di Ata ***ha-rui-di*** *ba mit-i.*
S. 3.AGT A 3.PAT-erect-INCH.PFV LNK sit-PFV
'Simon woke Ata up/raised Ata and then (Ata) sat.' [FN.43F]

b. Intransitive

Neeng nuku mit-di ***da-rui-di*** *ba*
man one sit-INCH.PFV 3.REFL.PAT-erect-INCH.PFV LNK
laak-i.
sit-PFV
'A man was seated, got up, and walked away.' [SS.30F.41]

The distinctions between the two senses 'wake up' and 'get up' are further illustrated with minimal pairs in (13). In both examples, the S argument, *neeng nuku* 'one man', is 'lying on the bamboo surface'. This clause implies a lack of change of posture; therefore the 'wake up' verb *minang* verb is preferred as in (13a), while the 'get up' verb *daruidi* appears infelicitous, as in (13b).

(13) a. *Neeng nuku wan* ***da-minang-di***
man one already 3.REFL.PAT-be.conscious-INCH.PFV
haba dara lik tahang taa.
but still bamboo.surface on.top lie.IPFV
'A man is already awake, but is still lying on the bamboo surface.'
[FN.40F]

b. *Neeng nuku wan* ***da-rui-di*** *haba*
man one already 3.REFL.PAT-be.erect-INCH.PFV but
dara lik tahang taa.
still bamboo.surface on.top.of lie.IPFV
?? 'A man has already gotten up, but is still lying on the bamboo surface.' [FN.40F]

Another important difference between the verbs *-tein-*/*-minang-* 'wake up' and *-rui* 'get up' is that the verb *-rui-* is more polysemous. It may occur in a larger number of grammatical contexts and it can index both animate and inanimate targets. It may be used for causing humans to get up as well as objects, such as houses, planks, or motorbikes. It can also be used to index

intangible nouns, such as 'history', 'stories', or 'discussion points'. When the argument is inanimate, new senses are derived, comparable to 'resurrect' in English, 'set straight', or 'risen'. The verbs *-tein-*/*-minang-* are more restricted in that they typically only index animate arguments.[11]

In sum, for the change of state verbs both event semantics and argument structure are lexicalized; in other words, both of these factors determine the use of distinct lexical items. In terms of event semantics, Abui obligatorily differentiates these verbs based on the feature of [±CHANGE OF POSTURE]. The verbs *-tein-* 'wake up TR' and *-minang-* 'wake up INTR' express the component [–CHANGE OF POSTURE], while the verb *-rui-* 'get up' expresses the component [+CHANGE OF POSTURE]. In terms of argument structure, the [–CHANGE OF POSTURE] verbs *-tein-* 'wake up TR' and *-minang-* 'wake up INTR' also lexicalize transitivity distinctions. The [+CHANGE OF POSTURE] root *rui* 'get up' is used in both transitive and intransitive constructions, with the choice of pronominal prefix determining its valency.

In terms of frequency data from the Kratochvíl corpus, Table 6.6 illustrates that the 'wake up' verbs *-tein-* (4 tokens, 0.06%) and *-minang-* (2 tokens, 0.03%) are much less frequent than the *-rui-* 'get up' verb (59 tokens, 0.91%). The verb *rui-* 'get up' occurs 68 times (1.05%) if we include the additional senses.

Table 6.6: Frequency of change of state verbs (Kratochvíl corpus)

Sense	**Verb**	**Tokens**	**% of total number of verbs (N = 6450)**
'wake up'	*-tein-*	4	0.06%
All senses	*-minang-*	10	0.15%
- 'wake up'	*-minang-*	2	0.03%
All senses	*-rui-*	68	1.05%
- 'get up'	*-rui-*	59	0.91%

[11]The verb *-minang-* must always index an animate argument. However, it can additionally add another argument using the locative prefix to derive the meaning 'remember something (lit. become conscious of something)'. In this respect, it is also polysemous, having the meaning 'wake up' and also 'remember something'.

As for Alor Malay it has only one verb for the relevant change of state event domain. As such, it is indeterminate with respect to CHANGE OF POSTURE. The Alor Malay term *bangun* 'get up' lumps together the two senses lexically differentiated in Abui. It says nothing about whether the sleeping animate being has moved upright or opened their eyes or not. With respect to argument structure, Alor Malay transitive clauses involve the use of the CAUSATIVE *kasi* 'give' in a serial verb construction, while intransitive clauses simply use the verb *bangun*.

Examples (14a-b) illustrate the use of the intransitive *bangun* 'wake up/get up'. The examples are taken from responses in Alor Malay to the same elicitation stimuli presented to speakers in Abui in examples (11b-12b). The verb *bangun* 'wake up, get up' is used to express the two senses lexically differentiated by Abui and corresponds to Abui *-minang-* and *-rui-* respectively.

(14) Alor Malay

a. 'wake up INTRANSITIVE'

Dia	*kaget*	***bangun***	*habis*	*ada*	*lihat*	*kiri*	*kanan.*
3.SG	shocked	get.up	SEQ	PROG	look	left	right

'He got startled and woke up; then, he looks left and right.'

b. 'get up INTRANSITIVE'

Dia	***bangun***	*ko*	*jalan.*
3.SG	get.up	LNK	walk

'He gets up and leaves.'

Turning now to the transitive usage, examples (15a-b) illustrate the use of *kasi bangun* 'wake s.o up/erect s.o/sth', composed of the CAUSATIVE *kasi* 'give' and *bangun* 'wake up, erect, get up'. Example (15a) addresses the 'wake up sense' which implies a lack of change of posture, while (15b) illustrates the 'get up' sense which implies a change of posture.

(15) Alor Malay

a. 'wake up TRANSITIVE'

Anak kecil satu ada tidur, dia punya bapa ni
child small one PROG sleep, 3.SG POSS father PROX
ada jalan datang ko ***kasi bangun*** *dia.*
PROG walk come LNK give get.up 3.SG

'A small child is sleeping, his father comes along and wakes him up.'

b. 'get up TRANSITIVE'

Simon ***kasi bangun*** *Ata ko duduk.*
S. give get.up A. LNK sit

'Simon lifts Ata up and then sits.'

A breakdown of the forms in Abui and Alor Malay are presented in Table 6.7.[12]

Table 6.7: Change of state verbs in Abui and Alor Malay

Sense	**Language**	**Transitive**	**Intransitive**
'wake up'	Abui	*ha-tein-*	*da-minang-*
	Alor Malay	*kasi bangun*	*bangun*
'get up'	Abui	*ha-rui-*	*da-rui-*
	Alor Malay	*kasi bangun*	*bangun*

To conclude, Abui lexically differentiates verbs based on [±CHANGE OF POSTURE]. The verbs *-tein-* (transitive) and *-minang-* (intransitive) refer to a change of state event where an entity enters a waking state of consciousness with no change of posture. The verb *-rui-* (both transitive and intransitive) refers to a change of state event involving a change of posture. The verb *-rui-* is also both more frequent and more polysemous than the verbs *-tein-* and *-minang*. Alor Malay is indeterminate to the feature and uses one verb *bangun* polysemously.

[12]The *ha-* inflection is used in transitive clauses to index a P argument, while the *da-* inflection is used in intransitive clauses to index an S argument.

6.3.4 Summary: Differences between Abui and Alor Malay

In the event domains of visual perception, falling, and change of state, Abui lexical semantics are more complex than those in Alor Malay. Abui lexically distinguishes at least two verbs for each of the follow features within three event domains: 1) [± CONTROL] for visual perception verbs, 2) [± ELEVATION] for falling verbs, and 3) [± CHANGE OF POSTURE] for change of state verbs. In these three event domains, Alor Malay does not differentiate these features and uses omly one verb for each domain.

6.4 Present study

6.4.1 Introduction

Given that these cross-linguistic lexical semantic differences exist, the broad aim of this study is to test whether the three Malay-dominant bilingual age-groups, (pre)adolescents (age: 9-16 years), young adults (age: 17-25 years), and adults (age: 26-34) (see §3.4) show variation in their use of these Abui verbs compared to the control group of elders.

When certain semantic features are not specified lexically in the dominant language but are in the target language, it is likely that L2 speakers might fail to conceptualize the distinctions encoded by the set of verbs in the target language (Jarvis & Pavlenko, 2008). This may thus lead to generalization. Because the age-groups in this study show different exposure and thus dominance in Abui and Malay, age is used as a proxy for dominance. In other words, younger speakers are more akin to L2 speakers of Abui. In addition to age, gender is also expected to play a role in explaining differences within the groups (see §2.4.2.2).

With this in mind, the following research questions are addressed: (i) Is there variation in the use of the 'visual perception', 'falling', and 'change of state' verbs across the four age-groups? (ii) If there are any significant differences in their use of these verbs, how are gender and age linked to the variation? (iii) What do differences in production and comprehension tell us about speakers' knowledge of the verbs in these three domains?

It is expected that the groups will behave differently and that in each domain, one verb will be overgeneralized and used in other contexts at the expense of another verb. This is expected to manifest itself in an in-

crease in frequency of one form. Specifically, it is predicted that the youngest two groups, (pre)adolescents (age: 9-16) and young adults (age: 17-25), will exhibit generalization in all three domains and that the verbs which are most frequent will be generalized, namely (-)*wahai*, (*el ong*) *hayeei*, and *-rui-*. This is due to those groups' more limited relative exposure to Abui and early dominance of Alor Malay. As for adults (age: 26-34), who have high levels of proficiency, we predict that they will pattern like the control group of elders in all three event domains. This hypothesis is based on the convergence hypothesis (Green, 2003), which postulates that a high level of proficiency in the less dominant language should eventually lead to the same lexical-semantic mental representations as L1 speakers (in this case elders). This points to the importance of late learning in the acquisition of these lexical-semantic features. As far as gender is concerned, it is expected that (pre)adolescent boys will generalize the most, due to the fact that they spend more time away from the hamlet than girls and are less involved in contact with adults (see §2.4.2).

Differences in production and comprehension are expected. Indeed, many studies show that features which are problematic for speakers in L2 production may not necessarily be so in comprehension (Jarvis & Pavlenko, 2008). Comprehension tasks, and in particular forced-choice tasks, are especially useful in this respect as they allow us to test whether speakers are still able to tease apart the subtle lexical distinctions between verbs. Testing comprehension becomes even more relevant in a speech community where speakers grow up and spend many years of their life having passive-active knowledge of the language (cf. Kulick and Terrill, 2019). In production, frequency is expected to be more likely to play a role in determining which verbs gets used. As such, it is predicted that generalization takes place more frequently in production than it does in comprehension.

In order to test these hypotheses, two studies were conducted that both focused on the use of verbs in the three event domains: visual perception, falling, and change of state. The studies involved: 1) The Surrey Stimuli production elicitation task (§6.4.2), where participants were asked to watch video stimuli and describe their content and 2) a forced-choice comprehension task (§6.4.3) where participants listened to two minimal pair sentences while watching video stimuli, and were then asked to select the sentence that best matched the event in the video stimulus (see 3.5.2 for more in-

formation on these two tasks). A general discussion is presented in 6.5.[13]

6.4.2 Study 1: Production data

The aim of the production data study is to compare the use of visual perception, falling, and change of state verbs in production across the four age-groups. The methodology of this study is discussed in §6.4.2.1, while the results are presented in §6.4.2.2.

6.4.2.1 Methodology

For the production data, a total of 66 participants were tested, divided into four groups according to age and life-stages, as displayed in Table 6.8. For a detailed discussion of how the age-groups were construed, see §3.4.

Table 6.8: Participant list for Surrey Stimuli production task

Groups	**Age range**	**M**	**F**	**Total**
(Pre)adolescents	9-16 (m: 13.47)	9	10	19
Young adults	17-25 (m: 21.42)	10	9	19
Adults	26-34 (m: 30.29)	10	9	19
Elders	40-75 (m: 50.44)	4	5	9
Total	9-75 (m: 25.51)	33	33	66

Production data was collected by means of the Surrey Stimuli video elicitation task (Fedden et al., 2013; see §3.5.2.1 on discussion of task description and execution). While all the responses were being transcribed and annotated, they were also being double checked by older, native speakers for grammaticality and felicitousness. After this process, it was clear that there was considerable age-related variation in the choice of verbs for certain events, in the sense that some verbs appeared to be generalized to other contexts. While many other verbs also showed variation among speakers, the three event domains of visual perception, falling, and change of state were selected for further investigation for two reasons. First, these domains

[13] More in-depth information on how the data was coded and analyzed can be found in §3.8.

contained the verbs that were the most frequently used in the production task, while the other types of verbs were used sporadically and thus did not fulfill sampling criteria. Second, these event domains were present in clips eliciting two polarities of a given feature (e.g. both ± CONTROL as opposed to just + CONTROL). In other words, this made it possible to study whether, for example, *-ien* was used appropriately in its target context 'see [– CONTROL]' as well as whether (-)*wahai* was used appropriately in its target context 'look at [+ CONTROL]', instead of just one of these polarities. This allowed for the testing of directionality of generalization.

Coding

The construct of *generalization* was operationalized by isolating clips eliciting events of visual perception, falling, and change of state and then coding the responses as either a match or mismatch; see Table 6.9. A match implied that the appropriate verb was used in its appropriate context. A mismatch implied that an infelicitous verb was used, meaning that a given verb was 'generalized' to a context that warranted another verb. The benchmark for what consisted of the appropriate context was provided on the basis of i) the verb used by speakers above 40 in that particular context and ii) their metalinguistic judgments about the use of the verb while watching the recording. The paragraphs below offer a detailed illustration of the various matches and mismatches for the three event domains.

Examples of both a match and a mismatch for the visual perception verb 'see' are presented in (16a-b). Both of these utterances are given by different speakers as responses to the clip C20 'Man walks by, does not see a banana, and then accidently steps on it'. The target verb in this context is the experience verb *-ien* 'see' (see §6.3.1). As such, the elder's utterance in (16a) is coded as a match as it correctly uses the verb *-ien*, while the young adult's utterance in (16b) is coded as a mismatch because it uses the activity perception verb *-wahai* 'look at'.

Table 6.9: Coding of event domains

Event Domain		Context	Match	Mismatch	Stimuli used for target
Visual perception	⟨	'see [– CONTROL]'	*-ien*	(-)*wahai*	C4, C16,C20
		'look at [+ CONTROL]'	(-)*wahai*	*-ien*	C4, C16, C20, P09, P12
Falling	⟨	'fall over [–ELEVATION]'	*-quoil-*, *-kaai-*	*hayeei*	C20, P09
		'fall from above [+ELEVATION]'	*hayeei*	*-quoil-*, *-kaai-*	C15, P11, P19
Change of state	⟨	'wake up [–COP]'	*-minang-*, *-tein-*	*-rui-*	P04, P07
		'get up [+COP]'	*-rui-*	*-minang-*, *-tein-*	P21

(16) **Visual perception:** *-ien* 'see' target; C20 'Man walks by, does not see a banana, and then accidently steps on it';

a. **Match** 43-year-old female (Elder)

Neeng nuku laak-i me mai balei san
man one walk-PFV come COND banana ripe
h-ien *naha tai laak-i.*
3.PAT-see.PFV NEG on.top walk-PFV

'As a man passed by, he didn't see the ripe banana and stepped on it.' [SS.43F.25]

b. **Mismatch** 21-year-old female (Young adult)

Neeng nuku laak-i ya balei san ***he-wahai***
man one walk-PFV SEQ banana ripe 3.LOC-look.at
naha ba di la tai laak-i.
NEG LNK 3.AGT MED.LOCA on.top walk-PFV

'A man walked by, and then did not look at the ripe banana and stepped on it.' [SS.21F.42]

The same method was applied to the coding of verbs for falling. The utterances in (17a-b) are produced in response to video clip P09 'Man walk and fall'. In this clip, a man falls over after walking quickly and tripping. Therefore, the target is a 'fall over' verb, such as *-quoil-* or *-kaai*. Either of the two represents a match, as in the elder's use of *-quoil-* in (17a). A mismatch is represented by the use of *hayeei* 'fall from above' as in the (pre)adolescent's utterance in (17b).

(17) **Falling**: *-quoil-* 'fall over' target; P09 'Man walk and fall'

a. **Match** 40-year-old female (Elder)

Neeng	*nuku*	*laak-i*	*me*	*mai*
man	one	walk-PFV	come.IPFV	COND

da-quoil-i.
3.REFL.PAT-fall.over.PFV

'As a man was walking, he fell over.' [SS.40F.24]

b. **Mismatch** 9-year-old female ((Pre)adolescent)

Neeng	*nuku*	*me*	*ba*	***hayeei.***
man	one	come.IPFV	LNK	fall.from.above

'A man walked and fell (from above).' [SS.9F.9]

As for verbs of waking up, examples (18a-b) illustrate responses to video clip P07 'Man wake up child'. In this clip, a man comes and wakes up his child simply by nudging him. The child wakes up but remains lying on the ground. Because there is no change in the posture of the child, the target verb of this clip is *-tein-* 'wake up' and not *-rui-* 'get up'. A match is thus exemplified by the elder's use of *hateina* in (18a), while a mismatch is exemplified by the (pre)adolescent's use of *haruida* 'cause something/one to get up' as in (18b).

(18) **Change of state:** *-tein-* 'wake up' target; Clip P07 'man wake up child'

a. **Match:** 40-year-old female (Elder)

Neeng moqu nuku anei taa ya he-maama
man child one ground sleep.IPFV SEQ 3.AL-father
*di me **ha-tein-a.***
3.AGT come 3.PAT-wake.up-IPFV

'A boy was sleeping on the floor; then, his father came and woke him up.' [SS.40F.24]

b. **Mismatch:** 15-year-old male ((Pre)adolescent)

Moqu nuku di taa ba he-maama me ba
child one 3.AGT sleep.IPFV LNK 3.AL-father come LNK
ha-rui-da.
3.PAT-erect-IPFV

'A child was asleep; then, his father came and raised him up.' [SS.15M.10]

As was the case in Chapter 5, the Surrey Stimuli task with the 40 clips was not hypothesis-driven, but rather served to collect a corpus in which variable grammatical patterns could be identified. As a result, it was not a completely controlled production task, and did not have a pre-determined amount of 'see [– CONTROL]' or 'fall over [– ELEVATION]' targets, for example; these were coded as such per utterance and per speaker after the recording had been done. Out of the 40 Surrey stimuli, only a select number of video stimuli had the potential to elicit the contexts and verbs in question. These are presented in Table 6.9 (a list of Surrey Stimuli and their descriptions can be found in Table 3.11; see also Appendix V for depictions of all the clips).

For the 'falling' and 'change of state' verbal domains, the clips were very rigid in their interpretation in that they could only elicit one context. For example, clip C20 and P09 could only elicit a 'fall over [– ELEVATION]' context because a man was walking along a straight plain as he (was about to) 'fall over'; meanwhile, clips C15, P11, P19 could only elicit a 'fall from above [+ ELEVATION]' context because the objects in the clips were falling from above to the ground. This means that if a a speaker produced a falling verb, it was instantly clear whether the verb was a match or mismatch.

However, for the visual perception clips, the clips could potentially eli-

cit either a 'see [– CONTROL]' context or a 'look at [+ CONTROL]' context, depending on the construction and object used (see example (4) for examples of one clip eliciting two contexts and two verbs). Despite this fluidity, it was always clear whether the appropriate verb had been used and the type of construction used in the individual responses very clearly indicates which of the two readings was intended.

6.4.2.2 Results

Tables 6.10-6.15 display the proportion of mismatches for each of the six contexts. The proportion of mismatches refers to how often the wrong verb was used in a given context. In all three domains, the [– FEATURE] context is presented first, followed by the [+ FEATURE] context. For all of these tables, the higher the mean, the more frequently the participants produced the mismatch.

Visual perception

Table 6.10 shows the proportion of mismatches for 'see [– CONTROL]' contexts. The proportion of mismatches illustrates how often a speaker used the mismatch verb, (-)*wahai* 'look at', in a 'see [– CONTROL]' context when the form *-ien-* was expected. In the 'Proportion' column, the denominator shows how many times a group produced a 'see [– CONTROL]' context, while the numerator shows how many times a group used (-)*wahai* 'look at' instead of *-ien-* 'see'.[14] For example, (pre)adolescents produced 11 'see [– CONTROL]' contexts where the verb *-ien-* was expected, yet they used the verb *-wahai* 'look at' 8/11 times (or 73%), while using *-ien* 'see' only 3/11 times (or 27%). The higher the percentage, the more frequently speakers used the mismatch verb, (-)*wahai* 'look at', in a 'see [– CONTROL]' context.

[14] Recall from §6.4.3.1 that the amount of 'contexts' produced is dependent on both the stimulus shown and the construction a speaker uses. Because speakers were free to describe the clips in ways they saw fit, not all speakers produced constructions that could be used for this particular study. This is why the denominators differ per group.

Table 6.10: Production data: Proportion of mismatches for *-ien-* 'see [– CONTROL]' target

Group	Speakers	Proportion	SD
(Pre)adolescents	19	8/11 (73%)	.47
Young adults	19	14/17 (82%)	.39
Adults	19	1/13 (8%)	.28
Elders	9	0/4 (0%)	.0

A non-parametric Kruskal-Wallis test shows a statistically significant difference between the proportion of mismatches in the four groups ($H(3) = 22.183$, $p<.001$). A post-hoc pairwise comparison shows that (pre)adolescents produce mismatches significantly more often than adults and elders ($p<.05$). Young adults also produce mismatches significantly more often than adults and elders ($p<.01$). The results show that young adults had a higher proportion of mismatches (82%) compared to (pre)adolescents (73%); however, the difference was not significant ($p = .906$). Furthermore, there were no significant differences between the proportion of mismatches between adults (8%) and elders (0%), ($p = .983$). In short, these results show that both (pre) adolescents and young adults had a high number of mismatches, compared to adults and elders, who had close to none.

The proportion of mismatches for 'look at [+ CONTROL]' contexts is given in Table (6.11). The proportion of mismatches illustrates how often a speaker used the mismatch verb, *-ien-* 'see [– CONTROL]', in a context when (-)*wahai* 'look at [+ CONTROL]' was expected. As indicated by the 0 for every group, in every 'look at [+ CONTROL]' context, speakers of all groups unanimously used the appropriate verb, (-)*wahai* 'look at [+ CONTROL]'.

Table 6.11: Production data: Proportion of mismatches for (-)*wahai* 'look at [+ CONTROL]' target

Group	Speakers	Proportion	SD
(Pre)adolescents	19	0/3	.00
Young adults	19	0/26	.00
Adults	19	0/20	.00
Elders	9	0/5	.00

Taken together, Tables 6.10-6.11 show a clear pattern: (Pre)adolescents and young adults generalize the nontarget form (-)*wahai* 'look at [+ CONTROL]' to contexts warranting the verb *-ien-* 'see [– CONTROL]'. However, all groups use the target form in 'look at [+ CONTROL]' contexts appropriately. This suggests that the verb (-)*wahai* 'look at' is becoming generalized and displacing the form *-ien-* and that the feature [CONTROL] is being lost in the domain of visual perception.

Falling verbs

Table 6.12 illustrates the mismatches produced for 'fall over [– ELEVATION]' contexts. Specifically, the higher the percentage, the more frequently speakers used the mismatch verb, (*el ong*) *hayeei* 'fall from above [+ ELEVATION]', in a 'fall over [– ELEVATION]' context warranting the verbs, *-quoil-* or *-kaai*.

Table 6.12: Production data: Proportion of mismatches for *-quoil-*/*-kaai* 'fall over [– ELEVATION]' target

Group	Speakers	Proportion	SD
(Pre)adolescents	19	20/23 (87%)	.34
Young adults	19	29/29 (100%)	.00
Adults	19	14/29 (48%)	.51
Elders	9	0/9 (0%)	.00

A non-parametric Kruskal-Wallis test shows a statistically significant difference between the proportions of mismatches in the four groups ($H(3) = 42.616$, $p < .001$). As can be seen from the table, the mean scores of the three Alor Malay dominant groups, (pre)adolescents (87%), young adults

(100%), and adults (48%) were all relatively high, while as expected, the control group, elders, had a mismatch rate of 0. All of these three groups differed significantly from the elders (*p*'s <.001). What these results suggest is that all three of the Alor Malay dominant groups, (pre)adolescents, young adults, and adults, had a tendency to overgeneralize the verb (*el ong*) *hayeei* 'fall from above [+ELEVATION]' to 'fall over [– ELEVATION]' contexts.

A post-hoc pairwise comparison shows that (pre)-adolescents, who obtained a high mismatch proportion of 87%, significantly differed from adults and elders (*p*'s <.001). One of the more striking results is the behaviour of young adults, who obtained a mismatch rate of 100%. This means that in every context warranting a 'fall over' verb *-quoil-*/*-kaai*, young adults used the verb 'fall from above' (*del ong*) *hayeei*. Young adults did not differ significantly from (pre)-adolescents; however, they did differ significantly from adults and elders (*p*'s <.001).

Table 6.13 shows the results for 'fall from above [+ ELEVATION]' contexts targeting the verb, (*el ong*) *hayeei*. All speakers use the target verb in 'fall from above [+ ELEVATION]' contexts.

Table 6.13: Production data: Proportion of mismatches for (*el ong*) *hayeei* 'fall from above [+ ELEVATION]' target

Group	**Speakers**	**Proportion**	**SD**
(Pre)adolescents	19	0/15	.00
Young adults	19	0/17	.00
Adults	19	0/15	.00
Elders	9	0/9	.00

Taken together, Tables 6.12-6.13 show a clear pattern: (Pre)adolescents, young adults, and adults generalize the nontarget form (*el ong*) *hayeei* 'fall from above [+ ELEVATION]' to 'fall over [– ELEVATION] contexts. However, all groups use the target form in 'fall from above [+ ELEVATION]' contexts. This suggests that the verb (*el ong*) *-hayeei* is becoming generalized and displacing the forms *-quoil-*/*-kaai* and that the feature [ELEVATION] is being lost in the domain of falling.

Change of state verbs

Table 6.14 illustrates the proportion of mismatches for 'wake up [– CHANGE OF POSTURE]' contexts, targeting the verbs *-tein-* (TR)/*-minang-* (INTR). The numerator represents counts for the use of the mismatch verb *rui* 'get up'. The higher the percentage, the higher the rate of mismatch.

Table 6.14: Production data: Proportions of mismatches for *tein-*/*-minang-* 'wake up [– CHANGE OF POSTURE]' target

Group	**Speakers**	**Proportion**	**SD**
(Pre)adolescents	19	22/27 (81%)	.40
Young adults	19	20/34 (59%)	.50
Adults	19	9/31 (29%)	.46
Elders	9	0/12	.00

A non-parametric Kruskal-Wallis test shows a statistically significant difference between the proportion of mismatches in the four groups (H(3) =28.906, p <.001). A posthoc pairwise comparison confirms that (pre)adolescents show significant differences to adults and elders (p <.001), but not to young adults (p=.183). As for young adults, they produced a mismatch 59% of the time, a proportion also statistically different to adults (p <.05) and elders (p <.001). That there were no statistically significant differences between (pre)adolescents and young adults suggests that both (pre)adolescents and young adults were much more likely than adults and elders to generalize the nontarget form *-rui-* 'get up [+ CHANGE OF POSTURE]' to 'wake up [– CHANGE OF POSTURE]' contexts. In addition, there were no significant differences between adults (29%) and elders (0) (p =.204).

Table 6.15 illustrates 'get up' [+ CHANGE OF POSTURE] contexts, targetting the form *-rui-*. As evidenced by the 0s, all groups use the target form appropriately.

Table 6.15: Production data: Proportion of mismatches for *-rui-* 'get up [+ CHANGE OF POSTURE]' target

Group	Speakers	Proportion	SD
(Pre)adolescents	19	0/12	.00
Young adults	19	0/16	.00
Adults	19	0/17	.00
Elders	9	0/8	.00

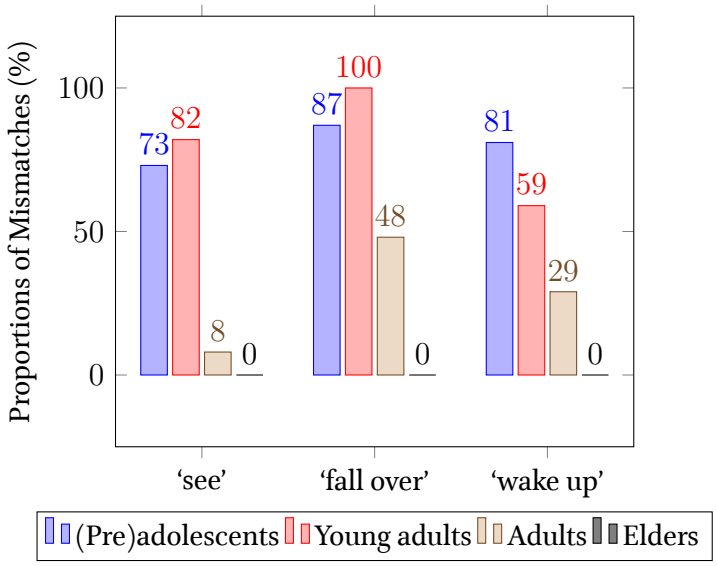
Taken together, Tables 6.14-6.15 show a clear pattern: (Pre)adolescents and young adults generalize the nontarget form *-rui-* 'get up' to 'wake up [– CHANGE OF POSTURE]' contexts. However, all groups use the target form in 'fall from above [+ CHANGE OF POSTURE]' contexts. This suggests that the verb *-rui-* 'get up' is becoming generalized and displacing the forms *-tein-* /*-minang-* and that the feature [CHANGE OF POSTURE] is being lost in the domain of change of state.

6.4.2.3 Interim Summary

So far, we have seen the results presented for the proportion of mismatches across four age-groups, for the three verbal domains. In all three domains, generalization is clearly widespread, highlighting the loss of the features [CONTROL], [ELEVATION], [CHANGE OF POSTURE], respectively.

Figure 6.1 visualizes the results of the preceding paragraphs, by using the mean percentages. It depicts the three contexts that elicited mismatches and excludes the three contexts that did not include a single instance of mismatch. Comparing the three contexts, it seems that 'fall over' shows the highest proportion of mismatch.

Figure 6.1: Proportion of mismatches for 'see', 'fall over', 'wake up'



Gender

Gender effects were tested for (pre)adolescents and young adults, because these are the two groups that showed significant differences in all three event domains. To test for gender, the three domains had to be collapsed into one variable, testing them separately was not possible because there were too few tokens to run a Chi-squared test. Recall that adults showed significant differences to elders in the 'fall over' target context, while they did not show any differences in any of the other conditions. Because of this, there were not enough tokens to run a Chi-squared test so gender could not be tested. The results are presented in Table 6.16.

Table 6.16: Gender differences across all three domains

Groups	**Gender**	**Match**	**Mismatch**	**Total**
(Pre)adolescents	male	3 (11.1%)	24 (88.9%)	27
	female	8 (23.5%)	26 (76.5%)	34
Young adults	male	7 (19.4%)	29 (80.6%)	36
	female	10 (22.7%)	34 (77.3%)	44

The results for both groups were not statistically significant. For (pre)adolescents, there were no gender differences: X (1, N = 61) = 1.570, p = .210. For young adults, there were also no gender differences: X(1, N = 80) = .128, p = .721.

However, despite these insignificant results, there do appear to be some gender differences among (pre)adolescents. (Pre)adolescent males have a mismatch rate of 88.9%, while females have a rate of 76.5%. It could be that the sample size is too small to show any significant differences.

6.4.3 Study 2: Comprehension data

The second study investigates comprehension data from the four Abui age-groups collected in the form of the forced-choice task. The methodology of the study is described in §6.4.3.1 and the results are discussed in §6.4.3.2.

6.4.3.1 Methodology

Comprehension data was collected from a total of 60 participants. Of these 60 participants, 57 had also already participated in the production task (which tested 66 participants), while 3 speakers only took part in the comprehension to compensate for the 9 speakers that could not be tested. See Table 6.17 for a full breakdown of participants.

Table 6.17: Breakdown of participants

		Production task			**Comprehension task**		
Groups	**Age range**	**M**	**F**	**Total**	**M**	**F**	**Total**
(Pre)adolescents	9-16	9	10	19	9	9	18
Young adults	17-25	10	9	19	9	5	14
Adults	26-34	10	9	19	9	8	17
Elders	40-75	4	5	9	5	6	11
Total	9-75	33	33	66	32	28	60

As discussed in §3.5.2.2, a forced-choice task targeting several areas of grammar was conducted. The forced-choice task presented speakers with a set of 30 video clips, each accompanied by the audio stimuli consisting of

two sentences; speakers were then asked to select one of the two sentences that best matched the video clip. Out of the 30 video clips, 12 targeted verbal semantics, while the rest targeted other areas and thus acted as distractors for one another. The three event domains were represented using four clips each. Table 6.18 shows the various configurations of the clips, shown along with the sentences and their associated target and mismatch. Out of the total of twelve trials, nine included videos already used in the production task, while for three trials, new videos had to be recorded.[15]

Table 6.18: Description of forced-choice stimuli targetting verb usage

Clip description	**Match**	**Mismatch**	**Clip used**
Visual perception			
'A man does not see the tree, so he bumps into it.' (excluded)	*hien*	*hewahai*	C16
'A man does not see the banana, so he steps on it.'	*hien*	*hewahai*	C20
'A man is looking at something.'	*hewahai*	*hien*	-
'' A man passes by, does not look near his feet, and trips.'	*wahai*	*hien*	P09
Falling			
'A man passes by (trips over a log) and stumbles over.'	*daquoili*	*del ong hayeei*	P09
'A man steps on a banana and nearly stumbles over.'	*daquoili*	*del ong hayeei*	C20
'A coconut falls from a tree.'	*del ong hayeei*	*daquoili*	C15
'A banana falls on a man's stomach.'	*hayeei*	*daquoili*	P19
Change of state			
'A man wakes up child.'	*hateina*	*haruida*	P07
'A man wakes up other man.'	*hateina*	*haruida*	-
'The house which has been erected burns.'	*haruida*	*hateina*	P10
'(A man is lying down); Other man raises him up.'	*haruida*	*hateina*	-

[15] Furthermore, it should also be noted that the first stimulus in the visual perception domain was excluded from the analysis because after having run the task, elders for that particular trial did not produce a 100% match rate. This means that it was not guaranteed that the trial was actually a clear-cut 'see [– CONTROL]' because there was so much variation in how elders perceived it. For all of the other trials, they unanimously achieved a 100% match rate and were therefore included.

An example of an audio stimulus match and mismatch are presented in (19a-b). Example (19a) illustrates a match because it uses the target verb *hateini* 'woke (him) up [– CHANGE OF POSTURE]' while (19b) illustrates a mismatch because the nontarget verb it uses the nontarget verb *haruidi* 'raised him [+ CHANGE OF POSTURE]'. A full list of the 12 audio stimuli is presented in the Appendix V.

(19) Video stimulus P07: 'Man wakes up child'

a. **Match**

Neeng	*nuku*	*miei*	*ba*	*moqu*	*nuku*
man	one	come.PFV	LNK	child	one

ha-tein-i.
3.PAT-wake.up-PFV
'A man came and woke a child up.'

b. **Mismatch**

Neeng	*nuku*	*miei*	*ba*	*moqu*	*nuku*	*ha-rui-di.*
man	one	come.PFV	LNK	child	one	3.PAT-erect-PFV

'A man came and raised a child up.'

It must be noted that for the change of state event domain, only transitive verbs (*ha-tein-* and *ha-rui-*) were used.

6.4.3.2 Results

The results are divided according to the three verbal categories, each bearing two targets. They are presented in Tables 6.19-6.24.

Visual perception

Table 6.19 illustrates the proportion of mismatches for *-ien-* 'see [– CONTROL]' targets. Choosing the sentence containing the verb (-)*wahai* 'look at [+ CONTROL]' is counted as a mismatch, while the sentence containing the verb *-ien-* 'see [– CONTROL]' is counted as a match.

For this condition, the number of trials (the denominator in the 'Proportion' column: 18, 14, 17, 10) tested is half the amount of the other conditions because one video clip was excluded (see Footnote 15).

Table 6.19: Comprehension data: Proportions of mismatches for *-ien-* 'see [– CONTROL]' target

Group	Speakers	Proportion	SD
(Pre)adolescents	18	6/18 (33%)	.49
Young adults	14	3/14 (21%)	.43
Adults	17	0/17 (0%)	.00
Elders	10	0/10 (0%)	.00

A Kruskal-Wallis test revealed that there was a significant differences across the four groups ($H(3) = 9.971$, $p < .05$). This difference was between (pre)adolescents (33%) and adults (0%), $p < .05$, as revealed by a post-hoc pairwise comparison. There were no significant differences between (pre)adolescents and elders, even though elders attained a proportion of 0%. This was due to the small sample size of the elders ($N = 10$), compared to (pre)adolescents (N=18) and adults (N=17). There were also no significant differences between young adults and any of the other groups.

Table 6.20 shows the opposite condition in the visual perception domain, targeting (-)*wahai* 'look at [+ CONTROL]'. Here, the use of the verb (-)*wahai* 'look at' represents a match, while the use of *-ien* 'see' represents a mismatch. The total number of tokens are double the amounts analyzed for the 'see' condition above.

Table 6.20: Comprehension data: Proportions of mismatches for (-)*wahai* 'look at [+ CONTROL]' target

Group	Speakers	Proportion	SD
(Pre)adolescents	18	6/36 (14%)	.35
Young adults	14	3/28 (10%)	.31
Adults	17	4/34 (11%)	.33
Elders	10	0/20 (0%)	.00

A Kruskal-Wallis test revealed that there were no significant differences among groups ($H(3) = 2.888$, $p > .05$). However, the table still shows that all of the Alor Malay-dominant groups produced at least a few mismatches.

Falling

As for the event domain of falling, the results for the context 'fall over [– ELEVATION] are presented in Table 6.21. Here, the use of *-quoil-* 'fall over' represents a match, while *hayeei* 'fall from above' represents a mismatch.

Table 6.21: Comprehension data: Proportion of mismatches for *-quoil-* 'fall over [– ELEVATION]' target

Group	Speakers	Proportion	SD
(Pre)adolescents	18	12/36 (33%)	.48
Young adults	14	8/28 (29%)	.46
Adults	17	4/34 (11%)	.32
Elders	10	0/20 (0%)	.00

A Kruskal-Wallis test revealed that there were significant differences among groups ($H(3) = 11.474$, $p < .05$). A post-hoc test was then conducted to test pairwise comparisons. The test revealed one significant difference: (Pre)adolescents, with a proportion of 33% differed significantly from elders, who had a proportion of 0% ($p < .05$). These results suggest that, even in comprehension, (pre)adolescents prefer (*el ong*) *hayeei* over *-quoil-* 33% of the time. Interestingly, there were no significant differences between young adults and elders, probably again due to the small sample size.

The proportion of mismatches for the context 'fall from above [+ ELEVATION]' are illustrated in Table 6.22. Here, the use of (*el ong*) *hayeei* 'fall from above [+ ELEVATION]' represents a match, while *-quoil-* 'fall over [– ELEVATION]' represents a mismatch.

Table 6.22: Comprehension data: Proportion of mismatches for (*el ong*) *hayeei* 'fall from above [+ ELEVATION]' target

Group	Speakers	Tokens	SD
(Pre)adolescents	18	1/36 (3%)	.17
Young adults	14	0/28 (0%)	.00
Adults	17	0/34 (0%)	.00
Elders	10	0/20 (0%)	.00

A Kruskal-Wallis test revealed that there were no significant differences

among groups ($H(3) = 2.278, p > .05$). Speakers almost unilaterally preferred the target (*el ong*) *hayeei* 'fall from above' over the mismatch *-quoil-* 'fall over', showing, similarly to the production task, that all speaker groups use this verb appropriately.

Change of state

The proportion of mismatches targetting 'wake up [– CHANGE OF POSTURE]' are presented in Table 6.23.

Table 6.23: Comprehension data: Proportion of mismatches for 'wake up [– CHANGE OF POSTURE]' target

Group	Speakers	Proportion	SD
(Pre)adolescents	18	2/36 (6%)	.23
Young adults	14	1/28 (4%)	.19
Adults	17	1/34 (3%)	.17
Elders	10	0/20 (0%)	.00

As can be seen in Table 6.23, the mean proportions were all generally quite low. The Kruskal-Wallis test revealed that there were no significant differences in mismatches found between any of the groups ($H(3) = 1.231, p > .05$).

As for the *-rui-* 'get up [+ CHANGE OF POSTURE]' target, the results are presented in Table 6.24.

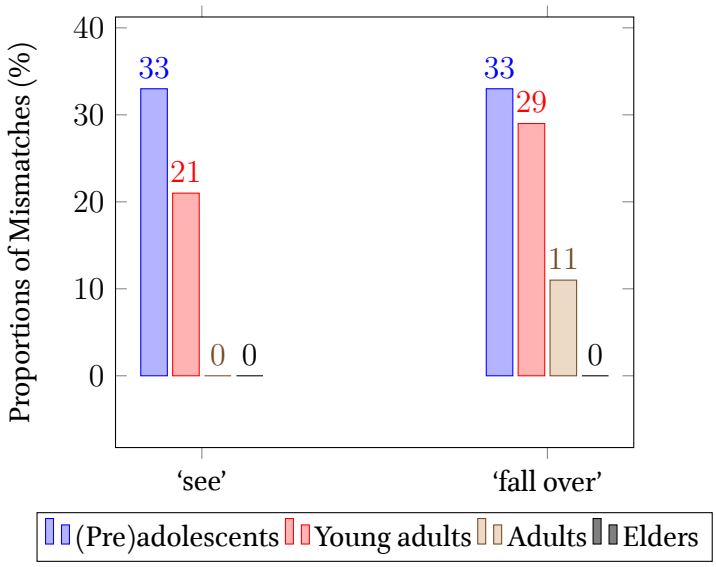
Table 6.24: Comprehension data: Proportion of mismatches for '*-rui-* 'get up [+ CHANGE OF POSTURE]' target

Group	Speakers	Proportion	SD
(Pre)adolescents	18	3/36 (8%)	.28
Young adults	14	0/28 (0%)	.00
Adults	17	0/34 (0%)	.00
Elders	10	0/20 (0%)	.00

A Kruskal-Wallis test revealed that there were no statistically significant differences among groups ($H(3) = 6.952, p > .05$).

In short, out of the six conditions, in only two were there significant differences across groups, namely in the 'see [– CONTROL]' context and the 'fall over [– ELEVATION]' context. In both of these conditions, it was (pre)-adolescents who differed significantly from elders.

Figure 6.2: Comprehension data: Proportion of mismatches for 'see', 'fall over'



6.5 Discussion

Three questions were posed at the beginning of this study: (i) Is there variation in the use of the 'visual perception', 'falling', and 'change of state' verbs across the four age-groups? (ii) If there are any significant differences in their use of these verbs, how are gender and age linked to the variation? (iii) What do differences in production and comprehension tell us about speakers' knowledge of the verbs in these three domains?

As predicted, there was variation in the use of the verbs among the four age-groups. In the production data of all three domains (comprehension data is discussed below), (pre)adolescents (9-16 years) and young adults (17-25 years) used a [+ feature] verb in its target [+ feature] context, but also overgeneralized it to a nontarget [- feature] context. Adults overgeneralized

a [+ feature] verb to a [- feature] context only in the domain of falling, but differentiated the contexts in the domain of visual perception and change of state. Elders (40-75 years), being the control group, consistently used a [+ feature] verb in a [+ feature] context and a [- feature] verb in a [- feature] context.[16]

The patterns observed for (pre)adolescents, young adults, and to a lesser extent adults, point to an increase in generalization: one form is used in an extended context, at the expense of another form. These include the use of the form (-)*wahai* in the original context of 'look at' as well as the new context of 'see', the use of (*el ong*) *hayeei* in the original context 'fall from above' and the new context 'fall over', as well as the use of *-rui-* in its original context 'get up' and its new context 'wake up'. These forms appear to be gradually displacing the forms originally reserved for those contexts. The variation suggests an increase in frequency of the generalized forms rather than a categorical change. Nonetheless, this distribution suggests that the specific semantic distinctions encoded by the features [CONTROL] in events of visual perception, [ELEVATION] in events of falling, [CHANGE OF POSTURE] in events of change of state are gradually becoming irrelevant distinguishing features in these three event domains. In this sense, generalization is leading to the loss of these lexical features.

There was a clear pattern of which verbs were selected for generalization. There are two reasons (-)*wahai* 'look at', *hayeei* 'fall from above', *rui* 'get up' were generalized and not other verbs, *-ien-* 'see', *-quoil-*/*-kaai-* 'fall over', *-tein-*/*-minang-* 'wake up TR/INTR'. The former verbs were all more frequent than their polar counterpart and often also more polysemous, except in the visual perception event domain. Both frequency and polysemy are argued to be important lexical semantic factors that might determine the outcome of semantic change and additionally be extra sensitive in bilinguals. This is in line with Winter et al. (2018) who found that words that are more frequent are often 're-used to express other concepts' (p.7). Frequency is also linked to polysemy: higher frequency words are more likely to be used in a variety of contexts, which will then lead to the acquisition of additional senses (Zipf, 1945; Calude & Pagel, 2011; Winter et al., 2018). However, this

[16]The fact that in all three domains a [+ feature] verb is generalized has little to do with the fact that it has a [+ feature] in and of itself and is argued to be related to frequency and polysemy. The 'features' were chosen arbitrarily and are presented as such in the discussion out of convenience and brevity.

did not apply in the domain of visual perception, where there was a mismatch between polysemy and frequency. In this domain, (-)*wahai* 'look at' is more frequent than *-ien* 'see', yet less polysemous. In this instance, it appeared that frequency was a better predictor than polysemy.

In addition, the graph in Figure 6.1 also shows that these three event domains pattern rather differently to one another. This is to be expected since the verbal domains of visual perception, falling, and change of state encode very different types of events with respect to one another. In addition, they have a very different distribution across the lexicon. As mentioned in §6.4.2.1, the choice of investigating these three domains was purely based on the fact that they appeared most in the responses to the Surrey Stimuli, clearly pointing to a bias created by the elicitation stimuli. At the same time, the differences between these domains can show us how a similar cause (contact with Alor Malay) can have different outcomes across verbs. It thus reveals which verbs are further down the path of generalization. In this sense, (*el ong*) *hayeei* 'fall from above' in the falling domain is more advanced than the other two domains. It is also the verb that is most polysemous and most frequent of any of the verbs generalized.

As for the link between gender and the variation, surprisingly, gender was found not to be a statistically significant variable in explaining the variation. This is at odds with the findings in Chapter 5, which clearly show that (pre)adolescent males accounted for the greatest variation due to their lower exposure to Abui. This stems from the observation that females have more territorially bound networks and spend a lot of time with older female speakers than males do with older males at this age (see §2.4.2.2). However, this did not appear to be as relevant in the domain of verb choice as it was in the domain of reflexivity in possession. At the same time, there were still some differences, albeit insignificant ones, showing that (pre)adolescent males produced more mismatches than females. For a general discussion on what these differing results might tell us, see Chapter 8.

Age, on the other hand, proved to be strong predictor of whether generalization took place. Age is a defining feature of the transitional bilingualism found in the speech community. This is linked to both history and life-stage which together have implications for exposure and language use. Specifically, history relates to early exposure to and use of Abui, while life-stage relates to current exposure to and use of Abui. In terms of history, (pre)adolescents, young adults, and adults all had more exposure to Alor

Malay in their childhood years than to Abui, while, elders had more exposure to Abui than Alor Malay. This explains the differences between elders and the rest. The differences between adults and the two younger groups, (pre)adolescents and young adults can be explained by history and life-stages. The group of present-day adults (who were roughly born between 1990 and 1980) were the first cohort of speakers whose parents transitioned from raising their children in Abui to raising them in Alor Malay. As such, the parents of this group often used a mix of the two languages when raising their children. They are likely to have had more exposure to Abui than the group that is currently (pre)adolescents and young adults, on the other hand, who were raised predominantly in Alor Malay.

In addition to history, there are differences in life-stages between (pre)adolescents, young adults, and adults which imply an increase in language use of and exposure to Abui as well. This relates closely to the type of bilingualism found in the community, where children are raised in Alor Malay but gradually become more active speakers as they enter young adulthood and married life. This implies that the acquisition of Abui involves a prolonged period of passive knowledge up until adolescence when speakers gradually begin developing active knowledge. Entering young adulthood (~age 17) is considered an important milestone as it marks the onset of sexual maturity and signals a person's readiness for marriage. Social networks are expanded to include (more Abui-dominant) speakers typically older than one's peer group, as people search for ways to improve their livelihood. In this sense, life-stage and exposure to Abui are intertwined: adults have more exposure to Abui than young adults, who in turn have more exposure than (pre)adolescents. Based on this, we would expect to find incremental differences, such that increased age (entering a new life-stage) correlates with less generalization.

Interestingly enough, the life-stage from (pre)adolescence to young adulthood did not impact speakers' use of these verbs; there were no differences at all between verb usage among (pre)adolescents and young adults. Both groups simplify the system by the generalization of one verb at the expense of another. As a matter of fact, overall, young adults even generalize at a higher proportion than (pre)adolescents; however, these differences are not significant. The second important life-stage is the marking of adulthood through marriage, which typically takes place at around the age of 25. This too was expected to have an increase in a speaker's exposure to and

use of Abui. Here, the group of adults shows significant differences with the younger groups of (pre)adolescents and young adults in two out of three of the verbal domains. The differences could indeed be explained by a combination of life-stage and history (alluded to above). In terms of life-stage, it is possible that the increased exposure and domains of use of Abui, associated with becoming an adult account for the results. It is impossible to test to what extent these results are more due to early language exposure than current language exposure, but it appears fair to attribute both factors as being responsible for explaining linguistic differences between adults and the younger groups of (pre)adolescents and young adults.

One hypothesis was that these lexical distinctions could be learned by the group of adults and that they would not exhibit any signs of generalization. This was based on previous studies which have shown that as proficiency in the L2 rises with more exposure the L2 learner may develop a lexico-semantic system with its own conceptual system and rely less on the L1 (Green, 2003; Abutalebi, 2008; Pavlenko & Driagina, 2008).[17] While adults did not generalize in the domain of visual perception and change of state, interestingly enough, they did in the domain of falling.

This suggests that the low early exposure to Abui may not be completely offset by increased current exposure associated with the adult life-stage. In other words, because adults generalized as well, there is no conclusive evidence that increased late exposure and proficiency may eradicate generalization altogether. The fact that we observe this significant difference with elders, as well as some degree of mismatches even in the non-significant differences, implies that the semantic changes documented in this chapter, despite being most widespread and advanced among (pre)adolescents and young adults, probably originated in the group that is now adults. Given that exposure to and use of Abui only increases with age, the fact the current group of adults exhibits variation suggests that generalization was likely already taking place around thirty years ago. Perhaps, with increased age, some speakers learned to lexically distinguish the semantic features splitting those verbs; however, interestingly enough, other speakers did not distinguish them in production. At the same time, in opposition to the claim that this change may have originated thirty years ago, one can also not rule

[17] Proficiency was not directly tested in this study. However, adults' self reports on their fluency of Abui score higher than those of young adults.

out the fact that this may have been a later change. If we assume this, then it may be possible that young adults (who generalize across the board) might have also influenced adults, despite being younger than them. This could be a possibility if we assume that the generalized forms are not necessarily stigmatized and that adults and young adults spend time together.

In addition to these sociolinguistic and lexical factors, it is also possible that processing difficulties associated with lexical retrieval might be masking speakers knowledge of the verbs. To test whether speakers did or did not have the mental representations underlying the distinctions between these verbs, comprehension data was used. The results revealed four main findings.

Firstly, overall, (pre)adolescents, young adults, and adults all perform better in comprehension than in production. This suggests that speakers still have knowledge of the distinctions between verbs, but are not able to integrate this knowledge in production. This finding is in line with the notion that passive comprehension requires less processing effort than active production (Onar Valk, 2015). What this suggests is that speakers do have the mental representations in mind, but that in production, they have trouble mapping the representation of the event with the lexical item. This implies that processing difficulties involving lexical retrieval are in part to blame for the high variation in the production task, a finding in line with other studies comparing similar types of production and comprehension data (Malt & Lebkuecker, 2017). This is also supported by neurolinguistic evidence: Osterhout, McLaughlin, Pitkänen, Frenck-Mestre, and Molinaro (2006) used ERPs (Event-related Potentials) in an online comprehension task and found that learners incorporated L2 knowledge much faster than is typically expected in production. However, the fact that we do find significant differences across groups even in comprehension is also suggestive that some speakers do not retain the underlying knowledge of how these verbs must be used. In particular, (pre)adolescents showed significant differences compared to all the other groups in 2/6 contexts. They generalized (-)*wahai* 'look at' to 'see' contexts and *hayeei* 'fall from above' to 'fall down' contexts. Interestingly, they did not differ from the other groups with regards to the change of state event domain, showing that they still retain knowledge of the distinctions between the verbs *-tein-* 'wake up TR', *-minang-* 'wake up INTR' on the one hand and *-rui-* 'get up' on the other, despite production data showing the contrary.

Second, what is most striking is that young adults showed very similar results to (pre)adolescents in production, yet had different results in comprehension. This suggests that young adults retain more knowledge than (pre)adolescents and consequently that they had greater difficulties with lexical retrieval because they had more of a discrepancy between production and comprehension than (pre)adolescents. The fact that (pre)adolescents showed significant differences compared to elders in both production and comprehension suggests that they indeed lack some of the knowledge of these verbs. One of the main differences between (pre)adolescents and young adults is that young adults are in a different life-stage and thus have more exposure to Abui. It could be that this increased life-stage increases their knowledge of the verbs; after all, lexical growth is known to take place well into older age (Ramscar, Hendrix, Shaoul, Milin, & Baayen, 2014; Lahmann, Steinkrauss, & Schmid, 2016). However, they still fail to integrate this knowledge, either due to processing issues such as lexical retrieval or due to conscious efforts to use these forms for reasons currently not yet understood. At the same time, one can not exclude the possibility that the smaller sample size of young adults (N = 14) compared to (pre)adolescents (N = 18) is rendering their proportion of mismatches insignificant. Of course, it is possible that a combination of these factors is accounting for the results.

There are also some statistically nonsignificant results that deserve mention. In production, the pattern of generalization was completely unidirectional. In other words, in the three domains, one verb was favoured over the other and generalized; there was no generalization in the other direction (see Tables 6.11, 6.13, 6.15 for all the 0% proportions for the targets 'look at', 'fall from above', 'get up'). In comprehension, in particular for the 'look at' target, (pre)adolescents, young adults, and adults produced some degree of mismatches, namely 14%, 10%, 11% respectively. This illustrates that while speakers show some knowledge of these verbs, they still show some confusion in comprehending the verbs. Weinreich (1953) noted that in the period where generalization is gradually taking place, confusion is likely to take place, suggesting that at the time that both forms are still present in the target language, the verbs are used interchangeably and inconsistently. Eventually, one of the terms becomes fixed as 'an expression of the combined content, and the other abandoned' (p. 54).

Two important questions arise, with the first pertaining to whether

these innovations are contact-induced. These innovations are argued to indeed be contact-induced based on the fact that elders do not generalize while the younger, more Alor Malay dominant groups do generalize. In addition, the dominant language Alor Malay, only uses one form to encode each of these three events. It has been shown in a number of previous studies that speakers whose L1 uses a broad system, like Alor Malay, and who are learning an L2 that uses a narrow system, like Abui, will have difficulties using the verbs correctly. They are thus likely to overgeneralize one of the forms. This was found both for bilingual speech communities and for second language learning contexts.

A follow-up question is whether the contact phenomenon at hand is a case of simplification due to incomplete acquisition or due to transfer (in the form of lexical calqueing) from Alor Malay into Abui.[18] One of the difficulties in arguing for lexical calquing is that the types of semantic changes discussed here are commonly attested in the absence of contact (e.g. Blank and Koch, 1999; Traugott and Dasher, 2001; Campbell, 2013). Lexical calques usually involve more rare combinations of words, corresponding to the donor language, as for example in the German word *fernsehen* 'television' (lit. 'remote vision') which is a literal translation of English *television* (Matras, 2009). Nonetheless, at this point, one argument can be made in favour of lexical calquing in the domain of visual perception, where the form *-ien-* 'see' is being replaced by the form (-)*wahai* 'look at'. It is cross-linguistically rare to have only one visual perception verb (Viberg, 1983; Majid & Levinson, 2011) so the fact that generalization is taking place could strongly suggest transfer from Alor Malay.[19]

Silva-Corvalán (1994) typically argues that simplification and overgeneralization involve internal tendencies but are accelerated by bilingualism. It is argued here that both lexical calquing (transfer) and incomplete acquisition are acting in a cumulative way to account for the patterns of generalization. To really tease the two apart, one would need to investigate verbs which involve a broad system in Abui and a narrow one in Alor Malay. In addition, one would also need to examine verbs that have the same level of

[18] Lexical calquing is defined here as 'copying the polysemies of the model language into the recipient language' and is considered a synonym of 'loan translation' (Ross, 2013, p. 19).

[19] It was not possible to get much information on whether creoles encode this distinctions. If many creoles do encode this distinction, this would strengthen the claim that generalization here is due to lexical calquing.

specificity in Abui and Alor Malay, such as Abui *-buk* 'cradle (without cloth)' and *wik* 'cradle (with cloth)' which correspond to Alor Malay *koko* 'cradle (without cloth)' and *gendong* 'cradle (with cloth)'.

One important question that is unlikely to be addressed conclusively in the absence of a real-time longitudinal study is whether these innovations will lead to fully-fledged changes. In other words, will age-grading take place such that the current group of (pre)adolescents generalize less when they grow older? Speculating on the basis of the synchronic data, it does appear that the current group of (pre)adolescents will keep generalizing when they grow older and that this variation will indeed lead to change. Insights from another study and observations from the current data support this hypothesis. Firstly, Gathercole and Moawad (2010) found that words which conceptually contained very similar senses, applicable to the verbs in the three event domains (e.g. 'fall from above' vs. 'fall over'), had a much higher chance of being generalized than verbs which were conceptually more different to one another. This predicts that, at least for the three event domains described, generalization is likely to persist.

Secondly, (pre)adolescents produced significant mismatches in comprehension, suggesting that they do indeed lack some of the lexical knowledge differentiating these verbs; this will increase the chances that they will thus use the most frequent verb generically. Then the question arises, will they acquire this knowledge when they enter the life-stage of young adulthood? Looking at the data from young adults, the answer is likely to be: probably not. The current cohort of young adult produced a high proportion of mismatches in all three domains, showing their high tendency to generalize. This suggests that (pre)adolescents will continue receiving input which favours the generalized forms. Finally, even the age-cohort above young adults, *adults*, produced enough mismatches to show evidence that they also generalize in one of the domains (falling). This shows that some of the innovations described here are so far advanced that they even occur in the speech of a group that has had higher levels of exposure to Abui than the current group of (pre)adolescents may ever have. Taken together, all of this predicts that when the current group of (pre)adolescents enters young adulthood and adulthood, they will continue to generalize.

One final point to make about the Abui speech community is that it is not always easy to use labels like early vs. late bilingual, or compound vs. subordinate bilingual and define age of onset as such. While studies using

these categories may offer useful predictions, in reality the acquisition and socialization processes involved here are different to what is discussed in other bilingual studies looking at generalization such as Ameel et al. (2009), Gathercole and Moawad (2010); that is, they are much more fluid. In addition, claims which correlate different kinds of linguistic changes with their likelihood to take place in adults and adolescents, like those found in Ross (2013) are also not unproblematic. While they take into account typical developmental patterns (such as age of acquisition of certain features) and social factors (such as social networks of adolescents), they may not always account for changes in multilingual use associated with different life-stages, which is argued here to be more widespread in many parts of Indonesia and also Melanesia (Bowden, 2002; Baird, 2017; Schokkin, 2017; Williams, 2017). One of the conclusions of this study which may be compared to studies looking at similar speech communities (e.g in Alor) is that generalization is likely to happen as a result of contact with Alor Malay and specifically as a result of children not being active speakers of Abui.

6.6 Summary and conclusion

This study investigated the distribution and causes of lexical variation in three event domains. Much of the variation was explained by age, and thus also by exposure to Abui. The group of elders was used as the control group, since Abui is their L1 and they only learned Alor Malay after the age of 7. Variation was highest among (pre)adolescents and young adults. Some variation was also found in adults, hinting that this is the group in which these innovations first appeared. The comprehension data illustrated that speakers still retain much lexical knowledge about the verbs. This suggests that processing difficulties associated with lexical retrieval could explain the discrepancies. Despite this, I argue that the three verbs (-)*wahai* 'look at', *hayeei* 'fall from above', *rui* 'get up' which originally only referred to those specific senses, are becoming the generic verbs for 'visually perceive', 'fall', and 'get up/ wake up' and that the specific verbs *-ien-* 'see', *-quoil-*/*-kaai-* 'fall over', *-minang-* 'wake up ' and to a lesser extent *-tein-* 'wake (s/o) up' might become obsolete. If these semantic changes happen, then there is sufficient evidence that L1 transfer from Alor Malay into Abui has taken place.

There are several exciting avenues for further research. The first one

would include a follow-up panel study in eight years time, when members of the current age-groups would have advanced to the adjacent age-group. This would allow for the testing of age-grading and offer a much more clear answer to the question of whether the current variation will lead to change. In addition, future work can focus on other verbs that appear to be undergoing generalization such as the perception verbs 'hear' and 'listen'. Moreover, it could be worthwhile to tease out the effect of transfer from Alor Malay by looking at translation pairs that are congruent across languages such as Ab. *-buk* vs. AM. *koko* 'cradle (with cloth)' and Ab. *-wik* vs. AM. *gendong* 'embrace (without cloth)' in addition to looking at pairs which are 'broad' in Abui and 'narrow' in Alor Malay. This can determine to what extent direct transfer is taking place. Finally, future work can also try to extrapolate the findings of this speech community to speech communities of closely related Alor-Pantar languages to address the topic of how small-scale variation can lead to linguistic diversity. Specifically, future work can examine cognates in other Alor-Pantar language of the three generalized verbs.