Complementation in Balinese: typological, syntactic, and cognitive perspectives

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COMPLEMENTATION IN BALINESE: TYPOLICAL, SYNTACTIC, AND COGNITIVE PERSPECTIVES

by

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CERTIFICATE OF APPROVAL

PH.D. THESIS

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I Wayan Arka
To Nengah Gelgel and Eka Putri, for their unconditional love and endless support.
To Prof. William Davies, for his endless encouragement, support, guidance, and inspiration, without whom I would not have become a linguist.
I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference

Robert Frost
The Road Not Taken (Mountain Interval)
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The goal of this thesis is three-fold: to examine complementation in Balinese from typological, syntactic, and cognitive perspectives. This thesis contributes to typological studies of complementation by providing a descriptive account of the distinguishing syntactic properties of four types of Balinese clausal complements: sentence-like (s-like), Subject Control (SC), Object Control (OC), and Raising complements. The data presented in this thesis demonstrate the clausal complement in Balinese can be differentiated through the kinds of elements that can be admitted within the complements: the type of complementizer, aspectual auxiliaries, modals, temporal specifications, and overt subjects.

The theoretical aspect of this thesis is the application of Minimalist theory to account for the syntactic structure of Balinese monoclausal and biclausal constructions. This thesis also addresses a theoretical problem related to the syntactic structure of complementation within Generative syntax: finiteness. The presence of modals, aspectual auxiliaries, and the temporal specification of the complement do not signify finiteness in Balinese. Instead, finiteness in Balinese is marked by the licensing of overt subjects in the clausal complement, following the argument made by Kurniawan & Davies (2015), based on the evidence provided through the comparison of control complements and their subjunctive sentence-like complement counterparts.

The cognitive processing of Balinese complementation is investigated through two sentence processing experiments with the goals of understanding how ambiguous Crossed Control Construction (CCC) sentences are processed in comparison to the processing of unambiguous Subject Control (SC) sentences and Raising sentences. The self-paced
reading experiment focuses on the comparison of reading times for the verbs in these three types of sentences when the animacy of the subject is manipulated (i.e. animate or inanimate clause-initial DP). The results suggest that CCC sentences are processed differently than the SC and Raising sentences. The second experiment aims at investigating the effect of discourse context on the interpretation of the ambiguous CCC sentences. The results show only the context that primes for subject control interpretation has influence on the processing of Balinese SC and CCC sentences.

Keywords: Balinese, complementation, finiteness, sentence processing, ambiguity, Crossed Control Construction (CCC), animacy, discourse context
Every language has unique features. Despite many differences between world languages, they also share similarities. For example, every language has more than one type of biclausal sentence, which may differ or resemble the types available in other languages. Therefore, in order to contribute to the typological study of world languages, the first goal of this dissertation is to provide a list of different types of biclausal sentences in Balinese, which is a less commonly studied language. The second goal of this dissertation is to provide evidence that every language has a unifying structure. The syntactic structure of Balinese biclausal sentences can be illustrated using the Minimalist framework – a theory heavily based on the structure of English and other commonly studied languages. The third goal of this dissertation is to pioneer cognitive sentence-processing experiments. This experimental study investigated how Balinese speakers resolve the ambiguity of a particular Balinese biclausal sentence type called the Crossed Control Construction (CCC).
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LIST OF ABBREVIATIONS

1 = first person pronoun
2 = second person pronoun
3 = third person pronoun
ACC = accusative
ANTIC = anticausative
AV = active voice, agentive voice, actor voice
APPL = applicative
CAUS = causative
COMP = complementizer
COP = copula
DAT = dative
DEF = definite
DEM = demonstrative
DET = determiner
FUT = future
IMP = imperative
IMPERF = imperfective
INDIC = indicative
INF = infinitive
INTR = intransitive
IRR = irrealis
ITER = iterative
NEG = negation
NOM = nominative
NOML = nominalizer
OV = object(ive) voice
PART = particle
PERF = perfective
PL = plural
POSS = possessive
PROG = proggessive
PV = passive voice
RED = reduplication
REL = relative pronoun
SC = subject control
SG = singular
SUBJUNC = subjunctive
CHAPTER 1. INTRODUCTION

1.1. **RATIONALE**

Complementation, described by Englebretson (2003, p. 2) as a complement containing “a predicate which is itself a syntactic argument of another predicate”, is an attested syntactic structure in most natural languages. The study of complementation has been conducted by linguists from various angles; starting from the study of syntactic features in the generative framework (Rosenbaum, 1967; Bresnan, 1972). More recently, the study of complementation has expanded to typological aspects (Dixon & Aikhenvald, 2006) and semantic aspects (Horie, 2000).

The topic of complementation, however, has not received sufficient attention in the various dialects of Balinese, despite the fact that Balinese is one of the most frequently studied Indonesian languages. Therefore, the first goal of this study is to provide an enumeration of complement types in the northern Balinese dialect. The second goal of this study is to provide a syntactic account of these complement types within Minimalism (Chomsky, 1995).

Balinese is mainly spoken on the island of Bali and the surrounding islands, i.e. Nusa Penida, Nusa Lembongan, Western Lombok, and Eastern Java. In 2014, *Badan Pusat Statistik Provinsi Bali* (the Central Bureau of Statistics) estimated 4.1 million people living on the island, and according to *Ethnologue*, approximately 3 million people spoke Balinese in the year 2000. The Balinese language can be categorized into two main dialect groups (Sedeng, 2010). The *Bali Aga* dialects are the dialects spoken in traditional villages: isolated villages that are occupied by native Balinese in the highlands. The *Bali Dataran*
dialects are primarily spoken in the northern and southern lowlands. These lowland dialects have been heavily influenced by other languages, for example Javanese.

Studies on Balinese syntax predominantly utilize data in the southern lowlands dialects. Several of these studies are Artawa (1994; 1997; 2013), who proposed an ergative analysis for Balinese sentence structure, and Arka (2003; 1998), who provided a complete account of Balinese morphosyntax within the Lexical Functional Grammar (LFG) framework. The relation between Balinese syntax and discourse, particularly on the selection of voice constructions in narrative discourse, was analyzed by Pastika (1999). Notably, all of these studies are focused on explaining the voice system in the basic sentence structures in Balinese. Although biclausal constructions were also discussed in these works, the main focus was building arguments for particular analyses of the voice system.

A study carried out by Mas Indrawati (2014) is the work that comes closest to an enumeration of complement types in Balinese. Her work focuses on the typology of constructions with serialized verbs in Balinese, and she considers any construction that has two or more adjacent predicates a serial verb construction (SVC). Several examples of constructions classified as Balinese SVCs by Mas Indrawati are given in the following. 1

---

1 The orthography used in this dissertation in compliance with the standardized Balinese alphabet. The orthography of certain vowel sound is not phonemic, as noted in the following:

- The letter é represents the close-mid front unrounded vowel.
- The letter e represents the schwa, the mid central vowel.
- The letter a represents the open front unrounded vowel, and when it is located at the end of a word or a morpheme, the letter a represents the open central vowel.
1. I mémé pesu meli baju. (2014, p. 361) ^2
   DET mother exit AV.buy^3 clothes
   ‘Mother went out buying clothes.’

2. I mémé ngajak I bapa teka. (2014, p. 364)
   DET mother AV.join DET father come
   ‘Mother and Father came here. (Lit: Mother together with Father came here.)’

   1sg NEG able AV.use computer-DEF
   ‘I cannot use the computer.’

As can be seen in the examples above, her data and analysis of serial verb constructions were comprised of constructions with purposive clauses (sentence 1), prepositional clauses (sentence 2), and clausal complements (sentence 3). She classifies Balinese SVCs into morphosyntactic and semantic types and offers phonological evidence that the Balinese SVC has a single intonation: it is pronounced without pauses, similar to a monoclausal construction.

In spite of her assertion of phonological similarities between SVC and mono-verbal constructions, she states that Balinese SVCs can be monoclausal, biclausal, or paratactic

---

^2 Some of the data used in this thesis were taken from the literature, and the source will be indicated with an in-text citation. The glossing and the translation of the data were directly adopted from the source. The data that were taken from the written corpus will be indicated with a code next to the sentence, e.g. PKN-21 (see Appendix A for the list of codes of the written corpus). The data that are not cited or coded were created by the writer of this thesis.

^3 Throughout this thesis, I adopted the standard convention of glossing Active Voice in Austronesian languages, in which the nasal prefix is not separated from the root word and in the morpheme-by-morpheme glossing it is separated from the root word by a dot instead of a dash.
constructions. Using the Minimalist framework, she proposes Control or Raising analyses for the biclausal SVCs. As for the monoclausal SVCs, she claims that the predicates undergo an Adjoin operation akin to the adjoining of an adverbial. Despite her proposal of syntactic structures for different types of Balinese SVCs, she did not support her analysis with evidence or argumentation for the separation of these SVC types.

The current study concentrates on the Balinese dialect spoken in the northern lowlands that received little attention, and data were collected in northern Bali. One of the few extensive works on the northern dialect is Clynes’ (1995) Ph.D thesis. He studied the phonology and the morphosyntax of the Balinese dialect spoken particularly in the Singaraja area. He described the phonological patterns based on Optimality Theory in the first part of his thesis. In the second part, he examines verbal morphology, particularly the morphemes that are involved in verbal derivations. He begins with an introduction and a description of simple clause structures, followed by a description of the functions and the uses of each verbal morphology. He argues for an ergative analysis, given that he found evidence for “undergoer primacy” in narratives, which means that more sentences are found with the non-Agent argument as the sentence subject, particularly when the purported argument is definite.

Sedeng (2010) studied the morphosyntax of the Sembiran dialect, one of the Bali Aga dialects. The Sembiran dialect, which is spoken in a village in the northern part of Bali, exhibits morphological contrasts with the common northern dialect; for instance, it uses a nasal prefix instead of the ma- prefix for intransitive verbs. Furthermore, this dialect has lexical differences with the lowland dialects, i.e. different pronouns. It also has phonetic and phonological differences with the lowland dialects. Sedeng presents a detailed
sketch of sentence structures in the Sembiran dialect, which is comparable to the lowland dialects. His syntactic analysis of the simple and complex sentence structures in this dialect are based on the Roles and Reference Grammar framework (Foley & Van Valin, Jr., 1984; Van Valin, Jr. & LaPolla, 1997).

Another study on the northern lowland dialect of Balinese was carried out by Ramendra (2015). Unlike Clynes (1995) and Sedeng (2010), his Ph.D thesis does not provide morphological and syntactic analysis of the northern dialect. Instead, the focus of his study is to provide a sociolinguistic perspective on Balinese speech levels. The northern Balinese dialect is considered to be ‘rude’ by other speakers of Balinese, because the Balinese speakers in the north use the middle and lower speech levels in their daily communication without conforming to the social situation. Therefore, he investigated the attitude of the people of lower social status towards the use of the higher speech levels in Singaraja, Buleleng. From the questionnaire and interview results, he found a positive attitude towards the more refined speech, and also found that these refined forms of speech are still widely used in the area.

As has been noted, despite the considerable amount of literature on Balinese syntax reviewed above, only a few provide a comprehensive description of clausal complement types. In addition, research on the syntax of northern Balinese dialect is very limited. Therefore, it is hoped that this study should contribute significantly because it lays the groundwork for the typological and syntactic study of Balinese complementation in the northern Balinese dialect within the Minimalist Program.

The third goal of this study is to pioneer a sentence processing study on Balinese complementation, specifically examining the Crossed Control Construction (henceforth
The CCC is a phenomenon distinctively found in several Austronesian languages that can have two different interpretations when all the core arguments are animate, as shown in (4).

4. Jogéédé buang ento nagih [gelut-a tekén anak-é ngibing]. dancer-DEF promiscuous DEM want hug-PV by person-DEF follower

   i. The promiscuous dancer wanted to be hugged by the follower (the person who danced with her).

   ii. The follower wanted to hug the promiscuous dancer.

Sentence (4) can be interpreted in two different ways. First, the matrix subject jogéédé buang ento ‘that promiscuous dancer’ can be understood to be the ‘wanter’, i.e. it bears the Experiencer role. It is also the bearer of the Theme role assigned by the embedded predicate, the one who was hugged. The ‘hugger’ is anaké ngibing ‘the follower’ which is realized as a prepositional phrase within the clausal complement. This first interpretation (i) is the canonical interpretation that an equivalent English sentence has. In the second interpretation (ii), the subject jogéédé buang ento ‘the promiscuous dancer’ is interpreted to be the one that is being hugged, while the object of preposition anaké ngibing ‘the follower’ is interpreted as the ‘wanter’ and the ‘hugger’. This kind of interpretation cannot be derived from an equivalent sentence in English.

Many studies have been carried out on CCC, for instance on Indonesian (Kaswanti Purwo, 1984; Polinsky & Potsdam, 2008; Sato & Kitada, 2012), Malay (Nomoto, 2008), Madurese (Davies, 2014), and Sundanese (Kurniawan, 2013). However, these previous studies focus mainly on arguments for the syntactic representation of CCC in order to
account for the ambiguous interpretation. The data used in these syntactic analyses are mainly based on grammaticality judgments of native speakers. No attempt has been made to investigate the cognitive processing of the interpretation of CCC. How do listeners or readers process CCC sentences that are syntactically ambiguous, compared to other unambiguous complex constructions such as Raising and Control? Do they rely on context, animacy, and/or other techniques to resolve the ambiguity in CCC?

Ambiguous sentences in well-studied languages, e.g. English, have been used in online sentence processing experiments as test cases to investigate the factors that impact the processing of human language. Therefore, CCC is potentially an interesting construction to investigate. Moreover, the majority of available studies on the processing of sentence ambiguity are mainly those that utilize ambiguous constructions in widely-spoken languages like English and German, among others. Thus, initiating experimental studies of a construction with syntactic ambiguity in a less-commonly studied language, like Balinese, is important because potentially it will bring a unique contribution to the literature on sentence processing.

1.2. THE ORGANIZATION OF THE THESIS

The remainder of this dissertation is divided into two parts. Part I, which includes Chapter 2, Chapter 3, and Chapter 4, focuses on the typology of complementation and the syntactic structure of Balinese sentences. Part II, consisting of Chapters 5 and Chapter 6, centers on the investigation of Balinese Crossed Control Constructions from the perspective of syntactic theory and cognitive processing.
Chapter 2 provides a brief outline of Balinese morphosyntax as an introduction to the basic concepts and terminology that will be used in describing Balinese syntax elsewhere in the dissertation. In the beginning of the chapter, I provide a description of Balinese verbal affixes and their functions, and I also includes a short explanation of the voice system and null pronoun phenomenon. Next, I propose to incorporate a VoiceP projection above vP in the sentence structure for Balinese monoclausal construction to account for the three types of Voice structures: Active Voice (AV), Object Voice (OV), and Passive Voice (PV). Lastly, I adopt the hypothesis of ‘object shift’ to explain the syntactic structure of the Balinese Object Voice construction.

Chapter 3 is dedicated to the description of Balinese complement types and their properties. To start, I define complementation, discuss the complement categories that can be found crosslinguistically, and review prior work on Balinese reduced complements (i.e. Raising and Control). Afterwards, I lay out the descriptive data taken from the corpus I compiled during the fieldwork to establish the typology of clausal complements in Balinese and their properties. I classify four complement types in Balinese, namely s(entence)-like, Object Control, Subject Control, and Raising complements. The properties of these complements vary in terms of passivization, the types of complementizer, the presence of an argument in the subject position, as well as their acceptance of aspectual auxiliaries, modals, and temporal adverbs.

Following the descriptive data outlined in Chapter 3, Chapter 4 is aimed at addressing the syntactic structure of Balinese complement types. First, I review the literature on the structure of finite and nonfinite complements within the Minimalist framework. In addition, I argue that finiteness in Balinese is not realized overtly and is
signaled by the obligatory covertness of the subject complement, following the proposal on Sundanese finiteness by Kurniawan & Davies (2015). Finally, in consideration of the properties described in Chapter 3, I sketch the syntactic structure of each complement type, wherein the s-like complements have a CP structure, the Control complements also have a nonfinite CP structure with a null complementizer, while the Raising complements have a nonfinite TP structure.

Chapter 5 is concerned with the syntactic analysis of Crossed Control Constructions (CCC). In this chapter, I present distinctive characteristics of CCC in five Austronesian languages, namely Malagasy (Polinsky & Potsdam, 2003), Malay (Nomoto, 2008), Madurese (Davies, 2014), Indonesian (Polinsky & Potsdam, 2008), and Sundanese (Kurniawan, 2013). Based on this cross-linguistic examination of CCC, I establish the syntactic properties of Balinese CCC. Subsequently, several syntactic structures are discussed in detail, i.e. VP structure (Polinsky & Potsdam, 2008), vP structure (Nomoto, 2008), and VoiceP structure (Kurniawan, 2013). After considering all of these possible analyses, I adopt the VoiceP analysis as the most feasible structure for Balinese CCC based on its syntactic properties. Ultimately, I discuss Balinese CCC found in the discourse and raise questions on how the ambiguity of this particular construction is processed.

Chapter 6 deals with two sentence processing experiments on the processing of Balinese Crossed Control Constructions. The first experiment is a self-paced reading experiment, in which the animacy of the subject in CCC (Crossed Control), SC (Subject Control), and Raising sentences was manipulated. From this experiment, we learn that readers employed semantic information immediately since they required longer time to read the CCC and SC predicates when preceded by an inanimate subject, compared to those
that were preceded by an animate DP. However, animacy does not seem to have an effect on ambiguity resolution. In the second experiment, I investigate whether discourse context can assist in the resolution of ambiguous CC constructions. I compare the participants’ reaction time and picture-choice for CCC and SC sentences in three context types, i.e. null context, NC context (priming for ‘normal control’ reading), and CC context (biasing for ‘crossed control’ reading). The results of this experiment indicates that only the NC context influences the parsing of CC and SC sentences.

The conclusion derived from this study and proposals for future research are discussed in Chapter 7.
CHAPTER 2. BALINESE MORPHOSYNTAX

2.1. BALINESE MORPHOLOGY

As in many other Indonesian-type languages, Balinese verbs are not inflected for tense or for the person, gender, or number of either subjects or objects. Consider the sentences in (1), which can have past, present, or future interpretation depending on the context. Adverbs of time are a common indicator of tense in Balinese.\(^4\)


   1 AV.photograph RED-student-DEF yesterday / now / tomorrow

   ‘I photographed the students (yesterday) / I am photographing the students (now) / I will photograph the students (tomorrow).’


   RED-student-DEF AV.photograph 1sg yesterday / now / tomorrow

   ‘The students photographed me (yesterday) / The students are photographing me (now) / The students will photograph me (tomorrow).’

The verb *moto* ‘to photograph’ in (1a) occurs in exactly the same form as in (1b), showing that person, number, and gender are not marked on the verb, as the subject of (1a) *tiang* ‘I’ is first person singular and the subject of (1b) *murid-muridé* ‘the students’ is third person plural. Also note that the lack of overt case markings on arguments in Balinese sentences shows no distinction between grammatical position and function. Balinese predicates,

\(^4\) When an adverb of time is not present, tense is discerned from the discourse in which the sentence occurs.
however, can be marked by prefixes or suffixes that indicate voice alternation and transitivity.

The use of verbal morphemes in Balinese monoclausal and multiclausal structures is described in this section. In addition, a short discussion of the influence of discourse on the omission of arguments within a sentence and the binding of reflexives is also given to provide a background for the analysis of Balinese complementation.

2.1.1. Intransitive Morphology

There are four different prefixes that signal the intransitivity of a clause in Balinese: $\emptyset$, $ma$-, $maN$-, and $N$-.  

Arka (2003) and Artawa (2013) categorize the $ma$-, $maN$-, and $N$-prefixes as indicators of unergative predicates, while the null prefix $\emptyset$ identifies unaccusative predicates.

Balinese unergative verbs, which assign the Agent role to their argument, take the prefixes $ma$-, $maN$-, and $N$-, as can be seen in (2), (3), and (4) respectively.

2. Ada nak luh bajang macelep ka tongos iraga-nè. (PKN-21)

exist person female young INTR.enter to place 1-POSS

‘There was a young woman that entered my place.’

---

5 The underlying form of the nasal prefix in Balinese is $(ma)ng$-. However, this nasal assimilates to the adjacent obstruent in terms of place of articulation and replaces it. The prefix /ŋ/ becomes [m] when the root word begins with a bilabial obstruent as in (3). It changes into [n] when the initial of the root word is an alveolar obstruent, while a root word with an initial palatal obstruent will have prefix [ɲ] attached to it.

6 A more detailed categorization of Balinese intransitive verbs can be found in Arka (2003, pp. 31-39)

7 Although the verb enter generally has unaccusative properties crosslinguistically (e.g. Italian), in Balinese it has the properties of an unergative.
3. Truna-truna-né ento mamunyah dogén gaé-né.

   RED-male.youth-DEF DEM INTR.intoxicated only work-POSS

   ‘Those young men’s work is only getting drunk.’


   person-DEF small DEM INTR.cry

   ‘That child is crying.’

   Verbs that assign the Theme role to their argument, or unaccusatives, generally do not take any morphology. One example of an unaccusative construction is given in (5).

5. Nyuh-é ulung.

   coconut-DEF fall

   ‘The coconut fell.’

   Intransitive verbs are often followed by a prepositional phrase in a simple sentence, as shown (6a). Nevertheless, some intransitive verbs may also take clausal complements and form a biclausal sentence, illustrated in (6b).

6. a. Tiang makita tekén rujak.

    1 INTR.want with fruit.salad

    ‘I want/crave fruit salad.’

   b. Tiang makita [macelep ka toko-né ento].

    1 INTR.want INTR.enter to shop-DEF DEM

    ‘I wanted to enter that shop.’
The DP object of the verb makita ‘want’ in Balinese must be preceded by a preposition, as illustrated in (6a). On the other hand, when the object of the predicate makita ‘want’ is a clause, exemplified in (6b), it cannot be preceded by a preposition. Note that the intransitive verb in the lower clause has the exact same morphological marking as the predicate in the higher clause.

2.1.2. Transitive Morphology

The preceding data, particularly (1a-b), illustrate that Balinese is a head-initial language with SVO word order. The evidence for SVO word order is derived from the fact that only the preverbal argument can have access to relativization, Raising, Control, and wh-fronting (Arka, 2003). The selection of a subject in Balinese, however, is influenced by the discourse saliency of the DP arguments in the sentence. The most salient argument will become the sentence subject regardless of its thematic role. Hence, Arka (2003) proposes that there are three voice constructions in Balinese transitive structures: Agentive Voice (AV), Objective Voice (OV), and Passive Voice (PV).[^8]

2.1.2.1. Agentive Voice (AV)

The AV construction is marked by the nasal prefix N-. This prefix occurs when an Agent is in the subject position.

[^8]: In this dissertation, I utilized the term Agentive Voice (AV), Objective Voice (OV) and Passive Voice to label the Balinese voice system following Arka (2003). Different labels has been used to address the first two constructions, such as Actor Pivot (AP) and Undergoer Pivot (UP) by Clynes (1995), Agentive Voice (AV) and Objective Voice (OV) by Wechsler & Arka (1998), Agentive Voice (AV) and Undergoer Voice (UV) by Mas Indrawati (2014) and Arka (2014).
7. **Bojog-é ngamah biu.**

monkey-DEF AV.eat banana

‘The monkey ate a banana.’

In (7), the Agent or Actor *bojog* ‘monkey’ is located preverbally. Note that the DP is marked with the definite suffix –é; hence, the meaning of the sentence is that one particular monkey ate a banana. (8) is an example of the AV construction found in discourse.

8. **Coba [anè ngaba kabar] takon-in, ia ba taën nepuk**

try REL AV.bring news OV.ask-APPL 3 PERF ever AV.see

dedari? (PKN-9)

angel

‘Try to ask the person who brought the news, has he ever seen angels?’

The first clause in sentence (8) *anè ngaba kabar takonin* ‘(the person) that brings the news’ refers to the Agent *ia* ‘s/he’ of the following clause, a yes/no question. In this context, the Agent, which is represented by the third person pronoun *ia*, has a more prominent role in the sentence compared to the Theme *dedari* ‘angel’. Hence, the clause is in the AV, in which the Agent, as the most salient argument in the storyline, occupies the preverbal position.

2.1.2.2. *Objective Voice (OV)*

The verb in an OV construction takes no overt prefix. In this structure, a Theme or non-agent argument occupies the preverbal position, while the Agent is stationed postverbally. Compare sentence (7) with sentence (9).

banana-DEF OV.eat monkey

‘A monkey ate the banana.’

When the Agent/Actor is indefinite and the Theme/Patient is definite as in sentence (9), the OV form is favored. This sentence will be uttered in a situation where the speaker emphasizes that a certain banana had been eaten, and s/he is not concerned about which monkey ate the banana.

A further example of the OV construction is in sentence (10) below, which is taken from a story posted online. The context is provided in (10a). This sentence was uttered by Pan Meri, who had lost his one and only duck. The context in (10a) portrays the Theme argument meriné ‘his duck’ to be the source of the Agent’s sadness and confusion. Now observe sentence (10b), which illustrates the cause of Pan Meri’s state of sadness. In this sentence, the Theme argument (which is the cause of the Agent’s sadness) is more prominent to the storyline than the Agent. Hence, the OV construction is used as it maintains the flow of the story.

10. a. Aduh… Dewa ratu. Dija ya meri-n titiang-é? (SS-2)

oh god queen where PART duck-POSS 1-DEF

‘Oh dear God, where is my duck?’

b. Paling koné Pan Meri sada sedih, meri-né tuara tepuk=a.

confuse as.told Pan Meri and sad duck-POSS NEG OV.see=3

‘As told, Pan Meri was confused and sad, he cannot find his duck.’
The second clause is in the OV form, in which the Theme argument occupies the preverbal position, while the Agent, represented by the third person clitic =a, attaches to the end of the verb. This example illustrates that the selection of the subject in the second clause is based on the background given in the preceding clause. The subject of a sentence in Balinese is more likely to be an argument that has been mentioned in the preceding sentence, or the argument that is important for topic continuity. This is a common characteristic found in many languages, e.g. Spanish. In the case of (10b), the Theme argument is more prominent than the Agent argument; therefore, the OV formation is used.

2.1.2.3. Passive Voice (PV) with the suffix –a

The first type of passive construction in Balinese is marked by the suffix –a. (11) is an example of a Balinese passive sentence with this suffix. Observe that the passivized verb is followed by a prepositional phrase that indicates the agent of the action.

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9 Arka (2003, p. 229) postulates that =a is the clitic of the low register third person pronoun ia based on its characteristics listed in the following:
   a. It must be bound to a host.
   b. It has referential meaning, can function as a resumptive pronoun, and can be quantified by ajak makejang ‘all’.
   c. It represents the third person Agent/Actor argument in the OV construction, and it cannot become the surface subject of the OV construction.
   d. It is a core argument, not an oblique, because it can bind a reflexive in the preverbal position.

10 When none of the arguments in the sentence is specific, then existential construction will be used, and it can be either in AV (i) or OV (ii), as shown in (i).

i. Ada Isuzu nabrak motor di pengkolan-é.
   exist Isuzu AV.hit motorbike at turn-DEF
   ‘There was an Isuzu (minibus) that hit a motorbike at the turn.’

ii. Ada motor tabrak Izusu di pengkolané.
    exist motorbike OV.hit Isuzu at turn-DEF
    ‘There was a motorbike that was hit by an Isuzu (minibus) at the turn.’
11. Makejang, makejang glanting-in-a olih Ida Sang Sidapaksa. (WYG-SP)
    all all cling-APPL-PV by Lord DET Sidapaksa
    ‘Everything, everything was being clung to by Lord Sidapaksa.’

Arka (2003, p. 225) suggests that the –a suffix is “a passive marker that developed from
the third person pronoun clitic”, considering that this particular clitic can only represent
the third person Agent, not a third person non-Agent argument. It is worth noting that Arka
bases his assumption on the fact that PV constructions differ from OV constructions in
terms of argument structure. There are two core arguments in OV constructions, whereas
PV constructions have one core argument (i.e. the subject which is a non-Agent argument)
and an oblique argument (i.e. the Agent when present). This is verified by the inability of
the oblique Agent in PV constructions to bind a reflexive in the subject position (Arka,
2003). Observe the AV, OV, and PV sentences in (12a, b, c) respectively.

12. a. Iaː nebek déwék-né.
    3 AV.stab self-POSS
    ‘S/he stabbed himself/herself.’

b. Déwék -né; tebek=aː.
    self-POSS OV.stab-3
    ‘S/he stabbed himself/herself.’

c. Déwék-né’i tebek-a tekén I Belog₁.
    self-POSS stab-PV by DET Belog
    ‘S/he was stabbed by Belog.’
The postverbal reflexive pronoun déwékné ‘him/herself’ in the AV construction (12a) can be bound by the Agent subject. Similarly, in the OV construction in (12b), the preverbal reflexive is bound by the Agent in the object position, which is represented by the third person clitic =a. This shows that all the arguments in AV and OV constructions are core arguments. However, in the passive construction in (12c), where the oblique argument is present, the preverbal reflexive cannot be bound and must have a different referent from the PP-Agent.

In discourse, the PV is used when the Agent is not identifiable (Arka, 2003, p. 239). Observe the OV construction in (10b), where the referent for the third person clitic is mentioned in the preceding clause. Compare it with the PV construction in (13).

13. Sing ilang-ilang aget-né Rusmayanti, uli nu makabakan,
   NEG RED-disappear luck-POSS Rusmayanti from PROG dating
   aduh, sayang-ang-a gati tekén calon matua-né. (PKN-33)
   PART love-APPL-PV very by candidate in-law-POSS
   ‘Rusmayanti’s luck never goes away, since (she) was dating, (she) has always been very loved by her future in-laws.’

The context in (13) does not provide a clear reference for the person who loved Rusmayanti. If the PP-Experiencer tekén calon matua-né ‘by her future in-laws’ is not present, it opens up the possibility for more than one interpretation. It is possible that Rusmayanti was loved by her boyfriend or other people. Hence, this construction is classified as Passive Voice because the PP-Experiencer is not explicit.

Further evidence for the suffix –a as a passive marker is given by Artawa (2013, p.17), who shows that a first person PP-Agent interpretation is also possible in (14).

ok PART INTR.sleep blanket-APPL-PV PART

‘Please sleep, let me cover you with a blanket. (Lit: Go to sleep. You will be ‘blanketed’ by me.)’

Even though the Theme and the Agent arguments are not overtly expressed in (14), the sentence can be interpreted as the speaker (first person) requesting the listener (second person) to go to sleep and then offering to cover the listener with a blanket. Since the people involved in this interaction are not in the third person, the morpheme –a must not represent the third person clitic Agent as in the OV construction, but rather must function as the passive suffix. Nonetheless, the occurrence of the passive –a with first or second person Agent interpretation is somewhat rare, and it is heavily dependent on the context.

2.1.2.4. Passive Voice (PV) with the prefix ka-

Another passive marker in Balinese is the prefix ka-. The passive construction marked by the ka- prefix is hypothesized to be the “real” passive (Arka, 2003; Artawa, 1994) because it can be used in a construction with a first, second, or third person Agent. It is commonly used in the higher speech level, although its use in discourse with lower speech levels can also be found. (15) is an example of a Balinese passive sentence with the prefix ka- (taken from corpus WYG-SP).

15. Ne, ne mangkin iratu ka-angken-in cucu olih Ida Batara Indra.

this this now lord PV-declare-APPL grandchild by 3 god Indra

‘Now, now, you are acknowledged as his grandchild by God Indra.’
What is intriguing about the ka- passive is the fact it may occur with a pronominal Agent, as illustrated in sentence (16), taken from Artawa (2013, p.21).

16. Pipis-é lakar ka-idih cang

money-DEF will PV-take 1

‘The money will be taken by me.’

In (16), the passivized verb is followed by the singular first person pronoun. Other pronouns that may follow verbs marked with the passive prefix ka- without being preceded by a preposition are the second person pronoun (e.g. cai ‘2msg’ and nyai ‘2fsg’), and the high speech level third person pronouns (e.g. ipun & ida). Only the third person pronoun in the lower speech level ia or its clitic cannot be present with the ka- passive construction.

Furthermore, when the Agent argument is implicit, the interpretation tends to default to the first person Agent, while the –a passive will get the third person Agent interpretation, as shown in (17a) and (17b).

17. a. I Ketut ka-tunden ngumbah piring di paon.

DET Ketut PV-order AV.wash plate at kitchen

‘Ketut was asked (by me) to wash the dishes in the kitchen.’

b. I Ketut tunden-a ngumbah piring di paon.

DET Ketut order-PV AV.wash plate at kitchen

‘Ketut was asked to wash the dishes in the kitchen.’

The free translation for sentence (17a) is ‘I asked Ketut to wash the dishes in the kitchen.’ An implicit third person Agent interpretation is not possible for (17a). On the other hand,
as indicated by the interpretation in (17b), the person who asked Ketut to wash the dishes may not be known or it is deemed unimportant to mention him/her.

2.1.2.5. Voice morphology in complementation

All of these voice morphemes are also found in clausal complements. The alternation of voice morphology inside a clausal complement has the same effect that it has in the main clause, as can be observed in the examples below.

18. a. Cang nawang [cai lakar nyagur I Bayu].
   1 AV.know 2 FUT AV.hit DET Bayu
   ‘I know that you will hit Bayu.’

b. Cang nawang [I Bayu lakar jagur cai].
   1 AV.know DET Bayu FUT OV.hit 2
   ‘I know that you will hit Bayu.’

c. Cang nawang [I Bayu lakar jagur-a tekén timpal-timpal-né].
   1 AV.know DET Bayu FUT hit-PV by RED-friend-POSS
   ‘I know that Bayu will be hit by his/her friends.’

Notice that in (18a), the Agent is the subject of the embedded sentence; thus, the complement is in the AV form. In (18b), the Theme occupies the subject position; hence, the verb in the embedded clause is in its OV form. Lastly, the clausal complement in (18c) is in PV form in which the Theme is the subject and the Agent timpal-timpalné ‘his/her friends’ is the object of the preposition tekén ‘by’.
2.1.3. Applicative morphology

The Balinese applicative suffix –ang has several functions. First, it may give a causative meaning to an intransitive predicate and changes the argument structure of that predicate by increasing its valence. For example, when the applicative suffix –ang is attached to the intransitive predicate ulung ‘fall’, an Agent is introduced into the predicate’s argument structure, as illustrated in (19a) and (19b).


pot-DEF fall
‘The pot fell.’

b. I       Gedé ngulung-ang  pot.

DET Gedé AV.fall-APPL pot
‘Gedé dropped a pot.’

The morpheme –ang can also promote an oblique that has the benefactive, instrumental, or stimulus role to be the direct object of the predicate to which it attaches. In (20a), the PP argument bapa ‘father’ benefits from the action that the Agent mémé ‘mother’ did. It becomes the direct object when the suffix –ang attaches to the verb goréng ‘fry’ in (20b).

20. a. I mémé ngoréng bé siap baanga I bapa.

DET mother AV.fry meat chicken for DET father
‘Mother fried some chicken for Father.’
b. I mémé ngoréng-ang I bapa bé siap.

DET mother AV.fry-APPL DET father meat chicken

‘Mother fried Father some chicken.’

Another applicative morpheme is the suffix –in, which transforms a locative or a PP argument into the primary object of the predicate, as illustrated in (21).11


teacher-DEF come to house student-DEF DEM

‘The teacher went to that student’s house.’


teacher-DEF AV.come-APPL house student-DEF DEM

‘The teacher visited that student’s house.’

In (21a), the Agent’s destination is an oblique argument because it is preceded by the preposition ka ‘to’. When the nasal prefix and the applicative suffix –in are attached to the predicate, in (21b), the preposition ka ‘to’ is omitted and the Locative argument umah muridé ento ‘that student’s house’ becomes a core argument. The attachment of these affixes entails a change in the semantics of the verb.

In biclausal constructions, these applicative suffixes in its causative function can alter the control relation between the matrix clause and the complement clause. For

11 The suffix –in also has the function of an iterative marker, as illustrated below:

i. I Nyamprut nyagur-in panak-né ibi.

DET Nyamprut AV.hit-IT child-POSS yesterday

‘Nyamprut hit his child (repeatedly) yesterday.’
example, the verb *inget* ‘remember’ is a Subject Control predicate in (22a). However, when the verb has the nasal prefix and the causative –*ang* in (22b) added to it, the verb becomes an Object Control predicate.

22. a. Murid-murid-é inget [ngaba sampat ka sekolah].
   RED-student-DEF remember AV.bring broom to school
   ‘The students remembered to bring a broom to school.’

b. Murid-murid-é nginget-ang guruné [apang
   RED-student-DEF AV.remember-ANG teacher.DEF COMP
   magi-ang ulangan].
   AV.divide-APPL test
   ‘The students reminded the teacher to hand out test (results).’

In (22a), the subject of the matrix clause *murid-muridé* ‘the students’ recalls a task that they need to carry out, which is to bring a broom to school. When the same matrix predicate has the causative suffix –*ang* attached to it in (22b), the matrix subject is not the one that must perform the action indicated in the embedded clause. In fact, *murid-muridé* ‘the students’ cause the matrix object *guruné* ‘the teacher’ to remember the action expressed in the embedded clause, that is, to hand out test (results). Note also that when –*ang* is suffixed to the verb, the verb takes AV morphology since the Agent is the subject and the clause is transitive.

2.1.4. Null arguments

Although Balinese does not have the characteristics of more familiar pro-drop languages, such as Romance languages, which have rich inflectional markers indicating
person, gender, or number, nevertheless null pronouns occur frequently in Balinese. In the case of Balinese, the reference of the null argument is inferred from context, as in a language like Chinese. Sentences (23a) and (23b), for example, provide the context for (23c) where the Agent and the Theme arguments of the predicates are omitted.

23. a. Ada mèja di bucu ka-tongos-in ban anak luh, kirang langkung exist table at corner PV-place-APPL by person female less more mayusa telung dasa-an. (PKN-18)
   AV.age three ten-NOM
   ‘There is a table in the corner that was occupied by a female who is in her thirties.’

b. Iteh maroko padidian=a, sambil=a ngisi lumur angguṛ, (PKN-18)
   keep AV.cigarette alone-3 while-3 AV.hold glass wine
   ‘She kept on smoking alone while holding a glass of wine.’

c. **Ngocok-ang, ka-inem, ngocok-ang, ka-inem,**
   AV.shake-APPL PV.drink AV.shake-APPL PV.drink
   kèto dogèn. (PKN-18)
   like.that only
   ‘She swirled the wine glass, then she drank the wine, she did it repeatedly.
   (Lit: swirled, drank, swirled, drank, that was all).’

Sentence (23a) introduces the argument *anak luh* ‘a woman’. This argument receives the Agent role in the following sentences. In (23b), the Agent argument *anak luh* ‘a woman’ is represented by the third person clitic =a that attaches to the adjective padidian ‘alone’ and the adjunct clause introduced by sambil ‘while’. The Theme argument *lumur anggur*
‘wine glass’ is mentioned for the first time in (23b) in this adjunct clause. Both the Agent and the Theme arguments are omitted in (23c). Even though (23c) only consists of the verbs ngocokang ‘to shake’ and kainem ‘is drunk’, this sentence is understandable because the arguments of these verbs are present in the preceding sentences.

2.2. THE STRUCTURE OF BALINESE MONOCLAUSAL SENTENCES

This section presents the Minimalist structure of Balinese monoclausal sentences, which includes a VoiceP projection. In order to account for the three types of voices in Balinese, I incorporate VoiceP as a separate projection above vP, following the analysis of voice in other Austronesian languages such as Indonesian (Sukarno, 2003), Acehnese (Ko, 2009), and Sundanese (Kurniawan, 2013). This maximal projection is argued to not introduce an external argument, in contrast to the proposal by Kratzer (1996), and it is headed by the voice markers (N-, Ø, -a, ka-, ma-).

Building on Pylkannen’s (2002) analysis of causatives and Bowers’ (2002) proposal on the splitting of v into Pr (Predication) and Tr (Transitivity) projections, Sukarno claims that the Indonesian verbal projection consists of VoiceP, vP and VP. He proposes that the Indonesian applicative suffixes –kan and –i are the morphological realizations of the v head (which is equal to Bowers’ TrP) because the verbs to which these suffixes attach are always transitive. In addition, he also proposes a Voice projection, a counterpart of Bowers’ PrP, as a projection above v with the voice prefixes as its overt realization, i.e. active meN-, passive di-, unergative ber-, and unaccusative ter-.

In his analysis of the typology of anticausatives in Acehnese, Ko (2009, p. 1) also proposes to differentiate “agentivity and causation into two distinct functional projections”. 

27
The Voice head in Ko’s analysis is represented by the 3rd person singular agreement *geu* and the anticausative prefix *teu*, whereas the *v* head is realized as the causative marker *peu*.

Kurniawan (2013) took the same approach as Sukarno (2003) in postulating the Sundanese voice markers as the overt realizations of Voice head. Inspired by Ko’s proposal on Acehnese agreement, he also hypothesized Sundanese plural agreement as another manifestation of the Voice head in the Sundanese Crossed Control Construction.12

Based on these studies and the fact that the Balinese subject is not always agentive, I also claim that Voice constitutes part of the Balinese verbal projection along with *v* and *V* heads. In my analysis, the assumptions are made based on Phase theory (Chomsky, 2001). First, CP and *vP* are phases. However, passive and unergative *vP*s that do not have a specifier projection are weak phases; hence, constituents within them are accessible for a probing from a higher c-commanding constituent. Second, to account for the specificity requirement for the surface subject, I employ the ‘object shift’ operation whereby the internal argument moves up to the edge of the *vP* phase in order to receive a specific reading (Diesing, 1996; Chomsky, 2001; Rackowski & Richards, 2005).

To begin, we will look at the syntactic features of a Balinese monoclausal construction, exemplified in (24).

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12 Read Kurniawan (2013, pp. 288-296) for more details on his claim that Sundanese plural agreement is the realization of Voice head.
24. Ia (tu)sing lakar (sai-sai) bisa (sai-sai) ngempug nyuh (sai-sai).

3 NEG FUT often can often AV.split.open coconut often

‘S/he will not be able to split a coconut open often.’

Sentence (24) shows that the frequency adverb *sai-sai* ‘often’ can appear sentence-finally or in the middle of the sentence: between the auxiliary *lakar* and the modal of ability *bisa*, or between the modal *bisa* and the main verb *ngempug* ‘split open’. The placement of the frequency adverb indicates that these elements are independent constituents.

Following the VoiceP analyses of Indonesian-type languages, I propose the Balinese voice affixes to be the overt realization of the Voice head. Furthermore, from sentence (24), we can assume that ModP, AuxP, and NegP are projections above VoiceP as they appear to the left of the main verb.

In addition, T bears the EPP feature, which triggers subject movement from the specifier of vP to the specifier of TP. The evidence for subject movement is exhibited in (25), where the quantifier *makejang* ‘all’ can be stranded at Spec,VoiceP as can be seen in the syntactic derivation in (26).

25. Timpal-timpal-é sing makejang mayah iuran.

RED-friend-POSS NEG all AV.pay fee

‘Our friends have not all paid for the fee.’
In the derivation (26), the DP *iuran* ‘fee’ is generated inside the VP projection, while the DP *timpal-timpalé makejang* ‘all our friends’ occupies the specifier position of little v. The Voice head is represented by the voice affixes, and its specifier temporarily hosts the surface subject since the DP will continue to Spec,TP to satisfy the EPP feature on T. As discussed in Section 2.1.2, the subject of a Balinese sentence must be specific. In the case of (27), the highest DP satisfies the specificity requirement; therefore, it moves up to the specifier position to satisfy the EPP feature on Voice. The quantifier *makejang* ‘all’
is left behind in Spec,VoiceP position, while the DP *timpal-timpalé* ‘our friends’ undergoes movement to the specifier of TP due to the EPP feature on T.

Does this structure also work for Balinese OV constructions? Recall that the OV construction is preferred when the non-Agent argument is specific and/or definite. I propose that in a Balinese OV construction, such as (27), the internal argument undergoes object shift movement to the outer specifier of vP in order to receive the specific/definite interpretation, as shown in the derivation (28).

27. Iuran-é kondén bayah cang.

Fee-DEF IMPERF OV.pay 1

‘I have not paid the fee.’

According to Diesing (1996, p. 68), object shift in Germanic languages is “an instance of semantically-driven movement, a result of interpretation conditions applying in the syntax-semantics mapping which induce movement.” The shifted argument must be interpreted as specific and/or definite, while the unshifted argument may receive either a non-specific or a specific interpretation (Diesing, 1996). Object shift is also subject to locality, where only the highest internal argument can undergo object shift (Rackowski & Richards, 2005).

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Rackowski & Richards (2005) use applicative constructions in Tagalog to provide evidence for the locality constraint on object shift. In Tagalog applicative construction, only the direct object can be shifted and become the surface subject. The same is true in Balinese, as exemplified in the following.

i. Tiang ngirim-in I bapa pipis. 
   1 AV.send-APPL DET father money 
   ‘I sent father money.’

ii. I bapa kirim-in tiang pipis. 
    DET father OV.send-APPL 1 money
These characteristics fit with the properties of Balinese OV constructions. The syntactic derivation of the Balinese OV construction (27) is illustrated in (28).

28. Monoclausal Balinese OV structure

Money-DEF OV.send-APPL 1 DET father
‘The money, I sent to father.’

In (i), the applicative suffix –in promotes the Goal argument to be the direct object of the verb, whereas the Theme argument becomes the indirect object. In (ii), the Goal argument becomes the surface subject after it undergoes object shift to Spec,vP. Sentence (iii) shows that because the position of the Theme argument is lower than the Goal argument, it is available for object shift movement; hence, it cannot become the surface subject.
The derivation in (28) shows that because the internal argument *iurané* ‘the fee’ is specific, it can undergo object shift. Once it occupies the phase-edge position, it is available for probing from the Voice head. The Theme argument *iurané* ‘the fee’ then moves up to the Spec,VoiceP owing to the EPP feature on Voice, while the Agent argument stays within vP. The DP *iurané* ‘the fee’ then moves again to the specifier of TP to satisfy T’s EPP feature.

In the passive structure, the vP is considered to be a weak phase, and a higher c-commanding probe can access the internal argument inside the vP. The predicate has one core argument, i.e. the internal argument. This internal argument is generated in VP, and the vP does not have a specifier projection that hosts an external argument. A Balinese passive sentence is represented in (29). (30) depicts the derivation of Balinese passive sentences.

29. *Iuran-é kondén bayah-a (tekén timpal-timpal-é).*

   Fee-DEF IMPERF pay-PV by RED-friend-POSS

   ‘The fee has not been paid (by my friends).’
The syntactic structure in (30) illustrates how the non-Agent argument that is generated inside the VP can move up to the specifier of VoiceP to satisfy the EPP feature on the Voice head because there is no external argument on Spec,vP that can receive the probing from the higher projection. The Voice head has the passive affix ka- or -a as its realizations. The by-phrase may adjoin once the verbal derivation is complete. Finally, the non-Agent argument iurané ‘the fee’ then moves again to the specifier projection of T to satisfy the EPP feature on T.
2.3. **SUMMARY**

In this chapter I have shown that Balinese verbs are neither inflected with tense nor person, number, and gender markers. Despite this lack of inflectional markers, null pronouns and null arguments often occur in Balinese. There are several types of verbal affixes which indicate the transitivity of the predicate within a construction. The intransitive construction is marked by $\emptyset$, $ma$-, $maN$-, and $N$- prefixes. There are three types of voice for transitive constructions which are marked by specific affixes: a bare verb designates OV, the nasal prefix $N$- specifies AV, and the prefix $ka$- or the suffix $−a$ denotes PV. The Balinese suffix $−ang$ functions as a causative suffix, which increases the valency of the verb. It also operates as an applicative suffix that promotes an oblique (e.g. Goal and Benefactor) to a core argument. The suffix $−in$ is another applicative suffix in Balinese that promote a Locative PP-argument to be the core argument of the predicate to which the suffix attaches.

Furthermore, the data laid out in this chapter shows that voice system is what distinguished Balinese from the commonly-studied European languages. The three types of voice construction in Balinese is motivated by the specificity/definiteness requirement of the subject of the sentence. This restriction on the sentence subject raises the question of whether Balinese has different syntactic features from the Indo-European language, and how should this specificity and the three voice constructions be structured within the Minimalism paradigm?

In order to account for the three voice types within Minimalist syntax, I adopt an analysis that splits the VoiceP and $vP$ projections (Sukarno, 2003; Ko, 2009; Kurniawan, 2013). I postulate that the VoiceP in Balinese has the voice prefix or suffix as its head, and
it attracts the highest argument in vP to its specifier to satisfy its EPP feature. Furthermore, I implement an object shift analysis (Diesing, 1996; Rackowski & Richards, 2005) to explain how the non-Agent argument can assume the surface subject role in the OV construction. The analysis I presented in this chapter assumes the Minimal Link Condition (Chomsky, 1995) and Phase theory (Chomsky, 2001) as the underlying concepts.

An equally important point of this chapter is the illustration of predicates in clausal complements which have the same morphology as the predicates in main or independent clauses. In essence, the morphology of the predicates cannot be used as an indicator to distinguish complement types in Balinese. Therefore, Chapter 3 is dedicated to the examination of syntactic restrictions based on the structure of the complements to help distinguish different types of complementation in Balinese.
CHAPTER 3. THE TYPOLOGY OF BALINESE COMPLEMENTS

3.1. **INTRODUCTION**

The majority of human languages have verbs that select a clause as their subject or object. These verbs, e.g. *want, tell, believe,* and *seem,* are often referred to as complement-taking predicates (CTPs). The syntactic process in which a proposition or a clause is embedded as an argument of a predicate is referred to as complementation (Noonan, 2007). For example, Noonan (2007, p. 54) looks at different types of complementation in Lango, which are illustrated in (1). Observe the verbs (printed in bold) inside the clausal complements within the square brackets.

1. a. Átîn òpòyò [nî ácégò dógglâ]
   child remembered.3sg COMP closed.1sg door
   ‘The child remembered that I closed the door.’

   b. Átîn òpòyò [òcégò dógglâ]
   child remembered.3sg closed.3sg door
   ‘The child remembered s/he closed the door.’

   c. Átîn òpòyò [céggò dógglâ]
   child remembered.3sg close.INF door
   ‘The child remembered to close the door.’

Like the verbs in the matrix clauses, the embedded verbs in (1a) and (1b) are inflected with a marker that represents the subject of the embedded clause. In contrast, the verb in the clausal complement in (1c) receives no inflectional marking and occurs in its infinitive
form. Furthermore, note that the complementizer *ni* heads the clausal complement in (1a), while the complements in (1b) and (1c) are not introduced by a complementizer.

These sentences show that there are different types of complements that can be distinguished by the presence of inflectional markers, or the lack thereof. This may be true for languages with rich inflectional marking, but what about languages that have few inflectional markers? In fact, Englebretson’s claim (2003) regarding the non-existence of complementation in colloquial Indonesian is based on the fact that Indonesian does not have inflectional markers; hence, the existence of complementation cannot be proven since the embedded verb has the same features as the matrix verb.

Based on the description of basic Balinese morphosyntax in Chapter 2, we know that Balinese verbs are similar to Indonesian because they are not inflected for tense, person, number, or gender marking. Nevertheless, the presence of complementation is not really in question, as the syntax of Balinese Raising and Control complements has been studied and substantiated in the literature (Wechsler & Arka, 1998; Arka & Simpson, 1998; Arka, 2003).

Inasmuch as complementation is a justifiable syntactic process in Balinese, other complementation-related questions arise. First, are there other complement types, apart from Raising and Control, which have not been taken into account? Second, since inflectional markers are not available in Balinese, how can we distinguish one complement type from the others? In other words, what are the distinguishing properties of complement types in Balinese?
The goal of this chapter is to provide a descriptive account of complement types in Balinese. Because the general goal of this chapter is to illustrate the typology of Balinese complementation, the enumeration of the properties of Balinese complements is not based on any particular theoretical framework. Regardless, the complementation-related topics considered in this chapter are topics commonly raised within generative syntax in general, not just Minimalism in particular.

Section 3.2. provides descriptions of the typology of complementation in other languages and prior research on Balinese complements. The methodology used in data collection for fieldwork carried out for this part of dissertation is discussed in Section 3.3, while Section 3.4. consists of descriptive data on the properties of Balinese complement types and the lists of complement-taking predicates. Section 3.5. discusses the similarities and differences among these Balinese complement types and the issues that result from this classification.

3.2. **COMPLEMENT TYPES ACROSS LANGUAGES**

Numerous typological studies of complementation have appeared in the literature. Noonan (2007) provides a thorough description and categorization of complementation across languages and its categorization from morphological, syntactic, and semantic perspectives. Papers on complementation types and complementation strategies in eleven languages, e.g. Pennsylvania German, Jarawara, White Hmong, etc., have also been compiled by Dixon & Aikhenvald (2006). Consonant with this body of literature, there are several common types of complements that I will review in this section.14

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14 Noonan (2007) and Dixon (2006) also list complementation strategies that include parataxis (e.g. the attachment of a direct quote after question predicates) and the serialization of
3.2.1. S-like complements

According to Noonan, a sentence-like complement (s-like complement) has the same form and structure as an independent clause. The predicates in s-like complements are inflected in the same manner as the predicates in the matrix clause. An example of an s-like complement in English is illustrated in sentence (2). The arguments of s-like complements are also case-marked akin to the arguments in the main clause, which can be seen in (3).

2. It seems [that he walks to school every day].
3. He knows [that she loves him].

Consistent with independent clauses in English, the predicate walk in the embedded clause in (2) takes the inflectional suffix –s, the indicator of present tense for third person singular subjects. The marking of case also applies to the complement’s arguments in (3), as the subject of the complement is the nominative third person pronoun she while the object him is the accusative form of the third person pronoun.

However, an s-like complement in German (Noonan, 2007, p. 60) has different syntax than the main clause, as shown in (4).

4. a. Er ist schlau

he be cunning

‘He is cunning.’

verbs. In this dissertation, I will not consider these strategies as part of complementation in Balinese, as they do not involve the syntactic process of predication.
b. Es ist wahr, dass er schlau ist.

It be true COMP he cunning be

‘It’s true that he is cunning.’

The difference between the main clause and the clausal complement in German is the location of the copula verb ist ‘be’. In the main clause (4a), the copula precedes the adjective schlau ‘cunning’, whereas in the complement in (4b), the copula is positioned after the adjective.

S-like complements may also be categorized based their moods. Noonan divides s-like complements into two types: indicative and subjunctive s-like complements. The indicative complements are clausal complements that have similarities with declarative clauses, while the subjunctive complements are those that have optative, irrealis, or potential meaning. The subjunctive s-like complements can be differentiated from indicative s-like complements by the verbal morphology or by the complementizer, as we see in what follows.

Indicative complements are postulated to allow more possibilities for tense and aspect variations compared to subjunctive complements. This is shown in the Russian examples in (5). The indicative s-like complement in (5a) is in the future tense, while (5b) is in the past tense. The subjunctive complement in (5c), on the other hand, can only be inflected for past tense and must occur with the modal particle by (Noonan, 2007, p. 62).

5. a. Ja verju, čto Boris pridët.

I believe COMP Boris will come-INDIC

‘I believe that Boris will come.’
b. Ja verju, čto Boris prisēl.

1 believe COMP Boris came-INDIC

‘I believe that Boris came.’

c. Ja ne verju, čto by Boris prisēl.

1 NEG believe COMP SUBJUNC Boris came-SUBJUNC

‘I don’t believe that Boris will come/came.’

One language with different complementizers for indicative and subjunctive clauses is White Hmong. The complementizer (*hais*) tias in (6) marks an indicative complement, whereas the complementizer *kom* in (7) indicates a subjunctive complement (Jarkey, 2006, p. 120).  

6. Kuv to.taub [(hais) tias lawv yog Hmoob]

1sg understand COMP 3pl COP Hmong

‘I understand that they are Hmong.’

7. Kuv nyiam [kom nws mus].

1sg like COMP 3sg go

‘I like him to go.’

Distinctive subjunctive and indicative complements can be found in many languages, for instance, Greek and many other Indo-European languages. Noonan (2007) claims that every language has s-like complements. Although there has been no attempt at

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15 The presence of *hais* is optional.
examining the properties of s-like complements in Balinese before, we can expect that Balinese has this complement type based on Noonan’s claim.

3.2.2. Nominalized complements

A clause can be nominalized and become a noun phrase through the inclusion of genitive case, articles, case, adpositions, or plural markers (Noonan, 2007). Noonan (2007, p. 72) provides examples of Turkish nominalized complements, which are illustrated in (8) and (9).

8.  Ekmek al-maği unuttu.

   bread   take-NOML-ACC forgot.3sg

   ‘He forgot to take the bread.’


   walk-NOML-DAT began.1pl

   ‘We began to walk.’

In Turkish, the nominalized complement in (8) receives accusative case to mark it as a direct object, whereas dative case is attached to the nominalized clausal complement in (9) to indicate that it is a Goal argument (Noonan, 2007).

Nominalized complements also exist in Sundanese (Kurniawan, 2013, p. 320), as exemplified in (10).
10. Pulisi keur nalungtik [kabur-na Kardin tina bui tengah peuting police PROG AV.research escape-NOML Kardin from prison middle night tadi].

last.

‘The police are investigating Kardin’s escaping from the jail last night.’

The nominalization of a clausal complement in Sundanese is marked by the genitive morpheme na. Kurniawan reports that the Sundanese noun clause in (10) has properties similar to other complement types in Sundanese. For instance, negation can be inserted in it, modals can immediately precede the nominalized verb, and aspectual auxiliaries can also be inserted inside the noun clause.

Nominalized complements can also be found in Indonesian and Madurese. It may be assumed that what is true for the aforementioned languages is also likely for Balinese since they are closely related. However, Balinese differs from these other Indonesian languages because the nominalization of a clause simply through the attachment of the Balinese genitive marker né to a verb is not acceptable, as shown in (11b). In Balinese, verbal nominalization is a prevalent process that involves the attachment of the suffix –an to a predicate. Then the nominalized verb can take a possessive suffix né, as illustrated in (11c).

11. a. I Adi nendang I Bayu ibi.

DET Adi AV.kick DET Bayu yesterday

‘Adi kicked Bayu yesterday.’
b. *Makejang ngorta-ang \text{[nendang-né I Adi ka I Bayu].}

everybody AV.talk-APPL AV.kick-POSS DET Adi to DET Bayu

‘Everybody is talking about Adi’s kicking Bayu.’

c. Makejang ngorta-ang \text{[tendang-an-né I Adi ka I Bayu.]
}

everybody AV.talk-APPL kick-NOML-POSS DET Adi to DET Bayu

‘Everybody is talking about Adi’s kicking Bayu.’

Although it is possible to attach the genitive marker \textit{né} to unaccusative predicates, such as \textit{ulung} ‘fall’ in (12), the same does not apply to unergative verbs with a Voice prefix as shown in (13a). The genitive marker \textit{né} can only be attached to the bare form of the unergative predicate in (13b).

12. Makejang nepuk-in \text{[ulung-né I Ayu].}

everybody AV.see-APPL fall-POSS DET Ayu

‘Everybody saw Ayu’s fall.’

13. a. *Makejang ningeh \text{[ngeling- né I Ayu].}

everybody AV.hear AV.cry-POSS DET Ayu

b. Makejang ningeh \text{[eling-né I Ayu].}

everybody AV.hear cry-POSS DET Ayu

‘Everybody heard Ayu’s crying.’

The bare forms (e.g. \textit{ulung} ‘fall’, and \textit{eling} ‘cry’), to which \textit{né} attaches in the examples above, are often referred to as “bound roots” or “precategorial forms that do not have clear grammatical categories” (Arka, 2003, p. 32). This indicates that the genitive
marker né may function as a nominalizer with these bound roots, and thus not as a nominalizer of the clausal complement as a whole.

3.2.3. Infinitive complements

Infinitive complements are complements whose predicates do not receive inflectional morphemes like those of predicates in main clauses. Noonan (2007) uses the term infinitive to label complements with a verb that is not inflected for person, number, and/or gender.

The two types of English non-finite complements, Raising and Control, have been examined in depth by Rosenbaum (1967), Chomsky (1973), Postal (1974), Davies & Dubinsky (2004), and a host of others. The debate on Raising and Control revolves around the representation of the non-overt category in the clausal complement, as illustrated in (14).\textsuperscript{16}

14. a. She is likely [\textit{<she> to buy a house}]. \hspace{1cm} \textit{Raising}

b. She is attempting [\textit{PRO to buy a house}]. \hspace{1cm} \textit{Control}

Although both Raising and (Subject) Control constructions exhibit a dependency between the matrix subject and the embedded subject, they have a fundamental difference in their structure: the assignment of thematic roles to the arguments of the matrix verbs.

\textsuperscript{16} Throughout this dissertation, the empty category in the Raising complement is represented as the moved element inside angle brackets. In the Control complement, the empty category is indicated as PRO, a symbol for a phonologically null pronoun commonly used in generative linguistics.
In the Minimalist framework, it is assumed that the empty category in the Raising construction (14a) is the result of movement, i.e. it is an unpronounced copy of the moved element. This is possible because the matrix verb does not assign a thematic role to its subject. The argument that occupies the matrix subject position originates inside the complement clause and acquires its thematic role from the predicate complement instead of the matrix predicate. Since the matrix verb lacks an external argument, the embedded subject that originates in the embedded Spec,vP, moves to embedded Spec,TP to satisfy EPP on that T, and then it moves to the matrix Spec,TP to satisfy the main clause EPP on T.

On the other hand, the matrix predicate in the Control construction, as in (14b), assigns thematic roles to all its arguments. Thus, the empty category in the Control construction is not a result of movement, but is a null element (PRO) that must be coindexed with the matrix subject (in the Subject Control construction) or the matrix object (in the Object Control construction) – the controller. The null element – the controlee – has a different theta role than the matrix argument because it receives its theta role from the predicate in the complement.

There are several tests that can be applied to distinguish Raising predicates from Control predicates such as the pleonastic subject test, the passivization test, the selectional restrictions test, and the idiom chunk test (Davies & Dubinsky, 2004; Polinsky, 2013). Because the distinction between Raising and Control constructions lies in thematic role assignment, it is expected that there will be a change of meaning for Control constructions, but not with Raising constructions, when the verb in the clausal complement is passivized. As for the selectional restrictions test, it is hypothesized that inanimate or nonvolitional
arguments cannot be the controller argument in the Control construction because the controller is generally volitional and must be animate. However, the opposite is expected with the Raising construction which allows for inanimate arguments in the embedded clause to be raised to the matrix clause.

Furthermore, temporal specification is postulated to be another method of distinguishing Raising and Control constructions in English (Stowell, 1982). Stowell postulates that Control complements have a future time frame as they can denote unrealized propositions. On the other hand, the tense of Raising complements is governed by the semantic properties of the matrix verb. Observe the Subject Control constructions in (15) and the Raising constructions in (16).

15. a. Jim tried [to lock the door]. (Stowell, 1982, p. 563)
   b. Jenny remembered [to bring the wine].
16. a. John appears [to like poker]. (Stowell, 1982, p. 567)
   b. The president is believed [to be guilty].

The complements in the Subject Control constructions of (15) have irrealis meaning; in other words, the proposition has not occurred at the time of the utterance. Hence, in (15a) Jim does not succeed in locking the door, whereas in (15b) Jenny has not yet brought the wine at the point where she remembers to do so, according to Stowell’s interpretation. On the other hand, the time frame of the Raising complements in (16a) is temporally simultaneous with the main verb. Nonetheless, a Raising complement can also be understood as temporally previous to the Raising verb, as in (16b).
As shown in Chapter 2, Balinese predicates have no infinitive form since the predicate in a clausal complement has the same morphology as the predicate in a main clause. Therefore, it is difficult to distinguish one complement type from the other in Balinese. The following is a review of Balinese Raising and Control constructions discussed in the literature and a discussion of additional tests that may help distinguish complement types in Balinese.

Balinese Raising and Control constructions are discussed by Arka (2003), Wechsler & Arka (1998) and Arka & Simpson (1998) from the LFG perspective. The focal point of these discussions rests on the influence of voice alternation on the syntactic and semantic relation of the matrix argument and the non-overt category within the clausal complements.

Arka (2003, p. 14) claims that only the subject of the embedded clause can raise into the matrix clause. Observe the Balinese Raising constructions illustrated in (17).

17. a. Ngenah sajan [ci ngengkeb-ang kapelihan-né].
   appear much 2 AV.hide-APPL mistake-POSS
   ‘It is very apparent that you are hiding his/her mistake.’

b. Ci ngenah sajan [<ci> ngengkeb-ang kapelihan-né].
   2 appear much AV.hide-APPL mistake-POSS
   ‘You very much appeared to have hid his/her mistake.’

c. Kapelihan-né ngenah sajan [<kapelihan-né> engkeb-ang ci].
   mistake-POSS appear much OV.hide-APPL 2
   ‘His/her wrongdoing appears to be hidden by you.’
Similar to the English Raising construction, the embedded subject can stay within the embedded clause, following the matrix predicate, shown in (17a). The embedded subject can also be raised to occupy the matrix subject position, as illustrated in (17b). Note that there is no change of meaning despite of the passivization of the embedded verb in (17c). Sentence (17d) provides evidence for Arka's claim: only the embedded subject can be raised. The Raising of the embedded object in (17d) results in ungrammaticality.

Similarly, through the voice alternation in (18), Arka (2003, pp. 19-20) shows that the relation between the matrix argument and the null category in the Control complement is constrained syntactically, i.e. only the subject of the complement can be controlled.

18.  
   a.  Ia; edot [PRO; meriksa dokter].
       3 want AV.examine doctor
       ‘S/he wants to examine a doctor.’
   b.  Ia; edot [PRO; periksa dokter].
       3 want OV.examine doctor
       ‘S/he wants to be examined by a doctor.’
   c.  *Tiang; edot [dokter periksa PRO;].
       1 want doctor OV.examine

The matrix subject ia ‘s/he’ controls the null subject (PRO) in the clausal complement in (18a) and (18b), and these sentences are grammatical. However, when the matrix subject
‘controls’ the postverbal Agent argument of the OV clausal complement in (18c), the sentence is deemed to be ungrammatical. These examples also illustrate the semantic restrictions on PRO. In (18a), PRO gets the Agent role from the verb in the clausal complement, while its controller receives an Experiencer role from the matrix predicate. The PRO in (18b) receives the Theme role due to the voice alternation, while its controller still has the Experiencer role. Therefore, there is a change of meaning when passivization occurs within the clausal complement.

In their discussion, Arka & Simpson (1998) suggest that the distinction between Control and Raising complements is associated with finiteness. They claim Balinese control complements to be nonfinite because they cannot take the future auxiliary, whereas Balinese Raising complements are finite since the raising of an argument can occur from a complement with an aspectual auxiliary. If finiteness indeed differentiates Balinese Raising from Balinese Control complements, how can we discern this abstract feature apart from the presence of future auxiliaries, particularly when Balinese verbs do not have finite-nonfinite alternations? In the following, I discuss elements that are postulated to be the manifestations of finiteness, such as aspectual auxiliaries, modal verbs, and temporal specifications.

There have been various recent proposals regarding finiteness in Indonesian-type languages. Arka (2013) has proposed that tense, aspect, and mood (TAM) in Indonesian can be realized morphosemantically through the presence of aspectual auxiliaries.


3sg FUT / PROG / PERF eat

‘S/he will eat/is eating/have eaten.’

51
20. a. Saya menyuruh dia [makan].

   1    AV.ask  3sg eat

   ‘I asked him to eat.

b. *Saya menyuruh dia [akan / sudah / sedang makan].

(19) illustrates that a monoclausal sentence in Indonesian can take aspectual auxiliaries. Arka claims that when sentence (19) is embedded in (20), the clausal complement in (20a) is non-finite because the aspectual auxiliaries are not accepted in the subordinate clause, as illustrated in (20b).

Furthermore, Arka (2013) also suggests that modal verbs are also the realizations of finiteness because they are tensed, similar to their English counterparts. For example, the modal verb harus ‘must’ has inherent complex temporal specifications, since it can have a future interpretation (21a) or a past interpretation (21b).


   2    must come

   ‘You must come.’

b. Harus-nya kamu datang.

   must-DEF 2 come

   ‘You should’ve come.’

Arka reaffirms his claim that modal verbs are indicators of finiteness by inserting the modal of ability bisa ‘can’ into a clausal complement. As can be seen in (22), the modal bisa ‘can’ cannot occur inside the clausal complement.
In accordance with this fact, it is important to investigate whether the presence of aspectual auxiliaries and modals in Balinese clausal complements are the realizations of finiteness.

Evidence from Sundanese suggests that aspectual auxiliaries, temporal auxiliaries, and modals do not reflect the finiteness of a complement because they can be found in Control, Raising, and nominalized complements (Kurniawan & Davies, 2015). Furthermore, Sundanese plural agreement and 3rd person subject agreement can occur in a sentence-like complement, Subject and Object Control complements, Raising complements, and nominalized complements. Thus, Kurniawan & Davies conclude that these agreement morphemes are not indicators of finiteness. Instead, Kurniawan & Davies claim that finite Sundanese complements are those that can take overt subjects. It is worth considering Kurniawan & Davies’ claim, and checking whether overt subject in Balinese complements is an indicator of finiteness.

The two main issues related to complementation in Minimalism are the debate on the distinction of Raising and Control predicates and the role of (non)finiteness as the fundamental syntactic property that distinguishes these two structures from other complementation types. Balinese complement clauses raise various issues related to the question of syntactic diagnostics for complement types. With this in mind, passivization, thematic fit, temporal specifications, and the notion of finiteness must be explored to help distinguish one complement type from the other. In addition, it is also necessary to check
whether the presence of aspectual markers, modal verbs, and overt subjects in Balinese complementation legitimately represent finiteness.

3.3. FIELDWORK ON COMPLEMENT TYPES IN BALINESE: METHODOLOGY

To answer some of the questions raised in the last section, as part of this dissertation, I conducted some fieldwork research to gather relevant empirical data. This fieldwork research was conducted in Bali, specifically in Buleleng Regency, located in the northern part of Bali. The preliminary data were collected during summer 2015, from the end of May until the beginning of August. Subsequently, the main data collection was carried out for five months in 2016, from the end of March to the end of August. The data used to discover the properties of Balinese complementation in this chapter were collected from two types of sources: oral and written data.

The corpus of oral data is composed of interviews with language consultants and transcripts of videos of shadow puppet performances. The videos of shadow puppet performances were recorded in the village of Tejakula. These videos provided descriptive data on Balinese sentence structures in a naturalistic setting.

To elicit additional descriptive data on Balinese sentence structures, I worked with five native speakers of Balinese who were born, raised, and reside in Buleleng Regency. During the preliminary data collection, I worked with five language consultants from villages located next to each other, i.e. Tukad Mungga and Anturan. In the second period of data collection, three of the previous language consultants were not available. Therefore, I only worked with two of the language consultants from the village of Anturan and three
new consultants: two consultants resided in the village of Pemaron and one consultant was from the village of Kalianget. All of the informants in the first and second period of elicitation sessions were male and in the age range of 51 - 71. This corpus of oral data represents the sentence structure of the northern dialect of Balinese in the lower register.

The corpus of written data comprises short stories from published books and online sites (see Appendix A for the list of titles). The published compilation of short stories and the short stories downloaded from personal blogs and websites use the lowland dialect, although I cannot confirm whether these were written in the northern or southern dialects. Only the short stories posted on the Facebook page of Punk Kwala Ngibur (PKN) are unquestionably written in the northern Balinese dialect as the writer originates from Buleleng. I also used the dictionaries written by Sutjaja (2006) and Sudipa et al. (2015) to find some vocabulary.

Even though a portion of the analyzed data in this dissertation comes from the author, who is a native speaker of the northern Balinese dialect, most of the data that I used in this dissertation are taken from the elicitation data and the corpus compiled during fieldwork. Based on these data, I provide the distinguishing properties of the Balinese complement types in Section 3.4.

3.4. **FIELDWORK RESULTS: SYNTACTIC DIAGNOSTICS OF BALINESE COMPLEMENT TYPES**

In this section, I provide an overview of the syntactic diagnostics and empirical properties of Balinese complement types that appear in my results. There are four types of complements discussed in this section, namely sentence-like (s-like) complements, Subject
Control (SC) complements, Object Control (OC) complements, and Raising complements. Along with the description of empirical properties of each complement type, pertinent topics in the study of complementation syntax are introduced. While these topics or phenomena are not discussed in detail within this chapter, these topics will serve as the preamble of more thorough discussions in subsequent chapters.

3.4.1. Sentence-like (s-like) complements

As stated above, an s-like complement has the same properties as an independent clause, identifiable in languages with rich inflectional morphology through the presence of tense, aspect, person, number, and/or gender marking. However, because Balinese does not have inflectional morphology, the s-like complement can be recognized through the presence of an overt complementizer, an overt embedded clause subject, the presence of aspectual markers and modals, and the fact that there is no temporal specification restriction within this particular complement type.

3.4.1.1. Complementizer

Balinese s-like complements may take an overt complementizer or a null complementizer. There are two types of overt complementizers in Balinese. The indicative or realis mood is represented by the complementizer unduk ‘that’ and tekén ‘with’ (lit: about), and the interrogative word apa ‘what’ that may head the clausal complement following question predicates such as matakon ‘ask’. The complementizer apang ‘that’

17 The two indicative overt complementizer unduk ‘about’ and tekén ‘with’ can also function as prepositions. Many prepositions and question words (i.e. the Balinese question word apa ‘what’) across languages have been grammaticalized to function as a complementizer (Heine & Kuteva, 2002).
(lit: so that) indicates subjunctive or irrealis mood. S-like complements in Balinese can take either one of these two types of complementizers based on the semantic class of complement-taking predicates (henceforth CTPs).

A clausal complement with the complementizer unduk (low register) or indik (high register) and tekén ‘with’ usually follows epistemic predicates, e.g. inget ‘remember’ and engsap ‘forget’, and utterance predicates such as nyambat ‘mention’, and nutur ‘say/talk’. An example of an s-like complement with the indicative complementizer is given in (23).

23. I kaki nutur [unduk cucu-nné demen malelangi].
   DET grandpa AV.talk COMP grandchild-POSS like INTR.swim
   ‘The old man said that his grandchild likes to swim.’

An utterance predicate like matakon ‘ask’ takes an s-like complement headed by the overt interrogative complementizer apa, as shown in (24) below.

24. I dadong matakon [apa tiang suba madaar].
   DET grandma INTR.ask COMP 1sg PERF INTR.eat
   ‘Grandma asked whether I have eaten.’

S-like complements following CTPs indicating a wish, e.g. nunas ‘wish’, ngacep ‘pray’, ngidih ‘ask’, take the irrealis complementizer apang (low register) or mangda (high register). Sentence (25) contains an example of an s-like complement with the irrealis complementizer mangda.
25. Titiang nunas [mangda titiang prasida nganggén Iluh Arti gegélan]. (SS-3)
   1sg AV.pray COMP 1 able AV.use Iluh Arti girlfriend
   ‘I pray that I could have Iluh Arti as my girlfriend.’

   In contrast, CTPs expressing commitment, such as majanji ‘promise’ and mutusang
   ‘decide’, normally take an s-like complement with a covert complementizer. Note that the
   subject of the embedded clause in (26) is null because it has the same reference with the
   matrix subject.

   26. I mémé suba masubaya [Ø i lakar meli-ang tiang motor baru].
       DET mother PERF INTR.promise FUT AV.buy-APPL 1 motorbike new
       ‘Mother has promised that she would buy me a new motorbike.’

   Commissive predicates in other languages are often identified as Control predicates
   which select a reduced complement with a null subject that corefers with the matrix subject.
   Nonetheless, I claim that in Balinese, commissive predicates may also select s-like
   complements because they can have an overt subject that does not corefer to the matrix
   subject, which will be shown in the subsequent subsection. In the following, I discuss the
   subject of s-like complements and the occurrences of null pronouns within clausal
   complements.

   3.4.1.2. Embedded Subject

   Because an s-like complement is essentially a complete clause, it need not share an
   argument with its matrix clause; overt subjects are licensed, as confirmed in (27), (28) and
   (29) below.
The third person pronoun *ia* in (27) can have two interpretations. First, it may have the same reference as the subject in the main clause. Second, it may function as a discourse anaphor of another argument mentioned previously in the discourse. The embedded subject can also be non-overt (as symbolized by *pro*). As shown in Chapter 2 section 2.1.4, the occurrence of null pronouns is common in Balinese sentences. This tendency occurs in Balinese complementation as well, particularly when the subject of the clausal complement is coreferential with the subject in the main clause.

(28) and (29) show that the subject of the s-like complement differs from the subject of the matrix clause. Under the circumstance where the subjects of the matrix and embedded clauses do not corefer, the embedded subject must be overt.

---

18 The symbol *pro* indicates pronouns that are omitted from the sentence since their reference can be inferred from the context.
The subject of an s-like complement gets its theta role from the embedded clause predicate. Therefore, there are no restrictions on the animacy or the volitionality of the subject argument (aside from the selectional restrictions of the embedded verb).


DET Ketut AV.mention cousin-POSS/dog-POSS/fence-POSS OV.hit

motorbike

‘Ketut said that his cousin/dog/fence was hit by a motorbike.’

Sentence (30) shows that it is possible to have an animate volitional argument misan-né ‘his/her cousin’, a nonvolitional animal kulukné ‘his/her dog’, or an inanimate item pagehanné ‘his/her fence’ as the subject of the s-like complement.

3.4.1.3. Passivization

In this subsection, I explore the possibility of passivization in the matrix and embedded clauses. As shown in the previous examples, the predicate of an s-like complement can be in its AV form or OV form. The embedded verb can also be present in its PV form in (31).

31. I Mudra inget [dedaaran-né sai-sai paling-a tekén timpal-né]

DET Mudra remember food-POSS RED-often steal-PV by friend-POSS

ipidan].

ago

‘Mudra remembered that his food was often stolen by his friend(s) a long time ago.’

60
Nevertheless, it can be expected that passivization is not possible when the matrix predicate is intransitive, e.g. *nutur* ‘talk/say’.\(^1\) Hence, the s-like complement (32b) and the external argument of the complement’s verb (32c) cannot occupy the subject position in the matrix clause.

32. a. Anak-é lingsir ento nutur [unduk cucu-nné demen person-DEF old DEM AV.talk COMP grandchild-POSS like malelangi].

   INTR.swim

   ‘The old man mentioned that his grandchild likes to swim.’

b. *[Unduk cucu-nné demen malelangi] tutur-a tekén anak-é COMP grandchild-POSS like INTR.swim talk-PV by person-DEF lingsir ento.

   old DEM


   old DEM

\(^1\) Even though the matrix predicate has a nasal prefix attached to it, it is considered an intransitive verb because it takes a prepositional phrase if not taking an s-like complement, as shown below:

i. Guru-né enu nutur tekén / ajak kepala sekolah-é. teacher-DEF PROG AV.talk to / with head school-DEF

   ‘The teacher is still talking to the headmaster.’
(32c) also provides evidence that the movement of an argument out of an s-like complement is not sanctioned. In fact, this characteristic of s-like complements is crucial in determining the syntactic structure of s-like complements, which will be further discussed in Chapter 4.

3.4.1.4. Temporal Specification

The s-like complements do not have any temporal restrictions. They can have a separate temporal specification from the matrix clause, although it is anchored to the temporal specification of the matrix verb.

33. *Ibi I Adi ngorta [(ia) lakar malali ka Jakarta buin abulan].*

yesterday DET Adi AV.say 3 FUT INTR.visit to Jakarta again one.month

‘Yesterday, Adi said that he will visit Jakarta in a month.’

Sentence (33) shows that the proposition or the event of visiting and the action of communication occur in different time periods. The visiting event will happen in the future as indicated by the future auxiliary *lakar* and the adverb of time *buin abulan* ‘in a month’. Nevertheless, this future event was stated in the past, as specified by the adverb of time *ibi* ‘yesterday’ in the beginning of the main clause. In other words, the proposition of Adi’s visit occurs in the future with respect to the time of Adi’s saying it.

3.4.1.5. Aspectual Markers

Because an s-like complement is not restricted in terms of temporal interpretation, it can be expected that all kinds of aspectual markers are admissible inside an s-like complement, as illustrated in (34).
34. Pembantu-nné maora’an [(ia)i] lakar/suba/nu pesu peteng-peteng].
   helper-POSS INTR.say 3 FUT/PERF/PROG go.out RED-night
   ‘His/her helper said that s/he will go out/has gone out/is going out at night.’

As can be seen in (34), the event expressed by the s-like complement can occur in the present, past, perfect, and future aspects. This is a property of s-like complements, which optionally take the realis complementizer unduk.

For s-like complements with irrealis meaning, however, any markers that denote progressive or perfect aspect are ill-formed. Notice that the future auxiliary is also not accepted in (35), despite the irrealis meaning of the complement.

35. Murid-muridé ngacep [apang *suba/*sedek/*taén/*lakar lulus ujian].
   RED-student-DEF AV.pray COMP PERF/PROG/PERF/FUT pass exam
   ‘The students prayed that they would pass the exam.’

On the other hand, s-like complements that follow commissive predicates take the future auxiliary lakar, as exemplified in (36). In this case, the overt irrealis complementizer apang is unacceptable. The fact that commissive predicates cannot take the irrealis complementizer is due to the realis meaning of a commitment that is expressed in continuation of the present.

36. Ia majanji [(*apang) lakar ngajak panak-ne malali].
   3 INTR.promise COMP FUT AV.take child-POSS INTR.visit
   ‘S/he promises that s/he will take his/her child on a vacation.’
From these empirical data, we can conclude that the presence of an aspectual marker within s-like complements is dependent on the mood and the semantics of the matrix predicates.

3.4.1.6. Modals

Both realis and irrealis s-like complements accept the insertion of modal verbs, as shown in (37) and (38), respectively.

37. Ia inget [unduk timpal-né bisa menah-in kompor].

3 remember COMP friend-POSS can AV.fix-APPL stove

‘S/he remembered that her/his friend can fix a stove.’

38. Iluh ngidih [apang dadi pesu kanti jam dasa].

Iluh AV.ask COMP be.allowed go.out until hour ten

‘Iluh asked to be allowed to go out until 10 (pm).’

(37) is an example of a realis s-like complement with the modal verb bisa ‘can’ that expresses ability, whereas (38) shows an irrealis clausal complement with a modal verb indicating permission.

3.4.1.7. List of Predicates

The following is a (non-exhaustive) list of predicates that select s-like complements. The s-like complement-taking predicates are grouped into five categories: utterance predicates, perception predicates, epistemic predicates, request predicates, and commitment predicates. The first three semantic categories (i.e. utterance, perception, and epistemic predicates) select indicative s-like complements, whereas the last two categories (i.e. request and commissive predicates) select subjunctive s-like clause as their
complement. The presence of the complementizer *apang* is obligatory in the complements selected by the request predicates, while the commissive predicates select s-like complements that have a covert complementizer.

### Utterance predicates

<table>
<thead>
<tr>
<th>nyambat</th>
<th>‘mention’</th>
</tr>
</thead>
<tbody>
<tr>
<td>makabar</td>
<td>‘spread news’</td>
</tr>
<tr>
<td>ngangken</td>
<td>‘admit’</td>
</tr>
<tr>
<td>ngorta</td>
<td>‘chat’</td>
</tr>
<tr>
<td>nutur</td>
<td>‘talk’</td>
</tr>
<tr>
<td>nyarita</td>
<td>‘tell a story’</td>
</tr>
<tr>
<td>matakorn</td>
<td>‘ask/question’</td>
</tr>
<tr>
<td>maorahan</td>
<td>‘report’</td>
</tr>
</tbody>
</table>

### Epistemic predicates

<table>
<thead>
<tr>
<th>engsap (teken)</th>
<th>‘forget (about a memory)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>ingest (teken)</td>
<td>‘remember (about a memory)’</td>
</tr>
</tbody>
</table>

### Request predicates

<table>
<thead>
<tr>
<th>ngidih</th>
<th>‘ask’</th>
</tr>
</thead>
<tbody>
<tr>
<td>ngacep</td>
<td>‘pray’</td>
</tr>
</tbody>
</table>

### Commisive predicates

<table>
<thead>
<tr>
<th>mutusang</th>
<th>‘decide’</th>
</tr>
</thead>
<tbody>
<tr>
<td>masubaya</td>
<td>‘promise’</td>
</tr>
<tr>
<td>majanji</td>
<td>‘promise’</td>
</tr>
<tr>
<td>masumpah</td>
<td>‘swear’</td>
</tr>
</tbody>
</table>

### Perception predicates

<table>
<thead>
<tr>
<th>ningeh</th>
<th>‘hear’</th>
</tr>
</thead>
<tbody>
<tr>
<td>nepuk</td>
<td>‘see’</td>
</tr>
</tbody>
</table>

### 3.4.2. Subject Control (SC) complements

Subject Control (henceforward: SC) complements are clausal complements with a null subject that has the same reference as the subject in the main clause. In this section, I
lay out the properties of these complements related to types of complementizer, selectional restrictions for the controller argument, passivization, temporal specification, aspectual markers and modals.

3.4.2.1. Complementizer

SC complements take a null complementizer as their head, particularly those that follow psych predicates, such as *demen* ‘like’, *nyak* ‘be willing / agree’, or *inget* ‘remember (to do)’.20 Sentence (39) is an example of an SC construction. When a complementizer is present overtly in this complement, it results in ungrammaticality.

39. Iluh Sri, nyak [*apang/*unduk] PROi naar rujak-é ané

   Iluh Sri be.willing COMP / COMP AV.eat fruit.salad-DEF REL

   lalah ento].

   spicy DEM

   ‘Iluh Sri is willing to eat that spicy fruit salad.’

The SC complements following desideratives, however, may take an overt complementizer. Only *apang*, the irrealis complementizer, can head an SC complement, as illustrated in (40).

20 The predicates *inget* ‘remember’ and *engsap* ‘forget’ can also take an s-like complement, in which the complements refer to a state or a memory and a time reference independent of the matrix clause is admissible. The subject control complement selected by these predicates, on the other hand, indicates an unrealized action.
40. Bli, ateh tiang, malali nah, pro, edot [apang PRO; taèn
older.male OV.escort 1 INTR.visit yes desire COMP PERF
ajak bli malali]. (PKN-12)

OV.invite older male INTR.visit

‘Dear, please take me out, (I) want to be invited to go out by you.’

Note that the matrix predicate edot ‘desire’ in (40) has a null subject, and so does the
embedded predicate ajak ‘invite’. The reference for these null subject(s) can be deduced
from the context, i.e. tiang ‘1sg’, as it is expressed in the preceding sentence. I claim that
these corresponding complements with overt apang are actually irrealis s-like
complements. Further evidence that supports this claim will be discussed in the next
subsections.

3.4.2.2. The Controller and the Controlled Arguments

Because the controller argument or the matrix subject receives a theta role from the
verb in the matrix clause, it can be semantically restricted, restricting it to only sentient and
volitional argument. In (41a), both animate and inanimate arguments can be the subject of
the intransitive verb ngelilik ‘roll down’. However, when sentence (41a) is embedded in
(41b) to be the complement of the predicate demen ‘like’, only the animate and volitional
argument anaké cerik ento ‘that child’ is acceptable in the matrix subject position. The
inanimate argument batuné ‘the stone’ cannot be the controller of the null embedded
subject.

21 The term bli ‘older male’ is a term of endearment that can also be used to address a
second person.
41. a. Anak-én cerik ento / batu-né ngelilik.

   person-DEF small DEM rock-DEF INTR.roll.down

   ‘That child / the rock is rolling down.’

b. Anak-én cerik ento / *batu-né demen [ngelilik].

   person-DEF small DEM rock-DEF like INTR.roll.down

   ‘That child likes to roll down. / *The rock likes to roll down.’

The controlled argument in SC complements must remain a silent argument. An overt pronoun cannot replace the silent argument in the SC complement in (42), while (43) shows that a pronoun can be inserted into the corresponding clause with the explicit complementizer apang.

42. *Tiang makita [tiang/ia mabaliḥ pilem-én ento].

   1 INTR.want 1  / 3 AV.watch movie-DEF DEM

   ‘I want to watch that movie. / I want him/her to watch that movie.’

43. Murid-én entoʒ makita [apang (iaj)j nepukin Presiden Jokowi].

   student-DEF DEM INTR.want COMP 3 AV.meet president Jokowi

   ‘That student wanted that s/he meets President Jokowi. / That student wanted her/him to meet President Jokowi.’

The overt pronoun that replaces the silent subject within the embedded clause in (43) may or may not be coreferential with the matrix subject. For example, the third person pronoun ia may refer to the student, the external argument of the verb makita ‘want’, but it may also refer to another person, deriving the second interpretation. The fact that an overt pronoun can be present inside the complement with the complementizer apang in (43) parallels the
property of subjunctive s-like complements. A more comprehensive comparison between Control complements and their subjunctive s-like counterparts will be laid out in Section 4.2.2 to provide arguments for the nonfiniteness of Control complements.

3.4.2.3. *Passivization*

It has been established previously that the CTPs in SC constructions assign a thematic role to their subject; therefore, the meaning of the sentence should change when the embedded verb is passivized and the silent element is assigned the Theme role. This is confirmed in (44). In (44a), the controlled argument has the Agent role; hence, the DP *Iluh* is understood to be the one who agrees to do the picking up. Unlike (44a), in (44b) the DP *Iluh* is the one that agrees to be picked up.

44. a. *Iluh* nyak [PRO] magpagin I mémék.

   Iluh agree AV.pick.up DET mother

   ‘Iluh agreed to pick up Mother.’

b. *Iluh* nyak [PRO] pagpagin-a tekén I mémék.

   Iluh agree pick.up-PV by DET mother

   ‘Iluh agreed to be picked up by Mother.’

However, for a subset of SC predicates, the passivization of their clausal complements results in ambiguity, as there are two interpretation available. Consider the sentence in (45).
45. Jogéd-é buang ento nagih gelut-a tekén anak-é ngibing.

dancer-DEF promiscuous DEM want hug-PV by person-DEF follower

i. The promiscuous dancer wanted to be hugged by the follower (the person who danced with her).

ii. The follower wanted to hug the promiscuous dancer.

In (45), the embedded verb is in its passive form, which means that the silent subject receives the Theme role and it is controlled by the Experiencer argument in the higher clause, i.e. jogédé buang ento ‘the promiscuous dancer’. The canonical interpretation would be that the dancer experienced the feeling of wanting and she would be the receiver of the hugs, as translated in (45i). However, another interpretation may be inferred from (45), in which the null subject is coreferential with the matrix subject, but the matrix verb assigns its external theta role to the PP-argument inside the embedded clause: anaké ngibing ‘the person who danced with the dancer’. Hence, the second interpretation laid out in (45ii) is derived. Sentence (45) is an instance of an ambiguous Crossed Control Construction (CCC), where (45i) is the normal control interpretation of the sentence and (45ii) is the crossed control reading of the sentence.

In addition, it has been established in the previous section that the controller argument is semantically restricted because of the thematic role assignment. The matrix subject in a SC construction must be animate and/or volitional in order to be able to receive the Experiencer/Agent role from the matrix predicate. Therefore, when the verb in the complement undergoes passivization in (46b), the inanimate Theme argument cannot occupy the matrix subject position because it cannot receive the Experiencer role, i.e. it is a case of semantic ill-formedness.
46. a. Truna-truna-né, makeneh [PRO, mabali, Konser Slank].

    RED-male.youth-DEF INTR.plan AV.watch concert Slank

    ‘The guys planned to watch Slank’s concert.’

b. *Konser Slank, makeneh [PRO, pabali, tekén truna-trunané].

    concert Slank INTR.plan watch-PV by RED-male.youth-DEF

    ‘The Slank concert planned to be watched by the guys.’

Nevertheless, there is a subset of SC predicates that can take an inanimate Theme argument as its subject, when the verb in the lower clause is passivized, as illustrated in (47b).

47. a. Cerik-cerik-é edot nyilih bola-né ento.

    RED-small-DEF want AV.borrow ball-DEF DEM

    ‘The children wanted to borrow that ball.’


    ball-DEF DEM want borrow-PV by RED-small-DEF

    ‘The children wanted to borrow that ball.’

Similar to the second interpretation of sentence (45), in this construction the CTP does not assign its thematic role to its inanimate external argument bola-né ento ‘that ball’ but rather to the animate PP argument tekén cerik-ceriké ‘by the children’ inside the complement. The properties of this CCC and processing experiments investigating the ambiguity in this construction will be discussed thoroughly in Chapter 5 and Chapter 6 of this dissertation.

As discussed in subsection 3.2.3., Arka (2003) points out that only a null subject in an SC complement can be controlled by the subject of the matrix clause. The sentences in
(48) illustrate this control restriction. In (48a), the embedded verb is in OV form, which means that the null subject is assigned the Theme role and it is controlled by the Experiencer argument tiang ‘I’ of the matrix predicate edot ‘want’. When the AV prefix is attached to the embedded predicate in (48b), the null Theme argument occupies the object position. The sentence becomes unacceptable.

48. a. Tiang_i edot [PRO_i ajak Bli_j malali].
   1 want OV.invite older.male INTR.visit
   ‘I want you, dear, to take me out. (Lit: I want (that I) you invite to go out.)’

   b. *Tiang_i edot [Bli_j ngajak PRO_i malali].
      1 want older.male AV.invite INTR.visit

However, this is not the case with the corresponding subjunctive s-like complement with the explicit complementizer apang, since the object of the clausal complement can be null and still maintain the coreferential relationship with the matrix subject.

49. a. Tiang_i edot [apang pro_i ajak Bli_j malali].
   1 want COMP OV.invite older.male INTR.visit
   ‘I want that you invite me to go out. (Lit: I want that (I) you invite to go out.)’

   b. Tiang_i edot [apang Bli_j ngajak pro_i malali].
      1 want COMP older male AV.invite INTR.visit
      ‘I want that you invite (me) to go out.’
When the verb is marked by the nasal prefix denoting Active Voice in (49b), the overt Agent argument occupies the subject position, while the null Theme argument is in the object position. The null object still has the same reference with the matrix argument. It is important to note that the presence of *apang* is obligatory in this construction. As has been noted, the SC complement and its corresponding irrealis s-like clausal complement must be analyzed as two different structures.

### 3.4.2.4. Temporal Specification

The SC complement following psych predicates commonly takes the same temporal specification as its matrix clause, as shown in (50). The adverb of time *dugasé cerik* ‘when I was a child’ specifies the feeling of *liking* and the action of *fishing* to be in the past.

50. *(dugasé cerik) Tiang demen mancing (dugas-é cerik).*

   when-DEF small I like AV.fishing when-DEF small

   ‘I liked fishing when I was a child.’

Even so, it is acceptable for the clausal complement and its matrix clause to be modified by an element indicating distinct time frames, as illustrated in (51). While the matrix clause may have past or present temporal qualifiers, the embedded clause must have a future specification relative to the time of the action in the matrix verb, as specified by the future auxiliary *lakar*.

51. **Uling selidan ia suba makeneh [lakar mogbog-in mémé bapa-né].** (SS-1)

   from early 3 PERF INTR.plan FUT AV.lie-APPL mother father-POSS

   ‘Since earlier (today) he had planned to lie to his mother and father.’
In (51), the action of planning started in the past and continues into the present as denoted by the adverbal phrase *uling selidan* ‘since earlier today’, whereas the action planned has not been carried out, as substantiated by the presence of the future auxiliary. We can conclude that the understood tense of the SC complement above is the future, as it portrays an unrealized event with respect to the action described in the matrix clause.

### 3.4.2.5. Aspectual Markers

Observe that when the present, progressive, and perfect markers are inserted into an SC complement in (52), the sentence is rendered unacceptable. Interestingly, the future auxiliary *lakar* is allowed.

52. Ia bani [lakar/*suba/*taen/*sedek nyelep-in umah-é tenget ento].

3 dare FUT/PERF/PERF/PROG AV.enter-APPL house-DEF haunted DEM

‘He dares to enter that haunted house.’

This property of SC complement contradicts Arka’s findings (Arka & Simpson, 1998; Arka, 2013; Arka, 2003) in which he claims that Control complements are nonfinite because they cannot take the future auxiliary. Nevertheless, the fact that the future auxiliary is admissible in SC complements is not unheard of because Sundanese SC complements can also take the future auxiliary *rék* (Kurniawan, 2013). Additionally, more examples of SC complements with the future auxiliary can be found in short stories written in the northern Balinese dialect (PKN-39 and PKN-18), as cited in (53) and (54) below.\(^{22}\)

\(^{22}\)It should be noted that the data analyzed in this study are mainly using the northern Balinese dialect; hence, there is a possibility that this particular property is one of the many characteristics distinguishing the northern and the southern Balinese dialects.
53. Jani Marini, paksa-na resign tekén perusahaan-e kerana ia suba ngae
now Marini force-PV resign by company-DEF because 3 PERF AV.make
lek nama instansi, pro; makita [PRO; lakar ngubung-in Yudha]
shy name institution INTR.want will AV.connect-APPL Yudha
‘Now Marini is forced by the company to resign since she has tarnished the
institution’s name, (she) wanted to contact Yudha …’

54. Jani Wayan; ba bani [PRO; lakar ngalahin Ibu].
Now Wayan PERF dare FUT AV.leave mother
‘Now, you already have the courage to leave me (Lit: Now, you already dare
to leave mother.)’

When lakar is present in (53) and (54), there is a slight change in meaning compared to
when the complements do not have lakar. The meaning of (53) is that the Experiencer
argument Marini wanted to contact the Theme argument Yudha, but she decided not to. As
for (54), the auxiliary lakar indicates that the action of leaving was already planned, instead
of it being a statement of spontaneous decision. Therefore, the presence of lakar in these
complements gives a sense of certainty or intention towards the proposition.

A more intriguing property of the irrealis s-like complement, which corresponds to
SC complements, is the fact that the auxiliary lakar is not accepted, as shown in (55). One
language consultant mentioned that both lakar and apang are indicators of an unrealized

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23 In Balinese, a proper noun is commonly used as a substitute for the first person or the
second person pronoun. In sentence (54), the speaker refers to herself as mother or madame.
event, yet lakar has a higher degree of certainty than apang. Thus, this property indicates that the presence of apang and lakar are mutually exclusive.

55.  *Marini_{i} makita [apang PRO_{i} lakar ngubung-in Yudha].

Marini INTR.want COMP will AV.contact-APPL Yudha

‘Marini wanted to contact Yudha.’

On the other hand, an adverb marking the perfective aspect can be included when apang is overt, as shown in (56), a repetition of sentence (40) in subsection 3.4.2.1.

56. Bli ateh tiang; malali nah, pro, edot [apang PRO_{i} taèn

older.male OV.escort 1 INTR.visit yes desire COMP PERF

ajak Bli malali]. (PKN-12)

OV.invite older.male INTR.visit

‘Dear, please take me out, (I) want to be invited to go out by you.’

The perfective marker taèn in (56) provides additional evidence that supports s-like categorization for clausal complements headed by the overt irrealis complementizer.

3.4.2.6. Modals

Modal verbs cannot be admitted in most SC complements, particularly those that are selected by psychological attitude predicates such as nyak ‘willing’, demen ‘like’, bani ‘dare’, inget ‘remember to do’, and others. Only desiderative predicates like makita ‘want/wish’ and edot ‘want/desire’ (except for nagih ‘want/ask’) can take a clausal complement with bisa, the modal of ability, particularly when one wants to express their wishes of acquiring an ability, as shown in (57).
57. I Nyamprut makita / edot [bisa ngelangi].

DET Nyamprut INTR.wish / desire can swim

‘Nyamprut wishes that he can swim.’

Notwithstanding this characteristic, bisa ‘can’ cannot be inserted into the SC complement following the desiderative predicates when the state of affairs conveys an action. The corresponding subjunctive s-like complement, on the other hand, accepts both modal verbs that indicate consent (i.e. dadi) and ability (i.e. bisa).

58. a. *Ia nagih / makita [dadi ngadep motoré ento].

3 want / INTR.wish able.to AV.sell motorbike.DEF DEM

‘S/he wanted/wished to be able to sell that motorbike.’

b. Ia nagih / makita [apang dadi ngadep motor-é ento].

3 want / INTR.wish COMP able.to AV.sell motorbike-DEF DEM

‘S/he wanted/wished to able to sell that motorbike.’

As shown in (58a), the modal verb inside the SC complement causes the sentence to be ungrammatical. Nevertheless, (58b) shows that modals can be present in the s-like complement with the irrealis complementizer apang.

3.4.2.7. List of Predicates

Most of the SC predicates are bare verbs, in the sense that they do not take voice markers. Despite their similar properties with other SC complements, the clausal complements selected by the desideratives also have distinguishing properties that mainly relate to the semantics of the matrix predicates. Therefore, in the following list, the SC
predicates are separated into three semantic groups, namely desiderative, psychological attitude, and dynamic predicates.\(^2\)

<table>
<thead>
<tr>
<th>Desiderative predicates</th>
<th>Psychological attitude predicates</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>makita</em> ‘want / wish’</td>
<td><em>takut, jeleh</em> ‘fear’</td>
</tr>
<tr>
<td><em>nagih</em> ‘want / ask’</td>
<td><em>engsap</em> ‘forget (to do)’</td>
</tr>
<tr>
<td><em>edot</em> ‘want / desire’</td>
<td><em>inget</em> ‘remember (to do)’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dynamic predicates</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>makeneh</em> ‘plan / intend’</td>
<td><em>demen</em> ‘like’</td>
</tr>
<tr>
<td><em>malajah</em> ‘learn’</td>
<td><em>bani</em> ‘dare / brave’</td>
</tr>
<tr>
<td><em>negarang</em> ‘try’</td>
<td><em>ngekoh</em> ‘reluctant / lazy’</td>
</tr>
<tr>
<td><em>nugtugang</em> ‘continue’</td>
<td><em>nyidaang</em> ‘able to’</td>
</tr>
</tbody>
</table>

### 3.4.3. Object Control (OC) complements

Object Control (henceforward: OC) complements are clausal complements with a null subject which is coreferential with the internal argument of the matrix verb. The

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\(^2\) These CTPs can also become a deverbalized noun. As can be seen in (i), the SC predicate *makeneh* ‘plan’ select a clausal complement, while in (ii) the matrix predicate is deverbalized and become the subject of the sentence and taking the clausal complement as its verbal phrase.

i. Ia makeneh [nga-lali-nin dadong-né].
   3 INTR.plan AV-visit-APPL grandma-POSS
   ‘S/he planned to visit his/her grandma.’

ii. Keneh-né nga-lali-nin dadong-né plan-POSS AV-visit-APPL grandma-POSS
   ‘his/her plan is to visit his/her grandma.’
distinction of an OC complement from other types of clausal complements, such as S-like and SC complements, can be accomplished through the tests of passivization of the embedded clause and animacy restrictions on the embedded subjects, as well as by examining the admission of an overt complementizer, temporal adverbs, aspectual markers, and modals.

3.4.3.1. Complementizer

CTPs such as tunden ‘tell’, maksa ‘force’, or ngorahin ‘tell’ optionally take an OC complement with a null complementizer (59) and a complement with the irrealis complementizer apang (60).

59. Cai_i nunden ake_j [PRO_j madagang patokan]... (PKN-36)
   2     AV.tell 1     AV.trade coffee.bar
   ‘You told me to become a hostess in a coffee bar.’

60. Timpal-timpal-né_i di kampus ngorah-in (ia_j)25 [apang pro_j seleg RED-friend-POSS at campus AV.tell-APPL 3 COMP serious kuliah]. (SS-1)
   lecture
   ‘His friends at campus told him to be serious in going to lectures.’

As a matter of fact, there are some differences between the OC complement that have a null complementizer in (59) and the complement with the overt complementizer in (60) even though they are selected by the same matrix verb. The complement with overt apang

25 In the short story, the matrix object is not pronounced, as the argument can be inferred from the context.
behaves like an s-like complement. For example, it can accept an (uncontrolled) overt subject, while its OC counterpart obligatorily has a controlled empty category as its subject. These differences look very much like what was observed in SC complements versus s-like complements selected by the same predicates.

3.4.3.2. The Controller and the Controlled Arguments

On the surface, OC complements may look similar to s-like complements, but they are substantially different. The subject of an OC complement is obligatorily a silent element that corefers with the object in the higher clause. On the contrary, as we saw previously, a coreferential relationship between the complement’s subject and an argument in the higher clause is not obligatory in the s-like complement.

(61a) shows the control relationship between the Theme argument Iluh in the main clause and the null subject in the embedded clause. Furthermore, (61b) illustrates the fact that the complement’s subject must stay empty, as the third person pronoun cannot be inserted into the subject position of the clausal complement.

61. a. I Bapa$_i$ nundén Iluh$_j$ [PRO$_i$ magpagin I mémé$_k$].

DET father AV.order Iluh AV_pick.up DET mother

‘Father told Iluh to pick up Mother.’

b. *I Bapa$_i$ nundén Iluh$_j$ [ia$_i$ magpagin I mémé$_k$].

As is true of controllers in SC structures, the controller argument must be animate in Balinese OC complements. The sentences in (62) illustrate that there are selectional restrictions on the controller argument, i.e. the matrix object.
62. a. Punyan pohé mabuah.
    tree mango.DEF INTR.fruit
    ‘The mango tree bore fruit.’

62b. *Penyakap-é nunden punyan poh-é [PRO, mabuah].
    tenant.farmer-DEF AV.order tree mango-DEF INTR.fruit
    ‘The tenant farmer ordered the mango tree to bear fruit.’

(62a) is an example of a simple sentence, where the intransitive predicate mabuah ‘bear fruit’ selects a non-agentive inanimate subject punyan poh ‘mango tree’. In (62b), the simple sentence in (62a) is embedded as the complement of the CTP nunden ‘order’. Because the verb nunden ‘order’ requires an animate object that can carry out the order, the inanimate DP punyan poh ‘mango tree’ cannot receive the Theme/Patient role assignment. Hence, this sentence is rendered unacceptable.

In the corresponding s-like complement with overt apang in (63), it is possible to insert an overt pronoun in the subject position inside the complement. This property is contrary to the OC complement that cannot have an overt subject, as shown previously in (61b).

63. Anaké luhí ento maksa panak-néj [apang iaj naar jukut].
    Person.DEF female DEM AV.force child-POSS COMP AV.eat vegetables
    ‘That lady forced her child that s/he eats the vegetables.’

In the cases where the OC predicates select a complement with an overt complementizer, the clausal complement has similar properties to irrealis s-like complements.
3.4.3.3. Passivization

In the OC construction, the controller argument, that is the matrix object, receives a theta role from the matrix predicate, while the controlled null subject receives its theta role from the predicate in the complement. Therefore, there is a change of meaning when the predicate in the complement is passivized, as there is a change in thematic role assignment. This is illustrated in (64).

64. a. I Bapaĩ nundén Iluhĩ [PROĩ magpagin I mémé].
   DET father AV.order Iluh AV.pick up DET mother
   ‘Father told Iluh to pick up Mother.’

   b. # I Bapaĩ nundén Iluhĩ [PROĩ pagpagin-a tekén I mémé ].
      DET father AV.order Iluh pick up-PV by DET mother
      ‘Father told Iluh to be picked up by Mother.’

The meaning of sentence (64a) is derived from the fact that the controlled null subject has the Agent role; hence, the argument *Iluh* is the one that receives the order and is the one that carries out the order. On the other hand, when the predicate is passivized in (64b), the null subject is assigned the Theme role. Sentence (64b) is not semantically feasible unless it is interpreted in the sense that *Iluh* may be hesitant to be picked up by mother in the first place, but *Iluh* was forced to agree to be picked up by her mother. The change in meaning when the complement’s predicate undergoes passivization is a fundamental characteristic of Control complements.

Let us now observe the passivization of the matrix predicate. When the CTP *ngorahin* ‘tell’ undergoes passivization in (65b), its internal argument *méménné* ‘her
mother’ comes to occupy the subject position. This Theme argument still controls the empty category in the complement even though its position in the matrix clause changes.

65. a. Ni Kesuna, ngorah-in mémé-nné j [PRO j nigtig ukudan-né]
    DET Kesuna AV.tell-APPL mother-POSS AV.hit individual-POSS
    apang kanti babak belur. (SS-4)
    so.that until battered
    ‘Kesuna told her mom to hit her (body) until she is battered.’

   b. Mémé-nné j orah-in-a <mémé-nné j> [PRO j nigtig ukudan-né] …
    mother-POSS tell-APPL-PV AV.hit individual-POSS
    ‘Her mother was told to hit her (by Kesuna)’

   The only argument inside the OC complement that can be controlled by the matrix object is the empty category in the subject position. On the contrary, in an s-like counterpart of the OC complement, an overt argument can occur in the preverbal position. Observe the sentences in (66).

   66. a. Ia maksa kepala sekolah-é j [(apang) --- j ngalulus-ang panak-nék].
       3 AV.force head school-DEF COMP AV.pass-APPL child.POSS
       ‘S/he forced the headmaster to pass his/her child (in the exam).’

   b. *Ia maksa kepala sekolah-é j [panak-nék lulus-ang-a].
       3 AV.force head school-DEF child-POSS pass-APPL-PV

   c. Ia maksa kepala sekolah-é j [apang panak-nék lulus-ang-a].
       3 AV.force head school-DEF COMP child-POSS pass-APPL-PV
       ‘S/he forced the headmaster that his/her child be passed (in the exam).’
When the verb inside the Control complement in (66b) is passivized, the sentence is rendered ungrammatical because the embedded subject is overt and does not corefer with the matrix object. On the other hand, the embedded verb in the subjunctive s-like complement in (66c) can be passivized and the Theme argument can occupy the subject position in the embedded clause. Notice that in (66c), the Agent argument may be unpronounced, and this Agent may be interpreted to have the same reference as the matrix object kepala sekolahé ‘the headmaster’. It is also possible to insert an overt PP-Agent that does not corefer to the matrix object, as illustrated in (66d). This fact provides evidence that the null argument in Control complements has different properties from the unpronounced pronoun in s-like complements.

3.4.3.4. Temporal Specification

In the OC construction, the matrix clause may state an action in the past, present, or future. The clausal complements, however, have a time restriction, as they represent unrealized propositions. This property of OC complements can be seen in (67).
67. Ibi I mémé nundén I Ketut [nengok-in kaki-né
yesterday DET mother AV.order DET Ketut AV.visit-APPL grandpa-POSS
kayang-é odalan di desa].
when-DEF religious.ceremony at village
‘Yesterday, Mother told Ketut to visit Grandpa when a religious ceremony is
happening at the village.’

In (67), the OC complement takes an adverbial clause kayangé odalan ‘when there is a
religious ceremony’, while the matrix predicate is specified by the adverb ibi ‘yesterday’.
This adverbial clause specifies a future event that occurs after the action denoted in the
matrix clause. This is in accordance with the claim that the time frame of a Control
complement is unrealized with respect to the tense of the matrix clause (Bošković, 1997;
Stowell, 1982).

Sentence (68) further supports the fact that only a future reference is applicable for
OC complements.

68. Mara jani guru-né ngorah-in murid-murid-é [(apang) ngaba
just now teacher-DEF AV.tell-APPL RED-student-DEF COMP AV.bring
ember *ibi / buin mani].
bucket yesterday/again tomorrow
‘The teacher has just told the students to bring a bucket (*yesterday) /
tomorrow.’

This sentence is semantically ill-formed when the adverb of time ibi ‘yesterday’ is
present because the proposition in the complement occurred prior to the denoted event in
the main clause. This temporal restriction also applies when the complement has the overt complementizer *apang* due to the semantics of the matrix clause. As a conclusion, the temporal specification of an OC complement is restricted because it must have a future reference relative to the time reference of the matrix clause.

3.4.3.5. Aspectual Markers

Based on the restriction on the temporal specification, it can be expected that markers indicating present and perfect aspects are not licensed inside OC complements. Unexpectedly, the future auxiliary *lakar* is also not accepted in an OC complement and its corresponding s-like complement. Kurniawan (2013) also attests to the same property in Sundanese OC complements. The future auxiliary *rék* cannot be inserted into the clausal complements selected by OC predicates. This property of OC complements is portrayed in (69).

69. Guru-né, ngorah-in murid-néj [DPj *lakar/*suba/*sede]k
   teache-DEF AV-say-APPL student-POSS FUT / PERF / PROG
   ngaba sampat].
   AV.bring broom
   ‘The teacher told his/her student(s) to bring a broom.’

70. I bapaì nunden I méméj [apang DPj *lakar/*suba/*sede]k
   DET father AV.order DET mother COMP FUT/PERF/PROG
   nampah siap].
   AV.butcher chicken
   ‘Father told Mother so that she would butcher the chicken.’
Sentence (70) shows that these aspectual markers are also not accepted inside the complement even when the irrealis complementizer is overt, which corresponds to the property of irrealis s-like complements.

3.4.3.6. Modals

OC complements do not admit modal verbs. However, this feature does not apply in its s-like counterpart where the complementizer *apang* is present. When the modal *bisa* ‘can’ is inserted into the OC complement in (71a), the sentence becomes unacceptable. However, in (71b), the same modal can be inserted when the complementizer *apang* is present, although the clause ceases to be a complement as its meaning changes into that of a purposive clause.

71. a. Iluh nulungin adi-nné [(*bisa) menek sepeda].
   Iluh AV.help younger.sibling-POSS can AV.ride bike
   ‘Iluh helped her younger sibling to ride the bike.’

b. Iluh nulungin adi-nné [apang *bisa* menek sepeda].
   Iluh AV.help younger.sibling-POSS COMP can AV.ride bike
   ‘Iluh helped her younger sibling so that s/he can ride a bike.’

The sentence in (71b) means that *Iluh*, the Agent, is helping the Theme argument, her younger sibling, so that her younger sibling is able to ride a bike.

Even so, an exception applies to the complements following the predicates *nunden* ‘order’ and *ngae* ‘make’. Neither the OC complement nor the s-like complement can take modal verbs, as shown in (72a) and (72b).
72. a. I Komang nunden adi-nné [*bisa] kedék.
   DET Komang AV.order younger.sibling-POSS can laugh
   ‘Komang ordered his younger sibling to be able to laugh.’

   b. *I Komang nunden adi-nné [apang bisa kedék].
   DET Komang AV.order younger.sibling-POSS COMP can laugh
   ‘Komang ordered his younger sibling to be able to laugh.’

The data in (72) raise the idea that the rejection of modal verbs in an OC complement may be related to semantic redundancy since irrealis is a type of modality.

3.4.3.7. List of Predicates

Clausal complements that possess the aforementioned properties are selected by Balinese verbs that have a causative or a directive meaning. These OC CTPs are catalogued in the following.

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Despite the fact that sentence (72b) can still be acceptable since the ability to laugh is still ‘controllable’ or can be carried out by adi-nné, the matrix object, this sentence is semantically odd because there is some information missing since the presence of the overt complementizer apang transform the clause into a purposive clause. Sentence (72b) will sound better if the context provides extra information in which the matrix subject I Komang ordered the matrix object adinné to “do an activity” (e.g. watch a comedy movie) that will make him laugh.
### 3.4.4. Raising complements

In this section, I lay out the diagnostics of Raising complements in relation to the properties of complementizer types, the animacy of the raised subject, and the effect of passivization on the meaning, as well as the presence of temporal adverbs, temporal auxiliaries, and modals inside the complements.

#### 3.4.4.1. Complementizer

In English, a predicate such as *seem* may select an infinitive complement or an *s*-like complement. When the verb *seem* has an expletive *it* as its subject in (73a), the complement selected by the verb *seem* is an *s*-like complement with *that* as the complementizer. However, the complementizer *that* disappears when the subject of the complement raises and occupies the matrix subject position in (73b).

73. a. It seems [that Wayan likes Luh Sari].

    b. Wayan seems [<Wayan> to like Luh Sari].

The Balinese counterpart for the constructions in (73) is given in (74). Because there are no overt expletives like the English *it* in Balinese – which is a typical property of null
subject languages – the matrix predicates do not take an overt external argument when an
s-like complement has been selected, as shown in (74a). Observe in (74a) that unlike its
English counterpart, the complement following the matrix verb *ngenah* ‘appear’ cannot
take a complementizer as its head. The same applies to the Raising construction in (74b).
The presence of the indicative complementizer *unduk* or the irrealis complementizer *apang*
in both (74a) and (74b) results in the ungrammaticality of the sentence.

74.  a.  *Ngenah* [(*unduk/*apang) I Wayan demen tekén Luh Sari].
appear COMP DET Wayan like with Luh Sari

‘It appears that Wayan likes Luh Sari.’

b.  I Wayan *ngenah* [(*unduk/*apang) <I Wayan> demen
 DET Wayan appear COMP like
tekén Luh Sari].
 with Luh Sari

‘Wayan appears to like Iluh Sari.’

Other matrix predicates that allow subject-to-subject raising are the propositional
attitude predicates such as *nawang* ‘know’, *ngugu* ‘believe’, and *ngaden* ‘think’. These
predicates may select an indicative s-like complement, such as (75a). (75b) portrays a
construction in which subject-to-subject raising occurs.

75.  a.  *Guru-né ngugu* [(unduk) murid-é ento ngamaling pipis].
teacher-DEF AV.believe COMP student-DEF DEM AV.steal money

‘The teacher believed (that) the student stole money.’
b. Murid-é ento gugun-a [(*)unduk) <muridé ento> ngamaling student-DEF DEM believe-PV COMP AV.steal pipis].
money
‘The student was believed to have stolen the money.’

These propositional attitude predicates, such as ngugu ‘believe’, ngaden ‘assume/think’, and nawang ‘know’, assign a theta-role to their subjects; therefore, subject-to-subject raising only occurs when these predicates are in the passive form. When there is no argument raising, the embedded subject stays within the embedded clause and it is case-marked by the matrix v. Furthermore, subject-to-subject raising is only feasible when the indicative complementizer is not present. Therefore, we can conclude that the complements which allow the raising of their arguments to the matrix clause do not have a complementizer as a head.

3.4.4.2. The Raised Argument

Based on the properties of the Raising constructions in other natural languages, we would expect that the subject of a Raising complement would be not restricted semantically. This is indeed true for Balinese. An inanimate or a nonvolitional argument of an intransitive verb can occupy the subject position in the higher clause, as shown in (76) and (77) respectively.
76. a. Buung [gelas-é     ulung].
   cancel  glass-DEF fall
   ‘The glass did not fall. (Lit: It cancelled the glass fall).’ 27

   b. Gelas-é     buung [<gelasé> ulung].
   glass-DEF cancel     fall
   ‘The glass did not fall (Lit: The glass cancelled to fall).’

77. Kuluk-é     ento  tawang-a [<kuluké> suba  materes].
   Dog-DEF DEM know-PV       PERF INTR.sterilize
   ‘That dog is known to have been sterilized.’

Because the subject of the embedded clause is raised to the matrix clause, it leaves
the subject position in the embedded clause. This position must remain covert, and cannot
be filled by an overt pronoun because it is occupied by the unpronounced copy of the raised
argument. Observe the following sentences.

78. *Maling-éi  kaden-a   [ia; suba  ejuk-a  baan polisi-né].
   Thief-DEF OV.think-PV  3 already catch-PV by  cop-DEF
   ‘The thief was thought to have been caught by the cops.’

79. *I       Kadék; keweh [ia; maan gaé].
   DET Kadék  difficult 3   get     job
   ‘It is difficult for Kadék to get a job. (Lit: Kadék (is) difficult to get a job.)’

27 Many of the raising predicates in Balinese do not have a direct translation in English.
For example, the predicate *buung* is glossed as ‘cancel’, which is a control verb in English.
Despite the glossing, these Balinese predicates have the properties of a raising predicate. These
predicates can be translated freely as ‘did not’, ‘fail’, or ‘decided not to’, depending on the
context. The context for sentence (75) is that the glass tipped over and was about to fall when it
balanced itself or someone stopped it from falling.
As can be seen in (78) and (79), the sentence is rendered ungrammatical when there is an overt pronoun filling in the position left by the raised argument.28

3.4.4.3. Passivization

Arka (2003) demonstrates that only the subject can raise out of a Raising complement, which I substantiate with the data in (80). Sentence (81a) further corroborates this claim, as it shows that the Theme argument can be raised when the complement’s verb is passivized (or when it is in its OV form). Otherwise, the object of a Raising complement cannot be raised out of the subordinate clause, as portrayed in (81b).

80. I Wayan kaden-a [<I Wayan> maan nyilih pipis tiang-é].
   DET Wayan think-PV PERF AV.borrow money 1-POSS
   ‘Wayan was thought to have borrowed my money.’

81. a. Pipis tiang-é terus [<pipis tiangé> silih-a tekén I Wayan].
   Money 1-DEF continue borrow-PV by DET Wayan
   ‘Wayan continued to borrow my money.’

   b. *Pipis tiang-é; terus [I Wayan nyilih <pipis tiangé>]
   Money 1-DEF continue DET Wayan AV.borrow

Passivizing the predicate inside Raising complements does not result in a change of meaning, unlike the Control complements. This is illustrated in (82).

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28 However, the presence of an overt pronoun is possible in the circumstance where the matrix subject is being emphasized or promoted as a Topic. In this case, there is a pause after Kadek is pronounced, which is represented by ‘//’.

i. I Kadék, // ngenah ia demen tekén Iluh Sari.
   DET Kadek seem 3 like with Iluh Sari
   ‘Kadek, it seems that he likes Iluh Sari.’
82. a. I Gedé terus [I Gedé] nelpun Iluh Sari.

DET Gedé continue AV.call Iluh Sari

‘Gede continued to call Iluh Sari.’


Iluh Sari continue call-PV by DET Gedé

‘Iluh Sari continued to be called by Gede.’

The raised subject Gedé in (82a) has an Agent role assigned to it by the verb nelpun ‘call’. In (82b) the Agent becomes an oblique argument due to the passivization of the complement’s predicate, while the Theme argument becomes the subject and then raises to the higher clause. Because there is no change in thematic assignment, the same propositional meaning is maintained. This property is the key feature that sets apart Raising complements from Control complements.

3.4.4.4. Temporal Specification

The Raising complements selected by adjective-like and aspectual predicates must have the same temporal specification as the main clause. An event or a proposition selected to be the argument of the matrix predicate cannot happen in a different time frame than that of the matrix clause.

83. Dugas-é né tiang buung (dugasé né) [tiang] *lakar/taen mulih ka Bali].

time-DEF that I cancel FUT/PERF go.home to Bali

‘Last time I decided not to go home to Bali. (Lit: That time, I cancelled going home to Bali.)’
(83) shows that the temporal reference of the complement must be in accordance with the adverbial phrase *dugasé né* ‘last time’ since only *taén*, the perfective marker, is feasible. A temporal adverb can be present in a Raising construction, either in the beginning, in the middle, or at the end of the sentence. Wherever its location is, the temporal adverb designates the period for the whole sentence; that is, it includes the main and the subordinate clauses.

Nonetheless, the event expressed in the Raising construction may occur in the present, past, or future, as indicated by a range of possible temporal adverbs in (84).

84. Tiang buung [<tiang> mulih ka desa] **ibi** / jani / buin mani.
    1 cancel go.home to village yesterday / now / tomorrow

‘I cancelled going / am not going / will not go home to my village yesterday / now / tomorrow.’

The complements following the propositional attitude predicates (except for *nawang* ‘know’), on the other hand, can have their own temporal adverbs, which may not be in the same time frame as the matrix clause. For example, observe sentence (85).

85. **Ibi** I Ketut kadén-a tekén I bapa [<I Ketut> lakar malali
    Yesterday DET Ketut think-PV by DET father will INTR.visit
    ka Badung **buin puan**].

to Badung again two days

‘Yesterday, Ketut was thought (by Father) to be visiting Badung in the next two days.’
The adverb of time *ibi* ‘yesterday’ specifies that the action of assuming in sentence (85) happened in the past, whereas the assumed proposition is not realized yet or it can be interpreted as counterfactual due to the future auxiliary and the adverbial phrase *buin puan* ‘in two days’.

3.4.4.5. Aspectual Markers

Temporal auxiliaries denoting progressive and perfective aspects are not acceptable in the complement selected by most Raising CTPs. As can be seen in (86), only the future auxiliary *lakar* is allowed in the clausal complement.

86. I Wayan buung  [I Wayan > *lakar/*sedek/*suba* ngidih biu].

DET Wayan cancel FUT / PROG / PERF AV.ask banana

‘Wayan cancelled asking for bananas.’

Nevertheless, the clausal complements selected by propositional attitude predicates, such as *ngenah* ‘appear’, *ngugu* ‘believe’, *nawang* ‘know’, and *ngaden* ‘think’, can be modified by all aspectual markers, as denoted in (87) and (88), respectively. This property is expected, as it is in accordance with the factual or assertive meaning of the Raising complements.

87. I Kadék ngenah  [I Kadék > *lakar/sedek/suba* mogbog-in

DET Kadék appear FUT/PROG/PERF AV.lie-APPL

bapa-né]. father-POSS

‘It appears that Kadék will lie/is lying/lied/has lied to his/her dad.’
88. Murid-é ento gugu-na [murid-é ento > lakar/suba/sedek]

student-DEF DEM believe-PV FUT/PERF/PROG

nga-maling pipis]

AV-steal money

‘That student was believed to steal/to have stolen/to be stealing money.’

In both sentences, the event that is portrayed in the Raising complements denotes a simple indication of facts. Similar to the indicative s-like complements, they can occur in the present, perfect, or future aspects. But note that in all cases, the frame of temporal reference is set by the matrix predicate; the state of affairs of ‘steal’ is simultaneous with respect to the time of believing.

3.4.4.6. Modals

All kinds of modals can be inserted in clausal complements following Raising predicates. Sentences (89) and (90) show that the modal verb denoting permission and/or ability can be inserted inside the Raising complement.

89. Iluh suud [Iluh> dadi / bisa pesu sai-sai].

Iluh stop Iluh be.allowed.to / can go out often

‘Iluh stopped being allowed / being able to go out often.’

90. Panak-né gugu-na [panak-né> dadi ngaba hp ka]

child-POSS believe-PV be.allowed AV.bring handphone to sekolah].

school

‘His child is believed to be allowed to bring a cellphone to school.’
However, the complements following the adjective-like Raising predicates cannot accept any of the modals. An example is given in (91).

91. *Murid-murid-é kéweh [<murid-muridé> dadi / bisa

RED-student-DEF difficult be.allowed.to / can
melog-melog-in guru-né ento].

RED-AV.lie-ITER teacher-DEF DEM

‘It is difficult for the students to be allowed to / able to lie to that teacher.’

These data suggest that the acceptance of modals inside the Raising complements is determined by the semantics of the matrix predicate.

3.4.4.7. List of Predicates

The Raising CTPs can be grouped into three semantic classes, such as aspectual verbs, adjective-like predicates, and propositional attitude predicates. Most CTPs that select Raising complements are bare predicates – they are not marked for voice – except for the propositional attitude predicates. Note that the first three of the propositional attitude predicates are only Raising predicates in their passive forms. The following is a non-exhaustive list of CTPs that select Raising complements.
Aspectual predicates | Adjective-like predicates | Propositional attitude
---|---|---
*Buung* | *keweh* | *ngugu* | ‘believe’
*Terus* | *kado* | *nawang* | ‘know’
*maan* | *aluh* | *ngaden* | ‘think’
*payu* | *enggal* | *ngenah* | ‘appear’
*suud* | *pocol* | ‘fail/incur losses’
*bakat* | ‘get’

### 3.5. PRELIMINARY CONCLUSIONS ON BALINESE CLAUSAL COMPLEMENT TYPES

In this chapter, I have provided an enumeration of complement types in Balinese and their properties based on the results of my fieldwork. There are two modes of classifying Balinese complements: via complementizer types and CTP types. The two types of overt complementizer that exist in Balinese are the indicative complementizer *unduk*, *tekén*, and *apa*, and the subjunctive complementizer *apang*. The indicative complements are the propositions that represent the realis world from the perspective of the speaker, while the subjunctive complements are those that denote unrealized events. In the light of CTP types, four complements were examined in this chapter, namely s-like, Subject Control, Object Control, and Raising complements. The diagnostic tests explicated in the previous sections show that the syntactic properties of Balinese complements separate each complement type from the others. The properties of each of the complement types are summarized in Table 1 below.
<table>
<thead>
<tr>
<th>Features</th>
<th>S-like</th>
<th>Object Control</th>
<th>Subject Control</th>
<th>Raising</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complementizer</td>
<td>Null</td>
<td>Null</td>
<td>Null</td>
<td>Null</td>
</tr>
<tr>
<td></td>
<td><em>Unduk</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Apang</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mood</td>
<td>Subjunctive</td>
<td>Subjunctive</td>
<td>Subjunctive</td>
<td>Indicative</td>
</tr>
<tr>
<td></td>
<td>Indicative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Realis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selectional restrictions</td>
<td>No restrictions</td>
<td>Controller argument must be animate / volitional</td>
<td>Controller argument must be animate / volitional</td>
<td>No restrictions on raised argument</td>
</tr>
<tr>
<td>Overt pronoun in embedded clause</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Passivization in embedded clause</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Temporal specification restrictions</td>
<td>No</td>
<td>Yes (must have future specification)</td>
<td>Yes (must have future specification or dependent on the matrix clause)</td>
<td>No, but must be dependent on the matrix clause (except for propositional attitude predicates)</td>
</tr>
<tr>
<td>Future auxiliary</td>
<td>Yes (except for request predicates)</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Other aspectual auxiliaries</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No (except for propositional attitude predicates)</td>
</tr>
<tr>
<td>Modals</td>
<td>Yes</td>
<td>No</td>
<td>No (except for desiderative predicates)</td>
<td>Yes (except adjective-like predicates)</td>
</tr>
</tbody>
</table>

Table 1. The properties of Balinese complements

The semantics of the CTPs appear to have an influence on what element can appear in the clausal complements. Raising CTPs have an indicative mood that expresses the
assertion of an event; hence, their complements admit all manner of adverb, auxiliaries, and modal verbs. On the other hand, some of the Control CTPs inherently bear subjunctive mood which signifies future or irrealis events. Thus, the range of temporal adverbs, auxiliaries, and modal verbs is limited within the future temporal continuum. All things considered, it seems that the differences among these four complement types pertaining to temporal specifications, aspectual auxiliaries, and modal verbs are simply driven by the semantics of the matrix predicate. In fact, a detailed description of how Control structures is determined semantically is provided by Sag and Pollard (1991).

Nonetheless, this summary of the properties of Balinese complements shows that each complement type has fundamental differences. The data denote that Control complements have several different syntactic properties from the corresponding irrealis s-like complements, as reviewed in the following.

<table>
<thead>
<tr>
<th>Control complements</th>
<th>Subjunctive S-like complements</th>
</tr>
</thead>
<tbody>
<tr>
<td>An overt pronoun is not acceptable as the subject of the complement</td>
<td>An overt pronoun is optional</td>
</tr>
<tr>
<td>Only embedded subject can be controlled</td>
<td>Null embedded object can be ‘controlled’ – in other words, it has a coreferential relationship with the matrix argument.</td>
</tr>
<tr>
<td>Modals are not accepted inside the complement that conveys an action</td>
<td>Modals can be inserted inside the complement</td>
</tr>
</tbody>
</table>

Table 2. The differences between Control and subjunctive s-like complements

These empirical differences between these complements suggest that there is a structural difference between Control and s-like complements. This poses an essential question: what kind of syntactic structure allows a null subject that has restricted reference to an argument in the higher clause? Another notable issue that arises from this descriptive
enumeration of complementation properties is the distinction between raising and indicative s-like complements. Notwithstanding the many similarities between these two types of complements, the restrictions on argument raising out of the s-like complement and the obligatory null complementizer of the Raising complements are reflections on the architectural variation of these two complement types. Thereupon, another key question emerges: what syntactic structure does each complement type have? These questions will be addressed in Chapter 4. The properties of each complement type will be analyzed within the Minimalist framework, and a syntactic structure that fits the properties of each complement type will be proposed.
CHAPTER 4. FINITENESS AND THE MINIMALIST STRUCTURE OF BALINESE COMPLEMENT TYPES

Chapter 3 has laid out four different types of complementation in Balinese along with the descriptions of their properties. The distinguishing properties of s-like, Control, and Raising complements indicate that these complements may have different syntactic structures. Thus, this chapter is dedicated to the proposal of a syntactic structure that best accounts for each of the Balinese complement types within the Minimalist Program. In Minimalism, the finiteness or non-finiteness of clausal complements plays a significant role in clausal syntactic structure as it distinguishes non-finite complements from standard s-like complements. Therefore, this chapter also addresses the relevance of finiteness in Balinese complementation.

Section 4.1. reviews the literature on Minimalist accounts of complementation. Section 4.2. provides a description of (non)finiteness in Balinese complements. A Minimalist structure for Balinese s-like, Raising, and Control complements is proposed in Section 4.3, while Section 4.4 concludes the chapter.

4.1. THE STRUCTURE OF COMPLEMENTS IN MINIMALISM

4.1.1. Finite CP Projection

A key functional projection in Minimalist analyses of clauses that has not been discussed in chapter 2 is the Complementizer Phrase (CP). This functional projection is higher than TP, and its function is related to the semantics of the clause, i.e. to determine the clause-type as indicative, subjunctive, interrogative, or other. The clausal complement
in (1) is an example of an s-like complement. The Minimalist structure of an s-like complement is given in (2).

1. Medea wondered [whether/if the potion was ready]. (Adger, 2003, p. 292)

2. The CP structure of English s-like complements.

The s-like complement in (1) has the same properties as its matrix clause and a finite monoclausal construction because the embedded verb *be* in the complement is in its
singular past tense form. It is hypothesized that only finite T bears [nom] case to value the uninterpretable case feature of the external argument. In this derivation, the matrix predicate *wonder* selects a CP complement. The representation of the CP head is the complementizer *whether*. Due to the locality restrictions of feature-checking, the finite T values the [uCase] feature on the closest DP, i.e. *the potion*, as [nom]. Afterward, this DP moves to Spec,TP to satisfy the EPP feature on T. Note that the same process occurs in the higher clause, where the finite T assigns a nominative case to the DP *Medea*, and *Medea* moves to the specifier of T owing to the EPP.

In the Minimalist framework, the finiteness of T and its ability to value the uninterpretable case feature of an overt DP is the key that distinguished nonfinite complements, such as Raising and Control complements, from s-like complements. The subsequent section deals with the debate on the most appropriate analysis for Raising and Control constructions, one of the most important issues in generative syntax.

### 4.1.2. Nonfinite CP and TP projection

As introduced in chapter 3, the focal point of the arguments on the structure of Raising and Control complements is the nature of the covert element in these two complement types. Examples of a Raising construction and a Control construction are given respectively in (3) and (4).

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29 My analysis in this chapter essentially follows Adger (2003) with respect to the assumption of the existence of [uInfl] feature and case features. Although I exclusively depict the checking of the case feature and EPP in this derivation, I assume other feature-checking operations occur as well. For instance, T values the [uInfl] feature on v, while the closest DP argument values the [uφ] feature on T. Head-to-head movements from V to v to T also take place in this derivation, despite the absence of illustrations for the movements.
3. Matt seems $<$Matt$>$ to attend many concerts].

4. a. Matt tried [PRO to attend many concerts].

   b. His parents forced Matt [PRO to attend many concerts].

In the standard Minimalist account, the Raising construction in (3) has an unpronounced copy of the moved element he in the embedded subject position, whereas the silent subject in the Control complements (4a-b) is represented by a silent pronominal PRO controlled by the subject in (4a) and the object in (4b). In contrast to this standard analysis of Raising and Control, the Movement Theory of Control (Hornstein, 1999) posits the covert elements in both Raising and Control complements to be the results of movement; the only difference is whether the argument moves to a theta position or not. In the Raising complement in (3), the DP he originates as the subject of the complement before it moves to a non-theta position in the matrix clause. Likewise, the DP Matt in (4) also undergoes movement to the matrix clause akin to the DP he in (3), except that it moves to a theta position. The derivation for the Control construction (4a) under the assumption of the Movement Theory of Control is given in (5).

5. $<$TP Matt $<$VP $<$Matt$>$ [tried $<$TP $<$Matt$>$ to $<$VP $<$Matt$>$ attend many concerts$]$. $<$

Evidence against the Movement Theory of Control is provided by Sato (2011), who uses the distribution of the active voice prefix meng- in Standard Indonesian as the foundation for his argument. He argues that movement across the matrix predicate in Standard Indonesian must be followed by the deletion of the prefix meng-, following the hypothesis proposed by Cole & Hermon (1998) and Saddy (1991). Cole & Hermon (1998,
pp. 232-233) show that A-movement and A’-movement in Malay-like languages require the deletion of the *meng*-prefix, as illustrated in (6) and (7), respectively.


   Ali 1 AV-pin<
   ‘I pinched Ali./Ali was pinched by me.’


   book REL John AV-buy that interesting
   ‘The book that John bought is interesting.’

The examples above show that the prefix *meng*- on the verb must be omitted when the DP argument following it moves across the verb.

Based on this fact, Sato hypothesizes that if the covert element in the Control complement is the outcome of DP movement into the matrix clause, then the prefix *meng*- on the matrix verb must be deleted. Nevertheless, the sentence in (8) shows otherwise: the deletion of the prefix *meng*- causes the sentence to be ill-formed.

8. Esti *(men)-coba me-masak makanan Jepang.

   Esti AV-try AV-cook food Japan
   ‘Esti tried to cook Japanese food.’

Although many Subject Control predicates in Standard Indonesian are bare predicates, this generalization is true for the Subject Control predicates that have the prefix *meng*-.
Balinese has the same behavior as Standard Indonesian. The passivization of the matrix verb in the Balinese Raising construction in (9) provides evidence of movement from the embedded clause to the matrix clause. Note that when the matrix verb is not passive in (9a), there is no raising to subject movement. The subject of the embedded clause stays within the clausal complements. When the subject of the embedded clause moves across the matrix verb to occupy the matrix subject position in (9b), the nasal prefix on the matrix verb is replaced with the passive suffix –a.

   teacher-DEF AV.know student-DEF DEM AV.cheat when-DEF test
   ‘The teacher knew that student was cheating during test.’

   b. Murid-é ento tawang-a [<murid-é ento> nyonték dugas-é ulangan]
      student-DEF that know-PV AV.cheat when-DEF test
      tekén guru-né.
      by teacher-DEF
      ‘The student was found cheating during the test by the teacher. (Lit: The student was known to have cheated during the test by the teacher).’

   It is clear from (9) that there is movement involved in this Raising constructions, since the form of the matrix verb changes to its passive form when the DP that originates in the embedded clause moves up to the matrix clause.

   An observation of Balinese Control constructions indicates that the null argument in the Control complement has a different nature from the covert element in Balinese
Raising constructions. The matrix predicate in a Balinese Subject Control construction must have the nasal prefix attached to it, which is exemplified in (10).

10. Ia *(N)-tugtug-ang ngae jaja.

3 AV-follow-APPL AV.make cake

‘S/he continued to make cakes.’

The fact that the nasal prefix cannot be removed indicates that the DP ia ‘s/he’ does not undergo movement from the embedded clause into the subject position in the main clause, but rather is generated within the main clause. To conclude, the Movement Theory of Control is not the appropriate analysis for Balinese Control constructions, which leads us to the standard Minimalism account, a modern version of the Obligatory Control theory (Chomsky, 1981).

The standard Minimalist analysis of Control posits Control complements to have a nonfinite CP. Because T is nonfinite, it does not bear any case feature. It is proposed that the C projection in Control complements is headed by a null C (Chomsky, 1995; Adger, 2003). This null C bears a [null] case feature that can only license a defective null subject, which I will refer to as PRO throughout the remainder of this chapter (an adoption from the preminimalist analysis of Control complements). The syntactic derivation of Control constructions is given in the following diagrams.
11.  a. Matt tried [PRO to attend many concerts].

   b. The structure of an English Subject Control construction
12.  a. His parents forced Matt [PRO to attend many concerts].

b. The structure of an English Object Control construction
The diagram in (11) depicts the syntactic structure for the English Subject Control construction, while the diagram in (12) illustrates the structure of the Object Control complement. The feature checking operations in Subject Control and Object Control complements are similar. The internal DP merges with the embedded verb in the VP projection, and receives the Theme role from V. Then PRO is merged as the external argument of the verb at the specifier of vP and receives the Agent role from v. To is the overt realization of the nonfinite T head. PRO moves to Spec,TP to satisfy the EPP feature on T, then the uninterpretable case feature of PRO is valued by the null C. In the diagrams, the arrow that goes from Matt to PRO shows the control relation, which means that PRO obligatorily has the same reference as the DP in the matrix clause.

The structure of Raising constructions is different from Control constructions, although it also has a nonfinite T. Because the DP subject of the complement in Raising constructions raises to the matrix clause to satisfy the EPP feature on T within the higher clause, it is assumed that the clausal complement has a TP structure. This assumption is in accordance with phase theory which postulates that because TP is not a phase, argument extraction out of the Raising complement and cross-clausal feature checking are viable. The derivation for an English Raising construction is portrayed in (13).
13. a. Matt seems [Matt% to attend many concerts]

b. The structure of an English Raising construction

The subject of the Raising complement first moves to Spec, TP inside the complement to check the EPP feature of the embedded T. Nevertheless, its case feature is not checked by the nonfinite T; therefore, the embedded subject gets its [nom] case from the T head in the matrix clause via Agree, once this T has merged into the structure. Afterward, the DP he moves to the matrix Spec,T to satisfy the EPP feature of the matrix T.
As has been noted, the notion of finiteness is a key property that determines the syntactic structure of the embedded clauses. It can be defined as a syntactic feature that licenses a nominative subject in a clause and constrains syntactic operations from occurring beyond the clause boundary (Spyropoulous, 2007). Hence, in a nonfinite Raising complement, the case-checking procedure can take place across the clause boundary, whereas nonfinite Control clauses are assumed to be full CPs which contain an unpronounced subject that does not receive nominative case. In the following section, I discuss the notion of (non)finiteness in Balinese.

4.2. FINITENESS IN BALINESE COMPLEMENTS

As has been noted previously, the conventional indicators of finiteness are the presence of inflectional verbal morphemes marking tense, person, and number agreement. Yet, agreement and tense markers are not the only signals of finiteness, as discussed in section 3.2.3. Aspectual auxiliaries were suggested as other markers of finiteness in languages with little or no inflectional morphemes. For instance, the perfective aspect particle le is deemed to be an indicator of finiteness in Chinese (Huang, 1984; Lin, 2011). Arka (2013) also proposes aspectual auxiliaries and modal verbs as the barometer of finiteness in Indonesian. In addition, Kurniawan & Davies (2015) assert that overt subjects are a sign of finiteness in Sundanese. In this section, I explore the notion of (non)finiteness and its manifestation(s) in Balinese clausal complements.

4.2.1. Invalid markers of finiteness

This section reviews the empirical evidence laid out in Chapter 3, which indicates that the semantics of the matrix predicates affect the distribution of aspectual auxiliaries, modal verbs, and temporal specifications across all four complement types in Balinese.
Hence, the presence of these elements does not verify the finiteness of the clausal complements.

4.2.1.1. Aspectual Auxiliaries

The properties of Balinese Raising complements described in Chapter 3 illustrate that only the future auxiliary lakar is acceptable in the Raising complement in (14), while all aspectual auxiliaries are admitted in the Raising complement in (15).

14. I Wayan buung [<I Wayan > lakar/*sedek/*suba ngidih biu].
   DET Wayan cancel FUT / PROG / PERF AV.ask banana
   ‘Wayan cancelled asking for bananas.’

15. Murid-é ento gugu-na [<murid-é ento> lakar/suba/sedek
   student-DEF DEM believe-PV FUT/PERF/PROG
   ngamaling pipis]
   AV.steal money
   ‘The student is believed (that) s/he will steal/stole/has stolen/is stealing money.’

   Similarly, the SC complement in (16) can take the future auxiliary lakar. Only the OC complement in (17) is resistant to the future auxiliary.
16. Jani Marini was forced to resign from the company because she has tarnished the institution’s name, she wanted to contact Yudha. (PKN-39)

‘Now Marini is forced by the company to resign since she has tarnished the institution’s name, she wanted to contact Yudha …’

17. The teacher tells his/her student(s) to bring a broom.

If we assume aspectual auxiliaries to be the manifestation of finiteness, the purported claim would be to analyze OC complements as nonfinite, while both Raising complements and SC complements would be considered as finite. Nonetheless, this assumption is contradicted by the subjunctive s-like counterpart of OC and SC complements.

It is widely accepted that s-like complements are finite crosslinguistically. Thus, if we hypothesized that aspectual auxiliaries are the marker of finiteness, then the presence of aspectual auxiliaries should be allowed in the s-like counterparts of Control complements. However, (18) shows that the future auxiliary lakar is also not acceptable in the subjunctive s-like complement following the OC predicate nunden ‘order’.

18. Father told Mother (so that) she would butcher the chicken.

‘Father told Mother (so that) she would butcher the chicken.’
Likewise, (19) illustrates that the subjunctive s-like complement cannot take the future auxiliary *lakar*, in contrast to the fact that the same element can occur in the corresponding SC complement in (16).


Marini INTR.want COMP will AV.contact-APPL Yudha

‘Marini wants to contact Yudha.’

Furthermore, it has been established in the previous chapter (section 3.4.1.5) that s-like complements behave differently in terms of their acceptance of the future auxiliary *lakar*. A subgroup of matrix predicates, i.e. request predicates, selects subjunctive s-like complements that are resistant to future auxiliaries, while the commitment predicates prefer the presence of *lakar* in their clausal complements, not to mention the indicative s-like complements that can take a range of aspecual auxiliaries. In conclusion, the inconsistencies in the occurrence of *lakar* across these four complement types implies that aspecual auxiliaries do not signify finiteness, since the (non)existence of an auxiliary in a complement is most likely influenced by the semantics of the matrix verb.

4.2.1.2. Modal verbs

The placement of predicates which inherently express modality, such as *dadi* (permission) and *bisa* (ability), within Balinese complement types does not show any pattern that supports the idea of modal verbs as the indicator of finiteness. In general, s-like complements can take modals. Similarly, the Raising complements to aspecual predicates can also take both modals; yet, the same modal verbs are not accepted in the
Raising complements following an adjective-like matrix predicate. These contrasts can be seen from the data exemplified in (20) and (21) below.

20. Iluh suud [dadi / bisa pesu sai-sai].

   Iluh stop allowed.to / can go out often

   ‘Iluh stopped being allowed to / can go out often.’


   RED-student-DEF difficult allowed.to/can RED-AV.lie-ITER teacher-DEF

   ‘It is difficult for the students to be allowed to / able to lie to the teacher.’

   The differing distribution of modal verbs is also found in Subject Control complements. Clausal arguments selected by psych predicates and dynamic predicates reject both the modal of permission and the modal of ability. SC complements selected by desiderative predicates can have the modal of ability bisa, but only when the state of affairs expresses a wish to acquire an ability (22a), not when it articulates an activity (22b).

22. a. I Nyamprut makita [bisa ngelangi].

   DET Nyamprut INTR.wish can INTR.swim

   ‘Nyamprut wishes that he can swim.’

   b. *Ia makita [bisa ng-adep motor-é ento].

   3 wish can AV-sell motorbike-DEF DEM

   ‘S/he wished to be able to sell that motorbike.’

   What about the case where the SC and OC complements and their s-like counterparts have contradictory properties with respect to the possible appearance of modals? For example, the OC complement in (23a) is rendered ungrammatical when bisa
‘can’ is inserted in it, while the occurrence of *bisa* in the subjunctive s-like argument in (23b) is considered acceptable.

23. a. Iluh nulung-in        adi-nné      [(*bisa) menek  sepeda].
   Iluh AV.help-APPL younger.sibling-POSS  can  AV.ride bike
   ‘Iluh helped her younger sibling to ride the bike.’

b. Iluh nulung-in        adi-nné      [apang *bisa* menek  sepeda].
   Iluh AV.help-APPL  younger.sibling-POSS  COMP can  AV.ride bike
   ‘Iluh helped her younger sibling so that s/he can ride a bike.’

The data above appear to suggest that modals may have a role in the determination of a clausal complement’s finiteness since they are admissible in the purportedly finite s-like complement but not in the reduced OC complement. In spite of this conflicting property between s-like and OC complements, the presence of *bisa* ‘can’ in the s-like counterpart of the OC complement does not provide a strong foundation to claim that modals are a manifestation of finiteness because the s-like complement following the predicate *nunden* ‘order’ in (24b) does not accept the modal of ability, akin to its corresponding OC complement in (24a).

24. a. I Komang nunden     adi-nné      [(*bisa) kedék].
   DET Komang AV.order younger sibling-POSS  can  laugh
   ‘Komang ordered his younger sibling to be able to laugh.’

b. *I Komang nunden     adi-nné      [apang *bisa* kedék].
   DET Komang AV.order younger.sibling-POSS  COMP can laugh
   ‘Komang ordered his younger sibling to be able to laugh.’
These paradoxical data render the claim of modals as a marker of finiteness to be inconclusive. Instead, the data advocate for the idea that the semantics of the matrix verb influences the acceptance of modal verbs inside the clausal complements; hence, there is no pattern in the disposition of modals in Balinese clausal complements that corresponds to the type of complement.

4.2.1.3. Temporal Specifications

An observation of temporal adverbs also reveals that the allocation of temporal specifications across the four complement types may not provide an insight into the (non)finiteness of Balinese Raising and Control complements because each complement type behaves differently. The OC complement in (25) is only compatible with temporal adverbs that maintain the irrealis mood of the state of affairs.

25. **Mara jani** guruné ngorah-in murid-murid-é [(apang) ngaba 

just now teacher.DEF AV.tell-APPL RED-student-DEF COMP AV.bring ember *ibi / buin mani].

bucket yesterday/again tomorrow

‘The teacher have just told the students to bring a bucket (*yesterday) / tomorrow.’

Likewise, the complements in SC constructions, particularly those that are selected by desiderative predicates, have the same characteristic as OC complements in that they can have a different time frame from the matrix clauses. As can be seen from sentence (26) which is taken from the corpus (SS-1), the future auxiliary *lakar* specifies the clausal arguments to have a future time frame, whereas the temporal adverb *uling selidan* ‘since
earlier’ and the perfective aspectual marker *suba* in the matrix clause designate a situation started in the past and continuing to the present.

26. **Uling selidan ia suba makeneh [lakar mogbog-in mémé bapa-nné].**

   from early 3 PERF plan FUT AV.lie-APPL mother father-POSS

   ‘Since earlier (today) he had planned to lie to his mother and father.’

In contrast, the SC complements following psychological attitude predicates must have the same temporal specification with their matrix clause, as illustrated in (27). In this case, there are no future restrictions on the time frame.

27. (**dugas-é cerik**) Tiang demen [mancing] (**dugas-é cerik**).

   when-DEF small I like AV.fishing when-DEF small

   ‘I liked fishing when I was a child.’

Additionally, distinctive attributes regarding temporal specifications can also be observed in Raising complements. As can be seen in (28), the Raising complement of a propositional attitude predicate can have a temporal adverb that specifies the time frame of the state of affairs to be independent of the matrix clause’s temporal frame. On the other hand, the time frame for the Raising complement following an aspectual predicate in (29) is dependent on the matrix clause. The only similarity between these two types of Raising complements is that the state of affairs may occur in the past, present, and future.
28. **Ibi** Ketut, kadén-a tekén I bapa [lakar malali

Yesterday DET Ketut think-PV by DET father will AV.go.out

ka Badung **buin puan**].

to Badung again two days

‘Yesterday, Ketut was thought (by Father) to be visiting Badung in the next two days.’

29. **Dugasé né** tiang buung (dugas-é né) [*lakar/taen ma-lali ka desa]

time-DEF that l cancel time-DEF that FUT/PERF AV-visit to village

‘That time, I cancelled going to the village.’

The random allotment of temporal elements across the four complement types disputes the idea that these elements are explicit manifestations of finiteness in Balinese. The temporal relation between the matrix and the embedded clauses appears to be determined by the semantic properties of the matrix predicate. Future restrictions on temporal specifications of the Control complements are compatible with the irrealis mood of the clauses. At the other end of the spectrum, the indicative mood inherent to Raising complements contributes to their acceptance of all types of temporal elements.

### 4.2.2. Finiteness and the licensing of overt subjects

Similar properties were found in Sundanese complements (Kurniawan & Davies, 2015), as the insertion of temporal auxiliaries and modals is acceptable in Sundanese Control, Raising, and nominalized complements.\(^{30}\) Furthermore, person agreement –*eun

\(^{30}\) The only exception is Sundanese OC complements that cannot accept temporal auxiliaries, similar to their Balinese counterparts.
and the infix -ar- marking plural actors are also admitted in s-like, Control, Raising, and nominalized complements in Sundanese. Hence, the presence of these elements, although purported to be signs of finiteness, does not present evidence for finiteness in Sundanese. Therefore, Kurniawan & Davies shift their attention to the connection between finiteness and nominative subject licensing. In the following, I present evidence that supports Kurniawan & Davies’ proposal of finiteness as the licensor of (overt) nominative subject by pointing out the differences between Raising and Control complements with their s-like counterparts.

Kurniawan & Davies (2015) claim that Sundanese is similar to other rich-inflectional morphology languages in which finiteness licenses overt subjects, except that finiteness in Sundanese is abstract and not realized morphologically. Thus, Sundanese Control complements (30) and Raising complements (31) are nonfinite because they do not allow overt pronouns (or other DPs) to occupy the subject position.

30. *Amung nitah Ujang; [sina mane\(h\)na\(r\)jjual-an sapatu di pasar].
   Amung AV.order Ujang so.that 3sg sell-IT shoes in market
   ‘Amung ordered Ujang to sell shoes in the (traditional) market.’

31. *Barudak; di-anggap [maran\(\text{e}\)hna;rek kalabur ti sakola].
   children PV-assume 3pl FUT escape.PL from school
   ‘The children were assumed to be skipping school.’

The following data on Balinese Raising and Control constructions indicate that the unifying character of Balinese Raising and Control is the prohibition of overt subjects in
their complements. As illustrated in (32), an overt subject is not accepted in a Raising complement.

32. \( I \) Kadé̈k buung \([\text{*ia}_i]\) malali ka Badung\].

\( \text{DET} \) Kadé̈k cancel \( \text{3} \) visit to Badung

‘Kadek cancelled visiting Badung.’

The SC complement in (33) and OC complement in (34) are also deemed to be ungrammatical when the subject is overt.

33. Tiang makita \([\text{*tiang} \text{mabalîh pilem}]\)

\( 1 \) want \( 1 \) AV.watch movie

‘I want to watch a movie.’

34. \( I \) Bapa\( i \) nundén Iluh\( j \) \([\text{*ia}_j]\) magpagin I \( \text{mémé}_k \] \].

\( \text{DET} \) father AV.order Iluh \( 3 \) AV.pick.up DET mother

‘Father told Iluh to pick up Mother.’

Forthwith, embracing Kurniawan & Davies’ (2015) proposal, I regard the Balinese Raising and Control complements to be nonfinite based on the inadmissibility of overt subjects within these complements. As discussed in Chapter 3, the CTPs that select Control complements may also select an s-like complement headed by an overt complementizer. To further support my claim on the nonfiniteness of Balinese Raising and Control complements, I compare the different characteristics of the null subject in Control complements with the (optionally) covert subjects in their s-like counterparts.

Structural differences between the SC and OC complements with their corresponding subjunctive s-like complements are attested. Because the finite T in the s-
like complements assigns an abstract nominative case to the embedded subject, the embedded clause does not have to share an argument with the matrix argument. Thus, the embedded subject in an s-like complement may or may not have the same reference as one of the matrix arguments.

The verb *makita* ‘want’ selects an SC complement in (35a) and a subjunctive s-like complement in (35b), as does the predicate *maksa* ‘force’ that is followed by an OC complement in (36a) and an s-like complement with the irrealis complementizer in (36b).

35. a. Murid-éi ento makita [PRO⟨i/j⟩ nepuk-in Presiden Jokowi].
   student-DEF DEM INTR.want AV.meet-APPL president Jokowi
   ‘That student wanted to meet President Jokowi.’

   b. Murid-éi ento makita [apang ia⟨i/k⟩ nepuk-in Presiden]
   student-DEF DEM INTR.want COMP 3 AV.meet-APPL president
   Jokowi⟨j⟩].
   ‘That student wanted that he himself meets President Jokowi.’
   i. ‘That student wanted that he himself meets President Jokowi.’
   ii. ‘That student wanted that s/he meets President Jokowi.’

36. a. Iaį maksa kepala sekolah-éj [PRO⟨j ⟩ nga-lulus-ang panak-nék].
   3 AV.force head school-DEF AV-pass-APPL child-POSS
   ‘S/he forced the headmaster to pass his/her child (in the exam).’
b. Iaₐ maksa kepala sekolah-éj [apang iaₐ nga-lulus-ang panak-nék].

3 AV.force head school-DEF 3 AV-pass-APPL child-POSS

i. ‘S/he forced the headmaster that the headmaster himself passes his/her child (in the exam).’

ii. ‘S/he forced the headmaster so that s/he pass his/her child (in the exam).’

Note that the covert subject PRO in the SC complement (35a) can only be interpreted as having the same reference with the subject muridé ento ‘that student’. The same is true for the covert DP in the OC complement in (36a), which must corefer with the object of the higher clause kepala sekolahé ‘the headmaster’. On the other hand, the subject of the subjunctive s-like complement in (35b) and (36b) can be expressed overtly, and it can have two interpretations. The first interpretation is similar to its Control counterpart: the third person pronoun ia has the same reference as the matrix subject in (35b) and as the object of the matrix clause in (36b). Nonetheless, the pronoun ia ‘s/he’ may also refer to a third party that is not mentioned in the higher clause; hence, the second interpretation is derived.

Furthermore, since the T in the s-like complement is finite, it means that an overt nominative subject is licensed. Therefore, when the verb undergoes voice alternation, the movement of an overt argument that previously occupied the object position into the subject position is viable. Observe the sentences in (37) and (38).

37. a. Tiangₜ edot [apang proₜ ajak Bliₜ malali].

1 want COMP OV.invite older male go out.

‘I want (that) you take me out. (Lit: I want that I am taken out by you)’
b. Tiangi edot [apang Blij ng-ajak proi ma-lali].

1 want COMP older male AV-invite AV-go.out

‘I want (that) you take me out.’

38. a. Iaï maksa kepala sekolah-éj [apang proj nga-lulus-ang panak-nék].

3 AV.force head school-DEF COMP AV-pass-APPL child-POSS

‘S/he forced the headmaster to pass his/her child (in the exam).’

b. Iaï maksa kepala sekolah-éj [apang panak-nék lulus-ang-a].

3 AV.force head school-DEF COMP child-POSS pass-APPL-PV

‘S/he forced the headmaster that his/her child is passed (in the exam).’

When the predicate of the clausal complement is in Object Voice in (37a), the subject is an unpronounced Theme argument, while the object is an overt Agent argument. When the verb is marked with the active voice prefix in (37b), the unpronounced Theme argument now occupies the object position, and the overt Agent argument is the subject. Similarly, when the verb is passivized in (38b), the overt Theme argument panakné ‘his/her child’ moves into the subject position, while the Agent argument that corefers with the matrix object kepala sekolahé ‘the headmaster’ is not pronounced. Note that the presence of an overt subject inside the lower clause in (37b) and (38b) provides the most compelling evidence for the finiteness of the s-like complements headed by apang.

On the other hand, the predicate of Control complements should not be able to undergo voice alternation. Because the T in Control complements is nonfinite, an overt nominative subject is not authorized. Only PRO, an empty category that has a [null] case, is licensed in the subject position. Therefore, when the overt argument, which was previously located postverbally, moves to the subject position due to the change in voice,
the sentence becomes ill-formed. The data in (39) and (40) show that Balinese Subject and Object Control complements conform to this restriction.

39. a. Tiang, edot [ PRO, ajak Bli, malali].

\[ \text{I want OV.invite older.male go out} \]

‘I want you to take me out. (Lit: I want to be taken out by you.)’

b. \*Tiang, edot [Bli, ng-ajak PRO, malali].

\[ \text{I want older.male AV-invite go out} \]

40. a. Ia, maksa kepala sekolah-\text{\-}\text{\`e} [PRO, nga-lulus-ang panak-né\text{\`e}].

\[ \text{AV.force head school-DEF AV-pass-APPL child-POSS} \]

‘S/he forced the headmaster to pass his/her child (in the exam).’

b. \*Ia, maksa kepala sekolah-\text{\-}\text{\`e} [panak-né\text{\`e} lulus-ang-a].

\[ \text{AV.force head school-DEF child-POSS pass-APPL-PV} \]

The sentences (39b) and (40b) contain the Control complements which would correspond to the subjunctive s-like complements in (37b) and (38b). Note that the alternation of voice within the embedded clause resulted in the ungrammaticality of the sentences because the overt DP now occupies the subject position in the clausal complement while the empty category becomes the object, particularly in (39b). These data provide empirical evidence that Balinese Control complements are nonfinite, since an overt nominative subject is not licensed in these complements. To sum up, the empty category in Balinese Control complements has the following characteristics: (1) it cannot be replaced by a resumptive pronoun, (2) it must be coreferential with the matrix argument, and (3) it cannot occupy the object position. These are the characteristics of PRO that receives a [null] case from the null complementizer. In contrast, the (optional) silent element in the subjunctive s-like
complements is simply an unpronounced subject that receives [nom] case from the finite T.

4.3. **THE SYNTACTIC STRUCTURE OF BALINESE COMPLEMENTS**

In the previous section, I have established that Balinese s-like complements are finite, whereas Raising and Control complements in Balinese are nonfinite. In this section, I discuss the syntactic structure for these four types of complements based on their syntactic properties. I claim that s-like complements have a finite CP structure. In addition, Balinese Raising and Control complements have distinctive syntactic structures, specifically nonfinite TP for Raising and nonfinite CP for Control.

4.3.1. **The structure of Balinese S-like complements**

The properties of Balinese s-like complements, summarized in what follows, affirm that this complement type has a finite CP structure, like English s-like complements.

41. The syntactic properties of Balinese s-like complements:
   a. They may have a covert complementizer or an overt complementizer, with either indicative (i.e. unduk) or subjunctive meaning (i.e. apang).
   b. They can take any aspectual marker.
   c. Modals can be inserted in the s-like complements.
   d. They can have a distinctive temporal, frequency, or manner specification with respect to the matrix clause.
   e. The subject of s-like complements is not restricted semantically.
   f. They may have an overt or covert subject that may or may not corefer with a DP in the matrix clause.
g. Movement of an argument out of s-like complements is not feasible.

Given the points that modals, aspectual markers, and separate temporal specifications are admitted in s-like complements, this signifies a structure that is bigger than VoiceP. Moreover, the presence of a complementizer provides evidence for a projection above TP. In addition, the points listed in (41e-f) specify the fact that the embedded verb is finite since the embedded clause need not share an argument with the matrix clause. Most importantly, point (41g) is compelling evidence for a CP structure because CP is a phase and movement out of a phase is only possible for an element at the edge of the phase. Because the complementizer occupies the outermost specifier of an s-like complement, the DP argument on the specifier of T is not available for probing from the matrix clause.

Based on these characteristics, a finite CP structure in (42b) for the s-like complement in (42a) is the most appropriate analysis for Balinese s-like complements.31

42. a. I Gedé, ngacep [apang ia_i] maan ge-gae-né ento].
   DET Gedé AV.pray COMP 3 AV.get RED-work-DEF DEM
   ‘Gedé prayed that he would get that job.’

i. Ia seleg malajah [apang bisa maan beasiswa],
   3 serious AV.study so.that can get scholarship
   ‘S/he studied seriously so that s/he can get a scholarship.’

ii. [Apang bisa maan beasiswa], ia seleg malajah.
    so.that can get scholarship 3 serious AV.study
    ‘So that s/he can get a scholarship, s/he studied seriously.’

31 Note that a finite CP may also function as an adjunct. For example in (i) and (ii), the finite CP headed by the complementizer apang indicated within the brackets has the function as a purposive clause. Structurally, a CP adjunct has more freedom because it adjoins with the larger clause; hence, it can be present before or after the clause. On the other hand, the finite CP complement can only merge with the VP of the higher clause; therefore, it can only be positioned lower within the structure.
b. The structure of the Balinese s-like complements
In this structure, the CP is selected as the complement of the matrix predicate. Because CP is a phase, none of the DPs in the clausal complement can be probed from the higher clause. In the syntactic structure of the s-like complements illustrated above, the T within the clausal complement is finite; therefore, it bears the [nom] feature. As soon as T merges in the derivation, this finite T can probe and value the uninterpretable case feature of the DP in the specifier of VoiceP via Agree. The DP ia then undergoes movement to satisfy the EPP feature on T. The CP head is represented by the subjunctive complementizer *apang*. The same operations occur in the matrix clause.

4.3.2. The structure of Balinese Control complements

The properties of Control complements are enumerated in (43). It is indisputable that Control complements are profoundly different from s-like and Raising complements based on these syntactic properties.

43. The syntactic properties of Balinese Control complements

a. They have a null complementizer.

b. They express future or irrealis events.

c. The subject of the complements must be null and is obligatorily coreferential with an argument in the matrix clause. It cannot be replaced by a resumptive pronoun.

d. The controller of the null subject is required to be semantically volitional.

e. The time frame of the complements is restricted to the future continuum with respect to the temporal reference of the main clause, except for those that follows stative predicates.
f. Modal verbs cannot be inserted in Control complements, except for the desiderative predicates.

g. Temporal aspectuals are not acceptable in Object Control complements, whereas only the future auxiliary can be admitted in Subject Control complements.

As I have argued in the previous section, the Control complements contain a silent argument with the characteristics of PRO: it is semantically restricted and it must be the surface subject of the clausal complement. Therefore, the standard Minimalist account of nonfinite CP structure provides the best sketch for the structure of Balinese Control constructions, in which PRO is licensed by the null complementizer.\(^{32}\) (45) portrays the structure of the Balinese Subject Control constructions in (44a), while (46) depicts that of the Balinese Object Control construction in (44b).

44. a. Truna-truna-né₁ ma-keneh [PRO₁ mabaliḥ konsér-né Slank].
   RED-male.youth-DEF AV-plan AV.watch concert-POSS Slank
   ‘The youth planned to watch Slank’s concert.’

b. I mémé₁ nunden I bapa₂ [PRO₂ ngunci jelanan].
   DET mother AV.tell DET father AV-lock door
   ‘Mother told Father to lock the door.’

---

\(^{32}\) The null complementizer in Control complements differs from the phonologically-null complementizer in s-like complements because it bears the [null] case feature which values the [uCase:] feature of PRO. The phonologically-null complementizer in s-like complements does not bear any case feature.
45. The structure of the Balinese Subject Control complement
46. The structure of the Balinese Object Control complement
In both cases, the embedded clauses are headed by a null complementizer. This null C licenses PRO by valuing its case feature with the [null] case. And for this reason, only PRO is possible since an overt subject DP requires [nom] case. The movement of PRO from Spec, VoiceP to Spec, TP is motivated by the EPP feature on T. To value its Phi-features, PRO agrees with the closest DP in the higher clause, that is the matrix object in the OC construction and the matrix subject in the SC construction.

4.3.3. The structure of Balinese Raising complements

The syntactic properties of Balinese Raising complements, reviewed in (47), can be used as the ground to determine their structures.

47. The syntactic properties of Balinese Raising complements:

   a. They do not admit any complementizer.
   b. They represent assertive events; in other words, they bear indicative mood.
   c. There are no semantic restrictions for the raised argument.
   d. They accept modal verbs.
   e. They may appear with aspectual auxiliaries.
   f. Resumptive pronouns cannot replace the raised argument.
   g. The state of affairs can occur in the past, present, or future time frame.

The lack of semantic restrictions for the raised argument indicates that the subject of the complement is raised into a nonthematic position as the subject of the matrix predicate. According to the Phase Impenetrability Constraint principle (Chomsky, 2001), feature checking under c-command is limited to the specifier of any embedded phase. Since TP is not a phase, cross-clausal case checking in the Raising construction is a viable
operation. Furthermore, the fact that a resumptive pronoun cannot fill in the covert copy of the raised argument signifies the nonfiniteness of the complements, as an overt subject is not licensed in nonfinite clauses. Hence, the Balinese Raising complement is best represented by a TP structure. The syntactic derivation of the Balinese Raising construction in (48) is represented in (49).

48. I Kadék, ngenah [=<I Kadék> melog-melog].

DET Kadék appear lie

‘Kadék appeared to be lying.’
49. The structure of Balinese Raising complement
The DP Agent I Kadék ‘Kadék’ is generated in Spec,vP of the lower clause as the external argument of the embedded predicate maan ‘get’. Afterward, it raises to Spec,VoiceP to satisfy the EPP feature on Voice. The DP I Kadék then moves once again to the specifier of T due to EPP. Note that the [uCase] feature on this DP argument has not been valued because the lower T head does not bear the [nom] case since it is nonfinite. This TP structure then merges with the matrix verb kéweh ‘difficult’. Because TP is not a phase, the DP I Kadék is available for probing. Because the Raising predicates kéweh ‘difficult’ does not assign a thematic role to its external argument, the vP does not have a specifier projection. Hence, the DP I Kadék moves to the specifier position of the higher VoiceP owing to the EPP feature on Voice. Once it occupied Spec,VoiceP, its [uCase] feature can be valued by the higher T which is finite. Because of the EPP feature on the matrix T, the final landing site of the DP muridé ento ‘that student’ is in Spec,TP of the matrix clause.

4.4. **CONCLUSION**

In this chapter, following Kurniawan & Davies’ (2015) analysis of Sundanese complementation, I used the presence of overt subject to diagnose the finiteness of clausal complements in Balinese. Thus, based on empirical evidence, Balinese complement structures are akin to the structure of complements in other languages. Under the Minimalist framework, Balinese s-like complements have a finite CP structure because they can have overt subjects. In addition, both control and Raising complements in Balinese do not accept overt subjects; thus, they are best characterized as having a nonfinite structure. A nonfinite TP structure is the most appropriate analysis for Balinese Raising complements, whereas a nonfinite CP analysis is more suitable for control complements.
CHAPTER 5. BALINESE CROSSED CONTROL CONSTRUCTIONS (CCC)

5.1. INTRODUCTION

The Crossed Control Construction (Polinsky & Potsdam, 2008), which is also known as Funny Control (Nomoto, 2008) and Mixed Voice Control (Polinsky & Potsdam, 2003), is an attested construction found in some Austronesian languages. Unlike canonical control constructions, the controller is the PP-Agent in the lower clause, not the preverbal DP in the higher clause. Observe the CCC in Malagasy (Polinsky & Potsdam, 2003), Indonesian (Polinsky & Potsdam, 2008), Malay (Nomoto, 2008), Madurese (Davies, 2014), Sundanese (Kurniawan, 2013), and Balinese.33

1. Nanandrana novonoin-dRaso ny akoho
   try.AV kill.PV-Raso the chicken
   ‘Raso tried to kill the chicken. (Lit: The chicken tried to be killed by Rasoa.)’

   child that want PV.kiss by mother
   i. ‘The child wants to be kissed by the mother.’ \(\rightarrow\) normal control
   ii. ‘The mother wants to kiss the child.’ \(\rightarrow\) crossed control

   motorcycle.gang that try PV.catch police
   i. ‘The motorcycle gang tried to be caught by the police.’ \(\rightarrow\) normal control
   ii. ‘The police tried to catch the motorcycle gang.’ \(\rightarrow\) crossed control

33 Many of the English translations in this chapter do not follow the order of the morpheme-by-morpheme glossing because English does not have a corresponding CCC sentence.
4. Motor sè anyar terro è-belli-yâ (moso) anom. **Madurese**
car REL new want OV-buy-IRR by uncle
‘Uncle wants to buy a new car. (Lit: The car wants to be bought by uncle.)’

5. Motor anyar téh hayang di-pecak-an ku Ujang. **Sundanese**
car new PART want PV-try-APPL by Ujang
‘Ujang wants to try out the new car. (Lit: The new car wants to be tried out by Ujang.)’

ball-DEF DEM want borrow-PV by RED-child-DEF
‘The kids wanted to borrow that ball. (Lit: The ball wanted to be borrowed by the kids.)’

Note that when there are two volitional arguments within the sentence, e.g. the Indonesian sentence in (2) and the Malay sentence in (3), ambiguous interpretations arise. Otherwise, only the crossed control reading is acquired when the subject is inanimate, as in (1), (4), (5), and (6), where the external theta role of the matrix predicate is assigned to the animate PP-Agent. These previous studies on CCC are mainly focused on finding the appropriate syntactic representation that can account for the ambiguous external theta role assignment by the matrix verb.

The goal of this chapter is primarily to provide a description of the syntactic properties of the Balinese CCC as a foregrounding for the cognitive processing experiments on the Balinese CCC discussed in Chapter 6. Nevertheless, I include an overview of syntactic properties of CCC across languages in Section 5.2. To follow up on the discussion of the syntactic properties of CCCs, Section 5.3 is dedicated to reviewing
proposed syntactic analyses. Section 5.4. sketches the properties of the Balinese CCC, as well as the syntactic structure of the Balinese CCC. Section 5.5. sums up the discussion and spells out the motivation(s) for the cognitive processing experiments on the Balinese CCC.

5.2. CROSSED CONTROL CONSTRUCTIONS ACROSS LANGUAGES

The CCCs crosslinguistically share the same syntactic properties, although some differences are also found. This section is constructed to explicate these similar and different characteristics of CCCs in the languages mentioned above.

Sentence (1) listed in the previous section is an example of CCC in Malagasy, which Polinsky & Potsdam (2003) refer to as Mixed Voice Control (MVC) because the main verb is in the active voice and the embedded verb is in the passive voice. In this VSO language, the clause-final DP receives a theta role from the verb in the sentence-initial position. In their analysis, they list the atypical behaviors of the clause-final DP and the control predicates in MVC. First, Polinsky & Potsdam (2003, p. 179) argue that the clause-final DP has the same behavior as the subject of a main clause because it must come after the question particle and the negative polarity item, as shown in (7a-b).

7. a. nijanona novaki-nao (ve) ny boky (*ve)?

  stop.AV read.PV-2sg Q the book Q

  ‘Did you stop reading the book?’

b. tsy nikasa hosasan-dRasoa (intsony) ny fiara (*intsony).

  NEG intend.AV wash.PV-Rasoa any.longer the car any.longer

  ‘Rasoa didn’t intend to wash the car (any longer).’
Subject properties are also shown by the clause-initial DP in Indonesian CCC as found by Polinsky and Potsdam (2008, pp. 1626-1629). One of the recognized tests for subjects in Indonesian-like languages is clefting (Vamarasi, 1999; Cole, Hermon, & Tjung, 2005). The clefting of the clause-initial DP in Indonesian is possible in a question construction (8a) and a focus construction (8b).

8. a. Apa yang mau di-tegas-kan oleh guru?
   what REL want PV-emphasize-APPL by teacher
   ‘What did the teacher want to emphasize?’

   b. Bagian kalimat ini yang mau di-tegas-kan-nya.
   section sentence this REL want PV-emphasize-APPL-3sg
   ‘It is this part of the sentence that he wants to emphasize.’

This clefting procedure can also be applied to the DP subject in CCC from other languages. In fact, Nomoto (2008) points out that Malay CCC is commonly found in relative clauses.

Polinsky & Potsdam (2008, p. 1625) point out that one property of the matrix predicates in CCC sentences resembles a property which is the characteristic of Subject Control predicates, as they impose selectional restrictions on the receiver of their external theta role. By contrasting the acceptability of the monoclausal sentence (9a) with the CCC sentence in (9b), they illustrate the semantic restrictions on the PP argument.

   town this PV-destroy-APPL by fire
   ‘This town was destroyed by fire.’

town this want PV-destroy-APPL by fire

‘*Fire wants to destroy this town.’

Even though the PP *oleh api* ‘by fire’ can receive the Agent role from the verb *dihancurkan* ‘be destroyed’ in the monoclusal sentence (9a), it cannot receive the Experiencer role from the matrix verb *mau/ingin in (9b)*. The CCC sentence is deemed ill-formed when the PP argument is nonvolitional.

Despite the resemblance of CCC predicates to control predicates, Polinsky & Potsdam (2003, p. 180) notice that the predicates in Malagasy CCC cannot form an imperative, contradicting a common characteristic of control constructions. Observe the imperative formation in the Malagasy normal control construction (10a) and in the CCC (10b).

10. a. Manandrama **mamon**o ny akoho!

Try.AV.IMP kill.AV.INDIC the chicken

‘Try to kill a chicken!’

b. *Manandrama **vonoin**a ny akoho!

Try.AV.IMP kill.PV.INDIC the chicken

‘Try to kill a chicken!’

Based on this characteristic, Polinsky & Potsdam reject a backward control analysis because imperative formation should be allowed if there is truly a null controlee in the matrix clause as posited in the backward control analysis. Moreover, they also argue against a clause union analysis because the main verb and the embedded verb in MVC can
have their own negation and adverbial modifiers, which are evidence for the CCC’s biclausal nature. The sentences in (11) show that the negation modifies whichever verb it precedes (Polinsky & Potsdam, 2003, p. 181).

11. a. **Tsy** nitsahatra hanin-dRabe ny siramamy.
    
    NEG stop.AV eat.PV-Rabe the sugar
    
    ‘Rabe didn’t stop eating sugar.’

b. Nitsahatra **tsy** hanin-dRabe ny siramamy.
    
    stop.AV NEG eat.PV-Rabe the sugar
    
    ‘Rabe stopped not eating sugar.’

Another key characteristic of the Indonesian CCC verbs *mau/ingin* ‘want’ pointed out by Polinsky and Potsdam (2008) is the fact that the nasal prefix cannot attach to these predicates; hence, they cannot be passivized. Nomoto (2008) also found that only bare verbs or verbs with the prefix *ber-* (marking intransitive verbs) and the prefix *ter-* (indicating stative or accidental passive) can occur in the Malay CCC. For Malay verbs with the AV alternation, only the bare form can occur with a CCC interpretation, as shown in (12).

12. a. Kucing kesayangan-nya **cuba** di-cium Amy.
    
    cat pet-POSS try PV-kiss Amy
    
    i. ‘Her pet cat tried to be kissed by Amy.’ – *normal control reading*
    
    ii. ‘Amy tried to kiss her pet cat.’ – *crossed control reading*

```
cat   pet-POSS   AV-try   PV-kiss Amy
```

i. ‘Her pet cat tried to be kissed by Amy.’ → *normal control reading*

ii. *‘Amy tried to kiss her pet cat.’ → crossed control reading*

Sentence (12b) shows that the AV prefix **men-** can attach to the predicate **cuba** ‘try’ in Malay (and in Indonesian). Nonetheless, only one interpretation can be derived from this sentence. When the matrix predicate is bare in (12a), both the normal control and the crossed control readings can be derived. Nomoto’s finding corroborates Polinsky and Potsdam’s postulation that CCC verbs do not passivize.

In spite of this similarity with the Indonesian CCC, the clausal complement in the Malay CCC can be headed by **untuk** ‘for’, exemplified in (13), the opposite of what Polinsky and Potsdam discovered with the clausal complement of the Indonesian CCC. The complementizer **supaya** ‘so that’, however, cannot occur within Malay CCC complements, as shown in (14). Only the normal control reading is acquired when the complementizer **supaya** is present.

13. Perkara ini **cuba** **untuk** di-tegaskan-nya.

```
matter  this  try  for  PV-emphasize-3
```

i. #‘This matter tried to be emphasized by him.’ → *normal control reading*

ii. ‘He tried to emphasize this matter.’ → *crossed control reading*

Ali want COMP PV-kiss Siti

i. ‘Ali wants to be kissed by Siti.’ → normal control reading

ii. *‘Siti wants to kiss Ali.’ → crossed control reading

Following in the footsteps of these previous studies, Kurniawan (2013) explored CCC in Sundanese. He discovered that the Sundanese CCC have similar characteristics to the corresponding constructions in other Austronesian languages. For example, intervening elements like temporal auxiliaries cannot be inserted in the CCC clausal complement in (15), while the canonical control complement in (16) can accept the future auxiliary rék (Kurniawan, 2013, pp. 264-265).

15. *Minggu kamari panto tukang télh poho [rék di-tulak-an].

week yesterday door back PART forget will PV-lock-APPL

‘Last week, I forgot (that I would) lock the back door.’

16. Kamari kuring geus mutus-keun [rék eureun gawé taun hareup].
yesterday 1sg PERF AV.decide-APPL will stop job year next

‘Yesterday, I decided (that I) would quit my job next year.’

These examples also indicate that the clausal complement in Sundanese CCC cannot have a separate temporal specification, while the canonical control construction can.

Further contributions to the literature on CCC were made by Davies (2014, p. 373), who compared the binding relations in Madurese canonical Control and Raising constructions with the CCC. He found that a PP-Agent in a normal control sentence (17)
and a Raising sentence (18) cannot bind a reflexive in the clause-initial position in contrast with the Madurese CCC in (19).

17. *Ana’-na dhibi’i nyoba è-sèyom bi’ Siti,

Child-DEF self AV.try OV-kiss by Siti.

‘Her own child tried to be kissed by Siti.’

18. *Ana’-na dhibi’i ngèra pèssè-na è-kèco’ bi’ Siti

Child-DEF self AV.think money-DEF OV-steal by Siti

‘Her own child thought the money was stolen by Siti.’

19. Buku-na dhibi’i è-cacak è-bâca bi’ Siti,

Book-DEF self OV-try OV-read by Siti

‘Siti tried to read her own book. (Lit: Her own book tried to be read by Siti.)’

Aside from reflexive binding, Davies (2014, p. 373) also provided evidence for the binding of a pronoun in the subject position by a quantified PP-Agent. In other words, the salient reading is a bound variable reading, which entails that the quantified expression c-commands the pronoun. The interpretation of sentence (20) below is that each mother has the desire to give money to her own child, not to one particular child.


RED-each mother want AV-give-IRR money to child-DEF

‘Each mother wanted to give money to her (own) child.’

In addition to these binding properties, Davies (2014) found that the PP-Agent in Madurese CCC can be fronted, as can be seen in (21).

By police thief REL crazy OV-try OV-catch

‘The police tried to catch the crazy thief. (Lit: By the police, the crazy thief tried to be caught.)’

Table 3 below summarizes the properties of CCC in the five Austronesian languages under discussion. This summary shows CCC across languages has several unifying characteristics.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Malagasy</th>
<th>Indonesian</th>
<th>Malay</th>
<th>Madurese</th>
<th>Sundanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semantic restrictions</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>DP argument behaves as the subject of the matrix clause</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>The verbs can have their own negation/adverb</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Imperative formation</td>
<td>x</td>
<td>x</td>
<td>-</td>
<td>-</td>
<td>x</td>
</tr>
<tr>
<td>Matrix verb in AV</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>Complementizer head</td>
<td>x</td>
<td>x (untuk)</td>
<td>✓ (untuk)</td>
<td>✓ (supaya)</td>
<td>-</td>
</tr>
<tr>
<td>Temporal auxiliary in the complement</td>
<td></td>
<td>x</td>
<td>-</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Independent temporal specification for the complement</td>
<td></td>
<td>x</td>
<td>-</td>
<td>-</td>
<td>x</td>
</tr>
<tr>
<td>Reflexive subject binding</td>
<td>-</td>
<td>x</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Quantified PP-Agent binds subject pronoun</td>
<td>-</td>
<td>x</td>
<td>-</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>PP-fronting</td>
<td></td>
<td></td>
<td>-</td>
<td>✓</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 3. The syntactic properties of CCC in five Austronesian languages
Davies acknowledged that the binding properties and the PP-fronting property of Madurese CCC suggest a syntactic structure smaller than the canonical control constructions. Several proposals for the structure of CCC that were made based on these properties of CCC are explicated in the following section. These proposals uniformly postulate that the complement in CCC has a verbal projection.

5.3. **THE SYNTAX OF CCC**

The properties of CCC explained in the prior section suggest a structure distinctive from Raising (TP) or Control (CP) structures. First, Polinsky & Potsdam (2003; 2008) consider the fact that CCC cannot form an imperative to be an argument against backward control analysis for CCC. The backward control analysis postulates that an overt controller is located in the embedded clause, while a null controlee exists in the matrix clause. Hence, if CCC has the backward control structure, then it should qualify for imperative formation due to the null controlee in the main clause.34

34 Arka (2014) posits that in Indonesian there is a double forward/backward control construction which shows some similarities with CCC. Note that Arka uses the term control to describe the semantic relationship between two arguments, in which a silent element has the same reference as another argument in the sentence. I will adopt this terminology in discussing this construction.

This construction is formed through the occurrence of backward control together with forward control to form a double control relationship, as illustrated below.

i. Mobil mana yang __1 coba [ __2 kau1=jual]? → double forward/backward control
   Car which FOC (A) UV.try (P) 2sg=UV.sell
   ‘Which car did you try to sell?’

The subject mobil mana ‘which car’ controls the empty category (P) in the lower clause. This is forward control. The clitic kau ‘you’ controls the empty category (A) in the higher clause, which is an instance of backward control. Arka includes a condition that this double control construction is grammatical only when there is a voice harmony between the predicates in both clauses: either both predicates are in their OV form or both are in their PV form. He shows that this structure accounts for the OC construction in Indonesian, and that Indonesian CCC may also be explained using the double forward/backward control model.
Second, the unfeasibility of an overt complementizer interposed between the matrix verb and the embedded verb suggests that the size of the clausal complement in the CCC must be smaller than a CP, a projection that licenses the presence of a complementizer. In addition, the CCC complement must not be a TP either because temporal auxiliaries cannot be accommodated within the clause.

Third, the property by which a reflexive in the subject position can be bound by the oblique argument within the embedded clause also indicates that the complement clause must be small to allow this binding operation. In fact, a smaller size of clausal complement in CCC is acknowledged and adopted in the literature (Polinsky & Potsdam, 2008; Nomoto, 2008; Sato & Kitada, 2012; Kurniawan, 2013; Davies, Kurniawan, & Natarina, 2013). In the following, I discuss the three types of verbal projections proposed as the structure of the complement in CCC.

5.3.1. VP analysis

Polinsky & Potsdam (2008) postulate that the verbs mau and ingin in Indonesian CCC are analogous to ‘restructuring’ verbs in Romance languages. Therefore, they assume Indonesian mau and ingin to be “thematically and syntactically very light” similar to

Yet, the same cannot be said for Balinese for two reasons. First, Balinese OC cannot be constructed in the double forward/backward model, as shown in (ii).

ii. *Umah-é ento3 ané ___ tunden cang1 [ ___ beli-na tekén I mémé2].
House-DEF that REL (A) OV.tell 1 (P) buy-PV by DET mother
‘I told mother to buy that house.’

Second, the voice harmony condition is not met due to the characteristics of CC predicates that do not have a voice alternation. Hence, I do not consider this double control structure in my discussion of Balinese CCC.
auxiliary predicates that select a VP complement. The structure for Indonesian CCC in (22a) is depicted in (22b).

22. a. Anak itu mau/ingin di-cium oleh ibu.
   Child that want PV.kiss by mother
   i. ‘That child wanted to kiss the mother.’
   ii. ‘The mother wanted to kiss that child.’


![Diagram of Indonesian CCC structure](image)

In their analysis, the VP is composed of the passive embedded verb *dicium* ‘to be kissed’, the DP *anak itu* ‘that child’, and the PP-Agent *oleh ibu* ‘by mother’. The DP *anak itu* ‘that child’ then moves up to the specifier of IP in order to satisfy the EPP feature. However, Polinsky & Potsdam note several weaknesses in their own analysis. For instance, they assume the passive voice prefix *di-* to be generated within the PP, which puts forward the idea that the active voice prefix *meN*- originates inside the VP as well. As a consequence, it can be expected that the CCC reading can also be derived when the
embedded verb is in active voice. Nonetheless, the active counterpart of CCC in (23) does
not comply with this expectation. Sentence (23) only yields the normal control reading.
This entails the introduction of two different structures for the CCC and the canonical
Control construction.

   Child that want AV-kiss mother-DEF

   i. ‘That child wanted to kiss the mother.’

   ii. *‘The mother wanted to kiss that child.’

In addition, Polinsky & Potsdam point out another weakness of their proposal,
which posits that mau and ingin do not take an external argument, nor do they assign a
theta role. Their observation shows that mau and ingin are subject to a selectional
restriction which requires the PP-Agent to be animate and/or volitional. To account for the
semantic restrictions of the verb, they draw a correspondence between these verbs and
subject-oriented adverbs, e.g. willingly, deliberately, reluctantly. These subject-oriented
adverbs have a thematic dependency (a sub-component of thematic role) with a local
dependencies are available and why thematic properties do not have restrictions like theta
role assignment.

5.3.2. vP analysis

Nomoto (2008) found quite a number of predicates that can occur in the Malay
CCC, such as berani ‘dare’, berjaya ‘to succeed’, berhak ‘to have the right to’, berhasil ‘to
want’, ingin ‘to want’, layak ‘qualified’, mahu ‘to want’, malas ‘lazy’, malu ‘ashamed’, mampu ‘capable’, rela ‘willing’, sempat ‘to have the time/opportunity to’, suka ‘to like’, takut ‘afraid’, and terpaksa ‘forced to’. He calls into attention the limitation of Polinsky & Potsdam’s proposal in that it cannot account for CCC with predicates other than wanting verbs or psychological attitude predicates. He makes a note of the particular characteristics of these predicates, viz., they have modality meaning, and they are either bare predicates, or they have the ber- or ter- prefix.

In his proposal, Nomoto does not differentiate vP and VoiceP; therefore, he assumes that the Voice prefixes are the representation of the v head. Nomoto’s proposal is built on the claim that the nasal prefix meN- indicating active voice in these languages introduces locality, while the passive voice prefix di- does not. In other words, the vP headed by meN- is a phase (Chomsky, 2000; Aldridge, 2005). Nomoto assumes that the prefix meN- does not have an EPP feature; hence, it only has one specifier position for the external argument. On the other hand, he suggests that di- has an EPP feature, and the internal argument can be extracted out of the vP to satisfy the EPP feature. Therefore, both the internal and external arguments of the complement’s verb are on the phase edge. Consequently, the matrix verb can assign its external theta role to one of the arguments in the embedded clause. Furthermore, he agrees with Horstein (1999) in assuming that an argument can move into a θ-position and receive more than one θ-role under Merge. (24b) is an exemplification of Nomoto’s CCC structure.

Mat Rempit that try PV-catch police

i. ‘The motor cycle gang tried to be caught by the police.’

ii. ‘The police tried to catch the motor cycle gang.’

b. Nomoto’s structure of Malay CCC.

Recall that Nomoto’s structure of CCC is based on the assumption that the passive prefix *di-* on the *v* head has an EPP feature. As can be seen in this structure, the passive *v* has two specifier positions, one for the external argument *polis* ‘police’, and the other for the internal argument *Mat Rempit itu* ‘that motorcycle gang’. The internal DP *Mat Rempit itu* ‘that motorcycle gang’ is extracted out of the VP in order to satisfy the EPP feature on *di-*.

Because both the external and internal arguments of the embedded verb *tangkap* ‘catch’
are positioned on the edge of the vP phase, the matrix verb *cuba* ‘try’ can assign its external θ-role to either *Mat Rempit itu* ‘the motorcycle gang’ or *polis* ‘police’. The outermost DP then moves up to Spec,TP position to satisfy the EPP feature in the matrix T.

Nomoto’s analysis can justify both normal control and crossed control interpretations in one syntactic structure, unlike Polinsky & Potsdam’s analysis. When the external θ-role of the matrix verb *cuba* ‘try’ is assigned to *Mat Rempit itu* ‘the motorcycle gang’, the normal control interpretation arises. The crossed control interpretation is acquired if the external θ-role of *cuba* ‘try’ is assigned to the DP *polis* ‘police’.

Nonetheless, there are various issues with this analysis. As noted by Kurniawan (2013) and Davies (2014), the structure portrayed above cannot account for the surface word order since the DP *polis* is located above the embedded verb *tangkap* ‘catch’ in Nomoto’s structure. In the surface word order, the verb *tangkap* ‘catch’ precedes the DP *polis* ‘police’. Moreover, P. Kempchinsky (personal communication, January 8, 2018) questions the motivation for the presence of an EPP feature in passive vP which is not a phase, while the phasal active vP does not bear an EPP feature. It is expected that a phasal vP has an EPP feature; therefore, the element in the outermost projection of the phase can be probed. Nomoto’s assumption for the EPP feature in the passive vP is the opposite of what is expected from a non-phasal vP.

5.3.3. **VoiceP analysis**

Considering all facets of the proposed analyses in relation to Sundanese CCC properties, Kurniawan (2013) proposes a layer of VoiceP to explain the presence of number agreement inside Sundanese CCC complements, the binding of reflexives in the subject
position, and the surface word order of CCC, which cannot be accounted for in Nomoto’s analysis. He argues that the Voice head in Sundanese hosts the verb markers, i.e. the voice marker and infix –ar– (or –al–), the plural agreement morpheme.\(^{35}\) In a transitive clause, the infix –ar– does not agree with the subject of the sentence, but it marks the plurality of the Agent argument (Kurniawan, 2013, p. 289), shown in (25).


child REL lost PART PROG PV-PL.seek-ITER by RED-father

‘The gentlemen are looking for the lost child. (Lit: The lost child is being looked for by the gentlemen.)’

Furthermore, Kurniawan (2013, p. 290) also shows that this infix can also agree with the only argument in an unergative clause (26) and an unaccusative clause (27).


children AV-PL-flock to mosque

‘The children flocked to the mosque.’


RED-flower-NOML PL.die

‘The flowers are dying.’

Interestingly, the plural marker can also note agreement between a DP argument and a nonverbal predicate, e.g. an adjective or a locative PP. The sentence in (28) is an

\(^{35}\) The plural infix –ar– is normally inserted after the predicate’s word-initial consonant. In sentence (25), the embedded verb is téang ‘seek’.
example of the agreement between a DP argument and a locative PP (Kurniawan, 2013, p. 291).

   RED-teacher PROG at PL.office
   ‘The teachers are in the office.’

Because this plural agreement surfaces in constructions without Spec,νP, e.g. unaccusatives and nonverbal predicates, Clemens (2010) proposes the idea that the infix marks a link between a DP and a projection above νP. She claims the Sundanese number agreement marker to be the realization of T. However, Kurniawan observes the presence of this plural marker on the verb within CCC complements. Consequently, he argues that the infix –ar– is the representation of the Voice head, instead of the T head because the CCC complement has been postulated to have a structure smaller than a TP. His claim is based on two assumptions. First, the actor arguments in active and passive constructions are generated in the specifier of νP; hence, the binding of a reflexive in the subject position by a PP argument can be accounted for. Second, the Voice head can agree with the closest DP, which explains why the verb agrees with the Agent in both active and passive structures.

In addition, Kurniawan adopts the concept of successive feature inheritance from Sato & Kitada (2012) to justify the anomalous assignment of thematic roles. Using the feature-inheritance concept (Chomsky, 2007; 2008) and the Phase Impenetrability Condition (Chomsky, 2000) as the basis of their argument, Sato & Kitada theorize thematic roles as uninterpretable features on V that can be bequeathed to the lower V head as long
as there are no phasal boundaries. (29b) is how Kurniawan portrays the structure of Sundanese CCC. In this structure, \([E\theta]\) represents the external theta role, while \([I\theta]\) represents the internal theta role.

29. a. Panto lab poho di-k-ar-onci ku barudak.

Door lab forget PV-PL.lock by children

‘The children forgot to lock the lab’s doors. (Lit: The lab door is forgotten to be locked by the children.)’

b. Kurniawan’s structure of Sundanese CCC.
In this structure, the internal theta feature [Iθ] of the lower verb *konci* ‘lock’ is satisfied by the internal argument *panto lab* ‘lab’s doors’, while the external theta feature [Eθ] is checked by the PP-Agent *ku barudak* ‘by the children’ once this PP merges on the specifier position of vP. Similar to Nomoto’s proposal (2008), Kurniawan assumes the v head in a passive construction bears an EPP feature. Therefore, the internal argument *panto lab* then moves to the outer specifier of vP to satisfy the EPP feature on v. Afterward, head-to-head movement occurs from v to Voice where the verb *konci* is marked with the passive marker *di-* and the plural marker *–ar–*. The DP *panto lab* then moves up again to Spec>VoiceP due to an EPP feature on Voice because it is the closest DP. Note that the plural marker *–ar–* agrees with the PP-Agent that it c-commands. The clausal complement checks off the [Iθ] feature of the higher V *poho* ‘forget’, whereas its [Eθ] is not checked. This unchecked [Eθ] feature is inherited by the lower Voice head, as indicated by the dashed arrow. This inherited [Eθ] is then satisfied by the PP-Agent *ku barudak* ‘by the children’; thus, the CCC interpretation is derived.

In his analysis, Kurniawan considers vP as a phase. When the embedded verb is active, the internal argument stays inside the lower vP phase. Therefore, the [Eθ] on the lower Voice head, which is inherited from the higher verbal projections, cannot be assigned to the internal argument of the complement. Consequently, the VoiceP analysis justifies the unavailability of the crossed control reading in the active voice structure. Most importantly, his analysis yields the correct word order and all the syntactic properties of Sundanese CCC can be explained with this VoiceP analysis, rendering this analysis as more preferable than other syntactic analyses.
Despite the substantial number of studies on CCC, the examination of Balinese CCC, discussed in the following section, will contribute towards a more comprehensive cross-linguistic coverage of this particular construction.

5.4. **THE SYNTAX OF BALINESE CCC**

In this section, I attempt to describe the characteristics of Balinese CCC in comparison to the properties of CCC in other Austronesian languages. Among the properties discussed are the subject property of the clause-initial DP, the restrictions on voice alternation, imperative formation, and elements inserted between the matrix verb and the embedded verb. Another characteristic described in this section is the binding relation between the matrix subject and the *by*-phrase in the embedded clause. Afterward, I offer an analysis on the syntactic formation of the Balinese CCC, by adopting the VoiceP analysis, following Kurniawan (2013).

5.4.1. **Subject test**

To start, I apply the clefting test to check if the clause initial-DP in Balinese CCCs has the same subject property as its CCC counterparts in other languages.


    banana-DEF REL harvest-PV by DET Wayan IMPERF AV.ripe

    ‘The bananas that were harvested by Wayan are not ripe yet.’

b. [Biu-né ané engsap alap-a tekén I Wayan] suba berek.

    banana-DEF REL forget harvest-PV by DET Wayan PERF rot

    ‘The bananas that Wayan forgot to harvest are already rotten. (Lit: The bananas that were forgotten to be harvested by Wayan are already rotten.)’
The sentences in (30) show that the clause-initial DP in the Balinese CCC (30b) has the same behavior as the surface subject in the monoclausal construction (30a) because it can be clefted.

5.4.2. Selectional restrictions

The CCC predicates have unorthodox characteristics that separate them from regular Subject Control predicates. As discussed in Chapter 3, verbs belonging to the CCC group may take inanimate non-Agent arguments as their subjects when the embedded clause is in a PV or an OV structure. Based on the grammatical judgments of the informants during fieldwork, the Control predicates included in this CCC category are *edot ‘want/desire’, *nagih ‘want/ask’, *engsap ‘forget’, *bani ‘dare’, and *nyak ‘willing’. The comparison between CCC, SC, and Raising predicates can be seen in (31).

31. Loloh-é pait ento nyak / *demen / buung [ __ daar-a]
    herbal.medicine-DEF bitter DEM be.willing like cancel eat-PV
    tekén I Ayu.
    by DET Ayu

    ‘The bitter herbal medicine agreed / *liked / cancelled to be drunk by Ayu.’

As shown above, only the SC predicate *demen ‘like’ is not possible in the construction in (31) because it cannot appear with an inanimate argument. Both the CCC predicate *nyak ‘be willing’ and the Raising predicate *buung ‘cancel’ can take an inanimate argument as its subject. Notably, this characteristic of the CCC predicate *nyak ‘be willing’ resembles the Raising predicate *buung ‘cancel’.
In spite of its conformity with the property of Raising predicates, these CCC predicates still have the attribute of Control predicates that corresponds to thematic relations: they require the presence of at least one animate DP to which they can assign their Experiencer role. Observe the construction in (32).

   Rock-DEF want plan continue AV-roll down fall
   ‘The rock *wanted to / *planned to / continued to roll down / fall.’

Because the CCC predicate *edot ‘want’ and the SC predicate makeneh ‘plan’ assign a theta role to their external argument, they cannot take an inanimate argument as its subject when the embedded verb is unergative (ngelilik ‘roll down’) or unaccusative (ulung ‘fall’). Only the aspectual Raising verb terus ‘continue’ is plausible in this construction. All things considered, the CCC predicates do not fit the pattern of typical complementation commonly found crosslinguistically, as they have mixed properties between Control and Raising predicates.

Nonetheless, there are some differences among the CCC predicates. In (33), the predicate nagih ‘want’ can take a nonvolitional PP argument, while other CCC predicates like *edot ‘desire’ and *nyak ‘agree/willing’ cannot.

   car-DEF DEM want desire agree OV.wash.off-APPL flood
   ‘The car is going to be washed off by the flood. (Lit: The car wanted to be washed off by the flood.)’

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In this case, *edot* and *nyak* conform to the properties of CCC predicates in other languages as discussed previously, while *nagih* seems to have a different interpretation in this sentence. Instead of a desiderative meaning, an immediate future or progressive meaning can be inferred from the predicate *nagih*, parallel to the analysis of the Indonesian wanting verb *mau*.

### 5.4.3. Voice alternation

As pointed by Polinsky & Potsdam (2008), Nomoto (2008) and Kurniawan (2013), the CCC predicates cannot be passivized because many of them are bare verbs. This characteristic is also true for Balinese CCC predicates because none of the predicates that can have a CCC interpretation do have voice alternation. Most of them are bare predicates, while those that have the AV/OV/PV alternation in monoclausal sentences cannot be passivized in the biclausal structure. For instance, the monoclausal sentences in (8) show the verb *nagih* ‘ask/want’ in its AV form (8a) and OV form (8b).

34. a. Cang nagih-in I Ayu pipis.

   1 AV.ask-APPL DET Ayu money

   ‘I asked Ayu for money.’

b. I Ayu tagih-in cang pipis.

   DET Ayu OV.ask-APPL 1 money-DEF

   ‘I asked Ayu for money.’

When *nagih* selects a clausal complement, however, it cannot be passivized, nor can it appear in the OV form. This is shown in (35). As can be seen below, only the AV form of the main verb is licensed in both normal control (35a) and CCC (35b).
35. a. *Ia nagih ng-idih konyong sik aga-né, …… (SS-5)*

3 want AV-get puppy at neighbor-POSS

‘He wanted to get a puppy at his neighbor, ……’

b. *Wiréh konyong ané nagih idih=a enu cerik buin-a tondén so puppy REL AV.want OV.ask-3 still small also-3 not.yet kedat. open.eyes

‘So, the puppy that he wanted to get was still small and cannot open its eyes yet.’

In (35a), the controller is the third person pronoun *ia*, the subject of the main clause. Here, the embedded verb is in AV form. Note that in (35b) the verb in the lower clause is in OV form, while the verb in the higher clause has the same form as in (35a). However, the controller in (35b) is not the DP preceding the main verb *nagih*, but rather the same Agent that was mentioned in the normal Control construction in (35a), represented by the third person clitic *=a*.

5.4.4. **Imperative formation**

Another property of the CCC that is attested crosslinguistically is its limitation in the formation of imperative sentences (Polinsky & Potsdam, 2003; 2008; Kurniawan, 2013). The same trait applies to the Balinese CCC. The imperative sentence with the CCC verb *nyak* ‘agree’ in (36) is rendered unacceptable. The speaker cannot order the listener to agree to the proposition.
36. *Nyak daar loloh-é pait ento!

   Agree OV.eat herbal.medicine-DEF bitter DEM

   ‘Agree to drink that bitter herbal medicine!’

This characteristic distinguishes CCC predicates from other Control predicates because canonical Control constructions can undergo imperative formations. Imperative SC and OC constructions are given in (37) and (38) respectively.

37. Tegarang baca buku-né malu!

   OV.try read book-DEF first

   ‘Try to read the book first!’

38. Tunden beli-né nuduk jemuhan!

   OV.order older.brother-DEF AV.take laundry

   ‘Tell (your) older brother to take the laundry in!’

These examples show that Balinese has the same behavior as Malagasy. However, it is important to note that only SC predicates that have the applicative suffix, i.e. *negarang ‘try’ and *nughtugang ‘continue’, can occur in imperative constructions, while other subject Control verbs cannot form an imperative. The imperative can be formed when the applicative suffix is attached to the Subject Control predicates, as shown in the following.

39. Inget-ang naar loloh-é!

   remember-APPL AV.eat herbal.medicine-DEF

   ‘Remember to drink the herbal medicine!’
The imperative reading cannot be acquired when *inget* ‘remember’ stands on its own without –*ang*. Furthermore, Balinese differs from Malagasy because the matrix verb is not in the active form, but rather is in its bare form.

5.4.5. **Intervening elements**

When an element is inserted between the matrix verb and the embedded verb in the CCC, the crossed control meaning cannot be maintained. In Indonesian, the complementizer *untuk* ‘for’ cannot be inserted between the two predicates (Polinsky & Potsdam, 2008; Arka, 2014). In Malay, however, while the complementizer *supaya* ‘so that’ is not acceptable, the complementizer *untuk* ‘for’ is licensed (Nomoto, 2008).

In the Balinese CCC, when the complementizer *apang* ‘so that’ intervenes between the verbs in (40), the only reading that can be derived is the normal control reading (i), in which the subject of the matrix clause *anaké cerik ento* ‘that child’ receives the Experiencer role from the matrix verb *nagih* and controls PRO, which has the Theme role assigned by the embedded verb.

40. Anak-é cerik ento, nagih [apang ___ sangkol-a tekén mémé-n-né].

Person-DEF child DEM want COMP carry-PV by mother-POSS DEF

i. ‘That child wanted to be carried by his mother.’

ii. * ‘The mother wanted to carry that child.’
The presence of the complementizer *apang* ‘so that’ in (40) blocks the the CCC interpretation (ii), where the PP-Agent *tekén méménnë* ‘by the child’s mother’ is the Experiencer argument of the matrix verb *nagih* ‘want’.36

Furthermore, similar to the Indonesian and Madurese CCC, a temporal auxiliary is not accepted in the embedded clause of the Balinese CCC, as shown in (41). Compare the CCC sentence with the SC example in (42). In the latter construction, the future auxiliary can be inserted into the clausal complement following the verb *bani*.


   house-DEF haunted DEM dare FUT dead-APPL-PV by RED-youth-DEF

   ‘The haunted house dares to be entered by the young people.’

36 Arka (personal communication, February 22, 2018) suggests that there is a correlation between the shorter distance of the matrix and embedded verbs with the direct control over the realization of event expressed in the clausal complement. Note that the term ‘control’ being used here is not the same as the term ‘control’ used in frameworks such as Minimalism, where it refers to the syntactic relation which gives a reference to the null subject (PRO) by supplying its unvalued φ-features with the value of the φ-features of its controller. Instead, the term ‘control’ used here refers to the everyday sense of agentivity that a given entity has over the realization of a given event.

Arka supported his observation based on the fact that the matrix subject has less control over the realization of the embedded verb when the embedded verb is in passive voice; hence the intervening overt complementizer *apang* may appear, as in (i). However, when the embedded verb is in active voice, the matrix subject has a direct control over the action described in the clausal complement. Thus, the insertion of *apang* in (ii) resulted in semantic ill-formedness.

i. Ia edot [apang diman-a teken 1 Ketut].
   3 want COMP kiss-PV by DET Ketut
   ‘S/he wanted so that (s/he) be kissed by Ketut.’

ii. Ia edot [ (#apang) niman 1 Ketut].
    3 want COMP AV.kiss DET Ketut
    ‘S/he wanted to kiss Ketut.’

Therefore, Arka concludes that CCC requires a compact structure in which there is a ‘harmonious’ role of agency and voice of the matrix and embedded verbs (Arka, 2014).
42. Jani Wayan ba bani lakar ngalahin Ibu. (PKN-18)

now Wayan PERF dare FUT AV.leave mother

‘Now, you already have the courage to leave me. (Lit: Now, Wayan already
dare to leave Mother.)’

Sentence (41) is considered ill-formed because the Experiencer role cannot be assigned to
the PP-Agent in the embedded clause due to the presence of lakar. Because the matrix
subject is a non-volitional argument, it does not fit with the selectional restrictions of the
Experiencer role assigned by the main verb bani ‘dare’. Without lakar, the sentence is
deemed acceptable as the PP-Agent tekén bajang-bajangé is understood to be the receiver
of the Experiencer role from the verb bani ‘dare’.

5.4.6. Binding

Recall that the oblique Agent in Balinese passive monoclusal constructions cannot
bind a reflexive subject. The same applies to the passive clausal complements in Balinese
CCC. Yet, the reflexive déwékné padidi ‘himself (Lit: his own body)’ in the Balinese CCC
sentence (43) can be bound by the third person Agent clitic, but only when the embedded
clause is in Object Voice.

43. Déwék-né padidi, nagih tebek=a;

Body-POSS self want OV.stab=3

‘Gedé wanted to stab himself.’

The binding of the reflexive in the subject position suggests a smaller structure for
the complement in CCC. This binding fact indicates that the reflexive in the CCC is
generated inside the VP before it moves up to the specifier position of the lower Voice
projection, and then the higher Voice. Therefore, there is a c-commanding relationship between the reflexive and the third person Agent that is originated higher than the reflexive: in the Spec,vP.

The same binding relation does not apply to the standard SC construction, which is exemplified in (44).

44. *Déwék-né padidi; makeneh pabalih=a di tipi-né.

Body-POSS self plan OV.watch=3 at television-DEF

‘He planned for Wayan to watch him in the television. (Lit: He, himself, planned to be watched by Wayan in the television.’

This sentence is considered unacceptable because the reflexive preceding the main verb cannot have the same reference as the Agent in the embedded clause. The binding relation between the reflexive and the third person Agent is not possible in the SC construction because the reflexive is c-commanded by PRO, not by the DP originating in the matrix clause. Hence, this evidence from canonical Control constructions supports the suggestion that the complement in CCC has a smaller size compared to the SC complement in order to allow the binding of the reflexive in the subject position.

5.4.7. The syntactic structure of Balinese CCC

The properties of Balinese CCC, summarized in (45), appear to correlate with the properties of CCC in other languages.

45. The syntactic properties of Balinese CCC:

a. The clause initial DP behaves like the subject of a monoclausal construction.
b. The CCC predicates require a volitional and/or animate argument to receive its external theta-role (except for the predicate *nagih* ‘want’).

c. The CCC predicates are bare predicates and cannot be passivized.

d. Imperative formation is not possible in CCC.

e. Intervening elements, such as overt complementizer and temporal auxiliaries, block the CCC reading.

f. A reflexive in the matrix clause can be bound by the Agent in the embedded clause with OV structure.

Based on the properties of the Balinese CCC described above, we can conclude that the clausal complement in Balinese CCC has a small structure because when there is an intervening element, such as a complementizer or temporal auxiliary, the external theta role can only be assigned to the external argument, which may result in normal control reading or semantic ill-formedness if the DP subject is inanimate and/or nonvolitional. This fact corresponds to previous analyses that unvaryingly propose a verbal projection of some sort as the structure of the clausal complement in CCC.

Davies et al. (2013) applied Kurniawan’s VoiceP analysis to three Austronesian languages, i.e. Madurese, Sundanese, and Balinese. The VoiceP structure can account for the characteristics of CCC in these three languages. Specifically for Balinese, the VoiceP structure works well for the binding of a reflexive by the Agent of an OV embedded verb. First, the Agent, an external argument of the embedded verb, c-commands the reflexive that is generated as the internal argument inside the VP, which explains the binding relation. The reflexive undergoes object shift to the outer specifier of vP to receive its
specific interpretation. The structure of the Balinese CCC sentence (46a) can be found in (46b).

46. a. Déwék-né padidi nagih tebek=a.

body-POSS self want OV.stab=3

‘He wanted to stab himself. (Lit: Himself, he wanted to stab.)’

b. The syntactic structure of Balinese CCC.

In this structure, the reflexive déwék-né padidi first merges as the internal argument of the lower verb tebek ‘stab’, which is subsequently bound by the third person pronoun
ia, the external argument. These two DPs check the theta features within the lower vP. The external argument ia then attaches to the verb tebek as a clitic, once the verb moves to Voice head. Motivated by the EPP on Voice, the reflexive moves to Spec,VoiceP. The VoiceP then merges with the matrix predicate nagih ‘want’ and satisfies its [Iθ] feature. The outermost DP within the lower VoiceP then moves to the specifier position of the higher VoiceP due to the EPP on Voice. Because the [Eθ] of the verb is still not satisfied, it is inherited by the lower VoiceP and is assigned to the third person clitic; thus deriving the CCC interpretation.

This VoiceP structure and the feature-inheritance concept can explain the reflexive binding property of CCC and the external theta role assignment of the matrix predicate to the argument inside the embedded clause. Nonetheless, there is still an issue of how the matrix predicate assigns its external theta role to an oblique Agent inside a passive CCC complement. An agree relation between the lower Voice head and the PP-Agent cannot occur because the Voice head does not c-command the PP-Agent, which may adjoin to any projection in the derivation. Consequently, the [Eθ] feature of the matrix predicate is still not satisfied. However, because the passive suffix –a has been claimed to be derived from the third person clitic, we can posit that the inherited [Eθ] is checked by this passive suffix, which in all likelihood corefers with the closest third person PP-Agent. Evidence for this assumption is provided by the ka- passive.

I have described in Chapter 2 that the ka- prefix is deemed to be the ‘true’ passive because it can have the first, second, and third person argument as the Agent of the verb, unlike the verb with –a passive that can only have the third person Agent. However, the ka- passive is not compatible with the third person PP-Agent in a CCC, as shown in (47).

door-DEF forget PV-lock by DET father

‘I forgot to lock the door. (Lit: The door is forgotten to be locked.)’

In chapter 2, I also mentioned that when the Agent argument is implicit, the default interpretation of the ka- passive is the first person Agent. The CCC in (47) can only be interpreted as *I forgot to lock the door*. Therefore, I claim that these Balinese passive affixes can check the [Eθ] feature inherited from the higher vP, because they have a close association with the oblique Agent, in which the ka- prefix represents first (or second) person Agent and the –a suffix is the realization of third person Agent.

Another issue that emerges in relation to the feature-inheritance concept is that Sato & Kitada (2012), as well as Kurniawan (2013), fail to discuss whether this [Eθ] feature can optionally stay in the higher verbal projection and be assigned to the raised DP. If we assume so, then the ambiguity of this CCC can be explained. Aside from this enigmatic theta role assignment, the VoiceP structure for the CCC complement is so far the best available analysis that can account for the surface word order and the syntactic properties of the Balinese CCC described previously.

In the next section, I provide several examples of the Balinese CCC found in discourse contexts and raise the questions of how ambiguous Balinese CCCs are processed cognitively, which may shed light on the structure of the complements within CCC sentences.
5.5. **THE (UN)AMBIGUITY OF BALINESE CCC**

Polinsky & Potsdam (2003, p. 17) state that the CCC in Malagasy is “subject to dialectal variation” because not every speaker considers this construction possible. Despite their limited occurrence, CCCs in Balinese are attested since they are found to occur in the discourse, as given in (48) and (49e).

48. Cang nagih [sarapa tekén buron sakti totonan].

   1sg want attack.PV by animal powerful that

   i. ‘That animal with magical power wanted to attack me.’

   ii. *‘I wanted to be attacked by that animal with magical power.’

Observe that in (48), even though the clause-initial DP and the clause-final PP argument are both animate, only the crossed control interpretation is available. From this sentence, we can assume that the semantics of the embedded verb and the argument(s) influence speakers’ interpretations because the PP-Agent *buron sakti totonan* ‘that powerful animal’ fits the external theta role of the matrix and embedded predicates. The animal is the one who wanted to attack a person, not the other way around where the person has the desire to be attacked by a powerful animal.

(49e) is an example of ambiguous CCC found in a short story (PKN-38). Contexts are included here (49a-d) because they are crucial for the ambiguity resolution.

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37 Sentence (48) is taken from the short story *Kambing Takutin Macan* ‘The goat is feared by the tiger’ in a book titled *Kambing Takutin Macan* ‘The goat is feared by the tiger’.
49. a. Adi kenken ma-kebyet inget ma-lali sik-ne ibu kos
   why how INTR-flash remember AV-visit at-POSS mother dorm
   waktu iya nu bajang.
time 3 still young
   ‘Out of nowhere, she remembered (the landlady) and visited the landlady
   of the dorm (where she stayed) when she was young.’

b. Ibu kost to suba cara Meme saja,
mother dorm that PERF like mother real
   ‘The landlady was like her own mother.’

b. Ibu kost to suba cara Meme saja,
mother dorm that PERF like mother real
   ‘The landlady was like her own mother.’

c. ditu Marini cerita tentang ke-ada-an-ne,
   there Marini OV.story about NOML-exist-NOML-POSS
   ‘There, Marini told the story about her condition.’

d. kendel bagia keneh-ne Marini ada ne nulungin,
   pleased happy mind-POSS Marini exist REL AV-help
   ‘Marini was pleased and happy that somebody would help her,’

e. nyak tampung=a, milu sik kosanne…
   agree OV.take.in=3 follow at dorm-NOML-POSS
   i. ‘(Marini) agreed to be taken in, and (Marini) stayed at the (landlady’s)
      dormitory.’ \(\rightarrow\) normal control interpretation
   ii. ‘(The landlady) agreed to take (Marini) in, and (Marini) stayed at the
      (landlady’s) dormitory.’ \(\rightarrow\) crossed control interpretation

In this story, a girl called Marini got pregnant outside of marriage. Her boyfriend did not
want to take responsibility, and her parents threw her out. Therefore, she was in bad
circumstances, having nowhere to go, until she visited the landlady who owned the dorm where she used to live. Sentence (49d) expresses how happy she was that somebody (i.e. the landlady) would help her. The purportedly ambiguous CCC follows in (49d), which means ‘agree to be taken in’. Note that this sentence only consists of the matrix verb nyak ‘agree/willing’ and the embedded verb tampung ‘take in’, but the matrix subject Marini can be inferred from the previous sentences, while the third person clitic corefers to the aforementioned landlady. Within this context, this sentence has the crossed control reading where the landlady receives the Experiencer role from the matrix verb, since she was the one willing to help Marini by taking her in.

The ambiguous interpretation of CCC without context, however, is hard to extract during elicitation because the language informants who I consulted had a preference for the normal control reading over the crossed control reading. For instance, if we extract the last sentence from (49) to stand on its own in (50), the interpretation preferred is of Marini as the agreeing party, which means that she was not too excited about the prospect of living in that particular place, but she had no other choice.

50. Marini nyak tampung=a (ditu).
    Marini agree OV.take.in=3
    ‘Marini agreed to be taken in (there).’

The fact that most of the elicited CCCs are considered unambiguous raises the question of which SC predicates can be grouped as CCC predicates. An experiment in which the context is manipulated might provide an answer to this question.
In addition, some speakers deemed CCC sentences with the inanimate and/or nonvolitional DP subject in (51) to be ungrammatical, while others deemed such sentences as acceptable, although not preferable.


   house-DEF haunted DEM dare dead-APPL-PV by RED-youth-DEF

   ‘The haunted house dares to be entered by the young people.’

How do we know that the judgment of the speakers who deemed CCC sentences with an inanimate matrix subject to be acceptable is objective and not being influenced by other factors, such as fatigue or the desire to agree with the researcher (whom they might consider to have more knowledge)?

Sentence processing studies have found that semantic content has an immediate effect on the processing of the following verb. For example, Ferreira & Clifton (1986) and Trueswell et al. (1994) found an increase in the reading time of verbs which semantically select an animate/volitional external argument, when the verbs are preceded by an inanimate/nonvolitional DP. Therefore, experiments similar to these sentence processing studies may help us understand the nature of these predicates. The following chapter contains descriptions of two sentence processing experiments on Balinese CCC, SC, and Raising constructions, in which the animacy of the subject and the discourse context are manipulated.
CHAPTER 6. THE COGNITIVE PROCESSING OF BALINESE CCC

6.1. RATIONALE

The aim of sentence processing studies is to understand how human’s brain processes language. Ambiguous sentences are used in numerous sentence processing studies because they have several possible structures. Consider the ambiguous sentences in (1) and (2) used in the experiment conducted by Rayner et al. (1983).

1. *The lawyer sued for damages* lost the lawsuit due to technicality.
2. *The spy saw the cop with binoculars* but the cop didn’t see him.

The italicized phrase in (1) is an example of a temporarily ambiguous sentence as it can have a main clause reading or a reduced relative clause reading. The main clause interpretation must be discarded once the parsers read or hear the main verb *lost*. (2) is an example of ambiguous PP attachment. First, the PP *with binoculars* can be attached to the verb phrase *see* and interpreted as an instrument. Second, it can be understood as a modifier of the NP *the cop*. Swets et al. (2008) refer to this kind of sentence as a “globally ambiguous” sentence that does not have disambiguating information within the sentence.

The parsers of ambiguous sentences are compelled to reconsider the structure they have chosen once they receive disambiguating information. Hence, the processing of linguistic elements can be observed separately in order to evaluate whether parsers process the sentence they hear or read incrementally starting from the smallest unit (e.g. phonemes), or holistically through the interaction of all available information.

As described in Chapter 3 and 5, the ambiguity in Crossed Control Construction (CCC) is generated by the fact that the matrix predicates can assign the Experiencer or the
Agent role to one of the two animate arguments: (1) to the noun phrase preceding the verb in the main clause, deriving the normal control interpretation, (2) to the prepositional phrase following the verb in the embedded clause, deriving the crossed control interpretation.

3. **Jogédé buang ento** nagih [ _; gelut-a tekén anaké ngibing].

   Dancer-DEF promiscuous DEM want hug-PV by person.DEF follower

   \[\text{Experiencer or Wanter}\]

   *Normal Control (NC) interpretation:* ‘The promiscuous dancer wanted to be hugged by the follower (the person who danced with her).’

4. **Jogédé buang ento** nagih [ _; gelut- tekén anaké ngibing].

   Dancer.DEF promiscuous DEM want hug-PV by person.DEF follower

   \[\text{Experiencer or Wanter}\]

   *Crossed Control (CC) interpretation:* ‘The follower wanted to hug the promiscuous dancer.’

Since ambiguity in CCC arises due to different possibilities in thematic role assignment, the manipulation of constraints related to the semantics of the predicates may provide information for how the ambiguity in CCC is processed and resolved. We can expect that if the subject in such a construction does not fit the animacy requirement for the Experiencer or the Agent role, the ambiguity can be resolved promptly. This expectation is supported by Kaswanti Purwo’s claim (1984, pp. 75-76) that only the CCC interpretation is possible when the matrix subject is inanimate.
In addition, the subject animacy test (§ 3.5.3) shows that CCC predicates, a subset of Subject Control (SC) predicates, have an in-between property. They may assign a theta role to their animate subject analogous to SC verbs; yet, they can also take an inanimate Theme argument akin to Raising predicates. Hence, it is necessary to compare the processing of these three types of verbs to find evidence that may shed light on the syntactic structure of CCC and how it contrasts with the structure of SC and Raising constructions.

Furthermore, there have not been many studies conducted to investigate the processing of Control and Raising constructions. The few studies available in literature, which are discussed in section 6.3.2, are mainly examining the effect of animacy in the processing of English Raising and Control constructions. Therefore, a study on the effect of animacy in the processing of Balinese SC, Raising, and CCC constructions may provide a significant contribution towards the literature on the cognitive processing of biclausal constructions.

Another essential point to explore is how context influences the processing of CCC sentences with two animate arguments. The ambiguity of these sentences is not resolved when they occur independently of context because there is no disambiguating region within the sentences. Therefore, it is crucial to examine how Balinese native speakers interpret these ambiguous sentences in a null context and within a discourse context in order to identify how they tend to interpret them. Consequently, it may help us understand how the readers determine the structure of the CCC sentences.

The experiments presented in this chapter focus on the process of resolving the ambiguity of CCC sentences through the manipulation of semantic and discourse elements. Section 6.2. summarizes contemporary sentence processing theories. Section 6.3. outlines
the self-paced reading experiment that examines the role of subject animacy in the processing of CCC, Raising, and SC constructions, whereas section 6.4. describes the second experiment that focuses on the interpretation of CCC sentences when the discourse context is manipulated. The conclusion and limitations of this study are presented in Section 6.5.

6.2. SENTENCE PROCESSING THEORIES

Two competing models in sentence processing are the autonomous model and the interactive model. The autonomous model has a “modular view” (Fodor, 1983) in which phonological and lexical processing occur before syntactic processing, and syntactic processing happens before the higher linguistic levels such as semantic and discourse components. One representation of the autonomous model is the garden-path theory (Frazier & Rayner, 1982; Rayner, Carlson, & Frazier, 1983; Clifton, Jr. & Ferreira, 1989). This theory assumes that in processing a syntactically ambiguous sentence, readers initially commit to the simplest syntactic structure. Non-syntactic information, such as semantic or pragmatic information, is not initially consulted when readers construct the syntactic representation (Ferreira & Clifton, 1986). Once the readers reach a disambiguating region, then they have to discard their initial analysis and generate a more fitting analysis. The non-syntactic information is eventually used in this reanalysis process.

The interactive model promotes sentence processing as an operation that involves the interaction of all components. A constraint-based theory is one of the theories based on the interactive model; it assumes that “different constraints provide evidence in support of partially activated alternatives” (Spivey-Knowlton, Trueswell, & Tanenhaus, 1993, p. 280). In other words, the parsers initially have access to all possible syntactic structures
and they utilize syntactic, semantic, and discourse inputs before committing to one syntactic structure (Taraban & McClelland, 1988; Altmann & Steedman, 1988). According to this interactive model, parsing difficulty occurs because the parsers are facing “inconsistent evidence, or when a structure is of low probability” (Trueswell, Tanenhaus, & Garnsey, 1994).

Support for the garden-path theory is provided by the results of Ferreira & Clifton’s (1986) experiment. In this experiment, Ferreira & Clifton compared the processing of syntactically ambiguous reduced relative clauses with their unambiguous counterparts, as shown in Table 4. The reduced relative clauses in Table 4 have a temporary ambiguity, as the ambiguity is resolved once the readers reach the by-phrase (e.g. *by the lawyer*) and the verb (e.g. *turned out*). By manipulating the animacy of the head NP, Ferreira and Clifton controlled the semantic content; therefore, they could determine whether the readers used non-syntactic information early in interpreting syntactically ambiguous sentences. The presence of the disambiguating syntactic information *that* in the unreduced relative clause allows them to assess the use of the syntactic component in readers’ on-line processing.

<table>
<thead>
<tr>
<th>Ambiguity condition</th>
<th>Animacy condition</th>
<th>Sentences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambiguous – reduced relative clause</td>
<td>Animate NP</td>
<td>The defendant examined by the lawyer turned out to be unreliable.</td>
</tr>
<tr>
<td></td>
<td>Inanimate NP</td>
<td>The evidence examined by the lawyer turned out to be unreliable.</td>
</tr>
<tr>
<td>Unambiguous – unreduced relative clause</td>
<td>Animate NP</td>
<td>The defendant that was examined by the lawyer turned out to be unreliable.</td>
</tr>
<tr>
<td></td>
<td>Inanimate NP</td>
<td>The evidence that was examined by the lawyer turned out to be unreliable.</td>
</tr>
</tbody>
</table>

Table 4. A sample set of target items from Ferreira & Clifton (1986)
They found that animacy has a significant effect in the verb region, as the verbs following inanimate NPs have a longer reading time (henceforth RT) compared to when the preceding NP is animate. However, there is no interaction between animacy and relative clause type, since they did not find a significant difference between the RTs in the by-phrase region of the reduced relative clauses in the two animacy conditions. Ferreira & Clifton interpret these results as indicating the ineffectiveness of semantic information, i.e. animacy, in ambiguity resolution. Furthermore, they found that only the presence of the disambiguating syntactic element *that* significantly increased the participants’ RT on the disambiguating by-phrase region in both animate and inanimate unreduced relative clauses. Hence, Ferreira & Clifton assume that syntactic information is processed independently of semantic content.

Nevertheless, Trueswell et al. (1994) made a case against Ferreira & Clifton’s findings by pointing out some problems with their experimental design, in addition to advocating for the interactive model over the autonomous model. They pointed out that the main problem with Ferreira & Clifton’s stimuli was that half of the inanimate arguments may get the main clause reading up to the verb as an instrument, e.g. “The car towed…”, or as the subject of an ergative verb, e.g. “The trash smelled …” (1994, p. 289). Therefore, Trueswell et al. reconstructed the experiment with several modifications.

In their first experiment, Trueswell et al. created target items with inanimate noun-verb combinations that will not easily get a main clause bias. They also had two groups of target sentences. The first group was similar to Ferreira & Clifton’s target items given in Table 4, which has morphologically ambiguous verbs (regular verbs). The second group,
exemplified in Table 5, consists of target sentences with irregular verbs which are
morphologically unambiguous, but animacy is not manipulated in this second group.

<table>
<thead>
<tr>
<th>Verb type – Noun type</th>
<th>Clause type</th>
<th>Sentences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irregular verb -</td>
<td>reduced</td>
<td><em>The poster drawn by the illustrator</em> was</td>
</tr>
<tr>
<td>Inanimate NP</td>
<td></td>
<td>used for a magazine cover.</td>
</tr>
<tr>
<td></td>
<td>unreduced</td>
<td><em>The poster that was drawn by the illustrator</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>was used for a magazine cover.</td>
</tr>
</tbody>
</table>

Table 5. Examples of the second group target sentences in Trueswell et al. (1994)

Contrary to Ferreira & Clifton’s findings, Trueswell et al. found that the semantic
content of the preceding NP had an influence in ambiguity resolution because the RT on
the *by*-phrase region significantly decreased when the NP was inanimate in reduced relative
clauses. Thus, their results support the constraint-based approach or the interactive model,
in which animacy acts as a pre-ambiguity cue and the *by*-phrase as a post-ambiguity cue.
Furthermore, they found that animacy influenced the RT on the verb regions for both
regular and irregular verb types, but not on the *by*-phrase region because the RT for reduced
and unreduced relative clause with inanimate NP did not differ significantly. They claim
that this processing difficulty was generated by semantic mismatch, not by syntactic
ambiguity, as suggested by Ferreira & Clifton.

Apart from semantic information, many studies also explore the effect of pragmatic
and discourse information on ambiguity resolution. For instance, Spivey-Knowlton et al.
(1993) investigated the effect of Referential Noun Phrase context on the ambiguity of
reduced relative clauses. In their Experiment 1, they manipulated two variables: (1)
reduced and unreduced relative clauses, and (2) the number of NPs that had the potential
to be the referent for the target NP, i.e. the NP that headed a relative clause. Because the
function of a relative clause is to distinguish one particular entity from the others, they
postulated that when there were two possible referential NPs, then the readers’ interpretation would be biased toward the reduced relative clause. However, when there is only one possible referent for the target NP, it means that the entity is unique; thus, priming for the main verb reading. The following Table 6 contains examples of stimuli and target sentences in their Experiment 1.

<table>
<thead>
<tr>
<th>Context</th>
<th>In the visiting room, two prisoners began yelling at each other. To prevent a fight, the guard removed one of the prisoners from the room but not the other.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-NP</td>
<td>In the visiting room, a prisoner and a visitor began yelling at each other. To prevent a fight, the guard removed the prisoner from the room but not the visitor.</td>
</tr>
<tr>
<td>Target sentence</td>
<td><strong>Reduced relative clause</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Unreduced relative clause</strong></td>
</tr>
</tbody>
</table>

Table 6. A sample set of stimuli from Spivey-Knowlton et al. (1993)

The results of this experiment show that readers parsed reduced relative clauses faster when the preceding discourse contained two possible referential NPs compared to the 1-NP context. Furthermore, the RTs for reduced and unreduced relative clauses were not significantly different in the 2-NP context, but a main effect of reduction was found in the 1-NP context. These results indicate that referential context has an immediate effect on the ambiguity resolution for reduced relative clauses, as readers anticipated the relative clause reading when there was a set of potential referents in the discourse despite the absence or the presence of the relative pronoun, providing evidence in support of the constraint-based theory.
On the contrary, opposing results were obtained by Clifton & Ferreira (1989), who examined how context is used in resolving the temporary ambiguity of PP-attachment. Table 7 contains a sample of contexts and target sentences in Clinton & Ferreira’s experiment.

<table>
<thead>
<tr>
<th>Sentence</th>
<th>VP-attachment</th>
<th>NP-attachment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context 1</td>
<td>A burglar planned to blow open a safe.</td>
<td>A burglar planned to blow open a safe.</td>
</tr>
<tr>
<td>Context 2</td>
<td>Once inside the bank he saw that there was a safe which had a new lock and a strongbox which had an old lock.</td>
<td>Once inside the bank he saw that there was a safe which had a new lock and a safe which had an old lock.</td>
</tr>
<tr>
<td>Context 3</td>
<td>The burglar was carrying some dynamite.</td>
<td>The burglar was carrying some dynamite.</td>
</tr>
<tr>
<td>Target sentence</td>
<td>He blew open the safe with the dynamite and made off with the loot.</td>
<td>He blew open the safe with the new lock and made off with the loot.</td>
</tr>
<tr>
<td>Context 5</td>
<td>He escaped in a stolen car.</td>
<td>He escaped in a stolen car.</td>
</tr>
</tbody>
</table>

Table 7. Sample from Clifton & Ferreira (1989)

As can be seen from Table 7, the context that is appropriate for the VP-attachment reading mentions only one safe with a new lock, whereas the context that primes for NP-attachment introduces two safes and one of them has a new lock. They utilized crossover design where each of the VP-attachment and NP-attachment target sentences were presented in both contexts, creating four combinations of context and target sentences. They expected that the reading time in the PP region (e.g. *with dynamite/with the new lock*) of the VP-attachment sentence would be longer when the context primes for NP-attachment because the referential context information is inconsistent with the syntactic structure. Nonetheless, they found that there was no significant difference between the reading time
of the target PP across the four combinations. This result suggests that context does not have an influence over syntactic processing; thus, the result is consistent with the prediction of the garden-path theory.

In sum, both garden-path and constraint-based theories are supported by empirical evidence from these studies. In relation to Balinese CCC sentences, the garden-path theory predicts that the animacy of the subject and discourse context will not have an early effect on the ambiguity resolution of these sentences. On the other hand, the constraint-based theory predicts that the subject’s animacy and discourse context can help parsers resolve the ambiguity of CCC sentences immediately.

6.3. **EXPERIMENT 1**

6.3.1. **Goals**

The first purpose of this experiment is to study the on-line processing of a subset of SC predicates which have an in-between property (henceforth CCC verbs). Like other SC verbs, these predicates must have an animate argument to assign the Experiencer role; however, they can also take an inanimate Theme argument as their subject, similar to Raising predicates, and assign the Experiencer role to the PP-argument in the embedded clause. Therefore, this experiment was designed to learn about the interaction of CCC verbs with animacy in comparison to the verbs found in Raising and SC constructions. The second goal of this experiment is to investigate whether the animacy of the subject has an immediate effect on the ambiguity resolution of CCC sentences.
6.3.2. Predictions

There are several available studies in the literature on the processing of Raising and Control constructions, as well as sentence processing studies on the role of animacy in ambiguity resolution that can be used as a benchmark to make predictions for Experiment 1. Bever & McElree (1988), for example, attempted to discover behavioral differences between the anaphoric and nonanaphoric gaps in English complex sentences including passive, Control, Raising, and tough sentences. Studies on English Control constructions mainly revolve around what type of linguistic information is employed by parsers in determining the interpretation for the “gap” between the finite main verb and the non-finite verb in the embedded clause (Frazier, Clifton, Jr., & Randall, 1983; Clifton, Jr. & Frazier, 1986; Boland, Tanenhaus, & Garnsey, 1990). In the following, I discuss in detail the two studies that are related to the semantic restrictions in Raising and Control constructions carried out by Becker (2005) and Tanenhaus et al. (1990).

Becker (2005) explored (in)animacy as one of the potential cues in distinguishing Raising and Control verbs in her fourth experiment. In a paper-and-pencil questionnaire format, she created a list of 40 sentences (8 test items and 32 fillers), with a blank in each sentence that the participants needed to fill in. The target sentences missed a verb, while the fillers missed other lexical categories, e.g. adjectives. The results show that there was a significant effect of the subject’s (in)animacy on participants’ choice of verbs. Participants used Raising verbs more often when the subject was inanimate, while more Control verbs were chosen when the subject was animate.

The effect of (in)animacy in English Control constructions was studied by Boland, Tanenhaus, and Garnsey (1990). They investigated how fast readers used their lexical
knowledge to determine the controller for the silent subject in Object Control complements. They designed a self-paced reading task for their first experiment and manipulated the plausibility of the controller (i.e. volitional versus non-volitional arguments) and the distance between the controller and the silent subject (i.e. interrogative versus declarative), as shown in Table 8.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sentence</th>
<th>Critical word positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implaus-Q</td>
<td>Which horse did the cowboy signal</td>
<td>V1 or N to V2</td>
</tr>
<tr>
<td>Implaus-Decl</td>
<td>The cowboy signaled the horse to surrender to the authorities</td>
<td>V2+1</td>
</tr>
<tr>
<td>Plaus-Q</td>
<td>Which outlaw did the cowboy signal</td>
<td>V2+2</td>
</tr>
<tr>
<td>Plaus-Decl</td>
<td>The cowboy signaled the outlaw</td>
<td>V2+3</td>
</tr>
</tbody>
</table>

Table 8. A sample of a sentence set from Boland et al. (1990)

In this self-paced reading experiment, they found that the reading times (RT) on the V2 and the regions after the V2 were significantly longer when the sentences had a non-volitional argument, which is implausible, as the controller of the silent subject in the embedded clause. Plausibility effects were found on both declaratives and interrogatives. Since it took longer to process a sentence when the preceding NP did not fit thematically with the verb, it indicates that readers immediately utilized their lexical and semantical knowledge in processing Control constructions, particularly when determining the reference for the empty category.

Although these two experiments did not directly compare the processing of Raising and Control predicates in relation to their argument’s animacy, the results from Becker (2005) and Tanenhaus et al. (1990) experiments can be used as the basis for deriving
hypotheses about the reading time of the matrix verbs (V1) in a self-paced reading experiment that involves SC, Raising, and CCC sentences. In predicting the role of animacy in each verb type, we can expect that the RT for SC verbs will be longer when the preceding NP is inanimate since an inanimate subject costs more to process because it does not fit the semantic restrictions of Control predicates. On the other hand, the (in)animacy of the NP preceding Raising verbs will not have a significant effect on the RT of Raising verbs as they do not assign a thematic role to their subject.

It is more difficult to make predictions for the CCC verbs since this is the first study that attempts to investigate the effect of animacy on the parsing of CCC verbs. However, because CCC verbs are a subset of SC verbs, we can expect that they will have the same behavior where the parsing of the verbs when preceded by an inanimate NP will cost more than the parsing of the same verbs with a preceding animate NP.

In relation to the ambiguity of CCC sentences, predictions can be made based on the two sentence processing theories. Both garden-path and constraint-based theories predict that readers will face difficulty in reading the passive embedded verb (V2) in SC, Raising, and CCC because the simplest or the most frequent theta role assignment that readers anticipate in Raising and Control embedded clauses is for the silent embedded subject to receive an Agent role from the embedded verb. Therefore, when the embedded verb is in its passive form, reprocessing must occur due to the reassignment of theta roles, in which the silent subject receives the Theme role and the postverbal PP argument receives the Agent role. We can expect that the RT in the V2 regions for all three constructions will increase. The prediction for the animate condition is that the RT for the V2 region in the ambiguous CCC will be longer than in the unambiguous Raising and SC constructions.
because the parsers have to choose between two possible structures. In regards to inanimacy, the garden-path theory predicts that the inanimate NP subject will not have an effect on the parsing of the embedded verb (V2). On the contrary, the constraint-based theory predicts that inanimacy will influence the RT in V2 regions, in which the RT for the V2 region in CCC is shorter in the inanimate condition compared to the animate condition.

6.3.3. Method

6.3.3.1. Participants

Ninety male and female speakers of Balinese who were 40 years old or older participated in this study for a payment of IDR 40,000 (±USD 3.00). They mainly speak Balinese in daily life. Most of these people had some familiarity with the use of computers as they had received higher education. These participants resided in different areas on the northern part of the island, as shown in Figure 1. The purpose for recruiting participants from different locations in Buleleng Regency is to make sure the data validly represent the northern lowland dialect.
6.3.3.2. Materials

There were two sets of target sentences: Set 1 and Set 2. Each set consisted of 5 sentences with animate preverbal NPs and 5 sentences with inanimate NPs for each verb type (CCC, Raising, and SC verbs). The fillers were complex sentences with predicates from other categories, e.g. Object Control and utterance predicates. Examples of target sentences from CCC verb category are given in Table 9 below. Each sentence contains 11 words with a three-word preverbal noun phrase, a main verb, a passive embedded verb, a three-word prepositional phrase, and a three-word adverbial phrase that provides either manner, place, or time description.

<table>
<thead>
<tr>
<th>Animacy</th>
<th>NP</th>
<th>V1</th>
<th>V2</th>
<th>PP</th>
<th>AdvP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animate</td>
<td>Anaké muani ento</td>
<td>nagih</td>
<td>periksana</td>
<td>tekén dokter-dokteré</td>
<td>di rumah sakit.</td>
</tr>
<tr>
<td></td>
<td>That man</td>
<td>want</td>
<td>examine.PV</td>
<td>by the doctors</td>
<td>at the hospital</td>
</tr>
</tbody>
</table>

*Normal Subject Control reading:* ‘That man wanted to be examined by the doctors at the hospital.’

*Crossed Control reading:* ‘The doctors wanted to examine that man in the hospital.’

<table>
<thead>
<tr>
<th>Inanimate</th>
<th>Alat operasiné ento</th>
<th>nagih</th>
<th>periksana</th>
<th>tekén dokter-dokteré</th>
<th>sakondén mulai operasi.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>That surgery tools</td>
<td>want</td>
<td>examine.PV</td>
<td>by the doctors</td>
<td>before the surgery begins</td>
</tr>
</tbody>
</table>

*Crossed Control reading:* ‘The doctors wanted to examine the surgical tools before the surgery.’

Table 9. A sample of CCC target sentence with animate and inanimate subject

Based on the judgment of my language informants, I included the two desiderative predicates (i.e. *nagih* and *edot*) and *engsap* ‘forget’ in the CCC category because they can have ambiguous interpretations when there are two animate arguments in the sentence and
they can also take an inanimate preverbal NP. I also put bani ‘dare’ and nyak ‘agree’ into the CCC category because they can take inanimate subjects even though they cannot have an ambiguous interpretation when the preverbal NP and the PP argument are both animate. The SC verbs category included the five verbs makeneh ‘intend’, ngekoh ‘lazy/reluctant’, inget ‘remember to do something’, makita ‘want/wish’, and demen ‘like’ because they cannot take an inanimate subject and they do not have an ambiguous interpretation when there are two animate arguments in the sentence. The verbs ngenah ‘appear/seem’, buung ‘cancel’, payu ‘do’, suud ‘stop/finish’, and terus ‘continue’ are included in the Raising category because they can take an inanimate argument and the sentences with these verbs do not have an ambiguous interpretation when there are two animate arguments.

6.3.3.3. Procedures

A self-paced reading task was built using the Super Lab software and was presented to the participants using a Lenovo Yoga i5 laptop with a 11.6 inch screen. In the self-paced reading paradigm, the participants were instructed to read silently at their own pace. Each sentence was presented word-by-word using the moving window technique. At the beginning of each sentence, a number was shown as the fixation point. The participants were asked to push the space button on the keyboard after they finished reading a word. Once they pushed the space button, the word disappeared and another word showed up. To ensure that the participants read the stimuli carefully, they were asked to judge the grammaticality of the sentence using a Likert scale of 1–7, which was shown at the end of each sentence. They had to push one of the number buttons to give their grammaticality judgment. Afterward, a new window appeared with the next sentence.
In the beginning, each participant underwent a training session with 5 example items. Once they understood the instructions and claimed to be ready, they could start the experiment. The participants read 60 sentences, which were divided into four blocks. Each block consists of fifteen sentences. They were allowed to take a break at the end of each block. They were assigned target sentences Set 1 or Set 2 randomly. This experiment lasted for approximately 20-30 minutes for each participants.

6.3.4. Results

In this data analysis, only the RT results in the V1 and V2 regions were considered because the main goal of this experiment is to compare and contrast the parsing of the predicates in the CCC, Raising, and SC constructions as well as to check the role of animacy and thematic role assignment in these biclausal constructions. The V1 and V2 regions each generated 2,700 data points (3 verb categories x 5 verb items x 2 animacy conditions x 90 participants). However, because that the Raising sentence with the verb terus ‘continue’ both had animate subjects in Group 1’s experimental set, the RT data for the terus sentences from group 1 (participants 1 – 45) were collapsed and analyzed as the mean RT of terus in the animate condition. Hence, there are only 2,655 data points for each V1 and V2 region. In addition, before data analysis, I removed 2 data points from the V1 region and 11 data points from the V2 region which were less than 100 ms or greater than 10,000 ms. Therefore, there are only 2,653 data points for V1 region and 2,644 data points for V2 region.

Moreover, following Ferreira & Clifton (1986) and Leal et al. (2016), I adjusted the RT data based on how many characters there are in one lexical item in order to control for the effect of section length. Thus, the length-adjusted RT data presented in this section are
in ms/character unit. The mean RT for the V1 and V2 regions in each verb category with animate and inanimate conditions are presented in Table 10.

<table>
<thead>
<tr>
<th>Verb Type</th>
<th>V1 (ms/char)</th>
<th>V2 (ms/char)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Animate</td>
<td>Inanimate</td>
</tr>
<tr>
<td>CCC</td>
<td>249.77</td>
<td>263.53</td>
</tr>
<tr>
<td>Raising</td>
<td>235.46</td>
<td>225.48</td>
</tr>
<tr>
<td>SC</td>
<td>202.57</td>
<td>228.76</td>
</tr>
</tbody>
</table>

Table 10. The mean RT for V1 and V2 regions

The data from Table 10 indicate that the RTs in the V1 and V2 regions in the three constructions were affected by the animacy of the preverbal NP. When the CCC were in the inanimate condition, the readers needed more time to read the lexical items in the V1 and V2 regions. On the other hand, animacy seems to have the opposite effect in Raising constructions. The inanimate preverbal NP generated shorter RTs in both verb regions, suggesting that it is easier for the readers to parse Raising constructions in this condition. The RT data for the SC results show that the RTs for the V1 region in the inanimate condition are longer than for their animate counterparts. However, the RT data for the V2 regions in SC constructions is shorter when the preverbal NP is inanimate compared to when it is animate.

Following Leal et al. (2016), I analyzed the RT data for each verb region using Linear Mixed Effects Models with the lme4 package in the R environment (Bates, Mächler, Bolker, & Walker, 2012) in this section. The models included verb category and animacy as fixed effects, whereas participants and verb items were considered as random effects. Any t-value above 2 or below -2 is considered to be statistically significant at an alpha
level of p < 0.05. To verify the significance of the models, I also utilized ANOVA tests to do a comparison between the models.

6.3.4.1. RT on the V1 region

In this section, I discuss the effect of animacy and verb type conditions on RT in the V1 region. A significant effect of animacy conditions on the mean RT of the three verb categories was found ($\chi^2(1) = 4.97$, $p = 0.02$), in which the RT on V1 in the inanimate condition is 10.62 ms longer than the RT in animate condition. However, there is no significant effect of verb category on the mean RT in the V1 region ($\chi^2(2) = 3.19$, $p = 0.2$).

The bar graph in Figure 2 illustrates the effect of animacy on each verb type, as RT increases in the inanimate condition for CCC and SC verbs, while RT decreases for Raising verbs in the same condition. Remember that the predictions were for the RT of the CCC and SC verbs in the animate condition to be shorter than in the inanimate condition, while the RTs of Raising verbs were predicted to be approximately the same in the animate and inanimate conditions.

![Figure 2. Length-adjusted RT for CCC, Raising, and SC](image-url)
The prediction on the RT of SC verbs was supported by the data, as the inanimate preverbal NP significantly slowed down the reading in the V1 region by 25.98 ms compared to when the SC verbs were preceded by an animate NP (β = 25.98, SE = 7.11, t = 3.66). The predicted effect of animacy on Raising verbs was also confirmed by the data. Although Figure 2 shows Raising verbs were read 9.82 ms faster in the inanimate condition, there is no significant difference between the RT in both animate and inanimate condition (β = -9.82, SE = 7.81, t = -1.26). What is more interesting is the fact that although the RT for CCC verbs in the inanimate condition was 13.78 ms longer than the animate condition (as expected), animacy does not have a significant influence on the reading of CCC verbs (β = 13.78, SE = 9.4, t = 1.47).

When looking at the effect of inanimacy across verb categories, the predictions were that the RT of SC verbs should be longer than that of the CCC verbs, while Raising verbs should take less time to read than CCC verbs. However, a look at Figure 2 shows that CCC verbs took the longest to read compared to the other two types of verbs in both animate and inanimate condition. A similar statistical model was run to check the difference between the RT for the three types of verbs in animate and inanimate conditions. Table 1 contains the inferential statistics for the V1 RT differences across categories in inanimate and animate conditions.

---

38 In Figure 2, the verb category are labeled as CC (Crossed Control), RtoS (Raising), and SC (Subject Control).
<table>
<thead>
<tr>
<th>Verb Category</th>
<th>Inanimate NP</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>Std. Error</td>
<td>t-value</td>
<td>Estimate</td>
<td>Std. Error</td>
<td>t-value</td>
<td></td>
</tr>
<tr>
<td>CCC vs. Raising</td>
<td>-36.24</td>
<td>34.88</td>
<td>-1.04</td>
<td>-14.34</td>
<td>24.55</td>
<td>-0.58</td>
<td></td>
</tr>
<tr>
<td>CCC vs. SC</td>
<td>-34.77</td>
<td>34.22</td>
<td>-1.02</td>
<td>-47.29</td>
<td>21.68</td>
<td>-2.18 *</td>
<td></td>
</tr>
<tr>
<td>Raising vs. SC</td>
<td>0.89</td>
<td>23.01</td>
<td>0.03</td>
<td>-32.94</td>
<td>13.94</td>
<td>-2.36 *</td>
<td></td>
</tr>
</tbody>
</table>

Table 11. The comparison of RT on the V1 region between verb categories

As shown in Table 11, no significant differences were found when the adjusted-length RTs of CCC verbs were compared to Raising verbs and SC verbs in the inanimate condition. The same finding applies to the RT differences between Raising and SC verbs. The results in the animate condition indicate that CCC verbs were significantly more difficult to parse than SC verbs when the preverbal NP was animate, as SC verbs were read 47.29 ms faster than the CCC verbs. The Raising verbs were also read 14.34 ms faster than the CCC verbs in the animate condition, but their RT variance was not significant. On the other hand, the SC verbs were parsed significantly faster (32.94 ms) than the Raising verbs when the preverbal NP was animate.

6.3.4.2. RT on the V2 region

In this section, I discuss the effect of animacy and verb type conditions on RT in the V2 region. As explained previously, the V2 region is postulated to be the region where reprocessing occurs; hence, the RT in V2 region is expected to increase compared to the RT in the V1 region. This prediction is supported by the findings, as there was a significant effect of verb region on the reading time ($\chi^2(1) = 73.61$, $p < 2.2\text{e-16}$) since the overall mean RT on the V2 region was 33.15 ms longer than the overall V1 region.

Furthermore, it was expected that the parsing of the V2 region in CCC should cost the most compared to the other two unambiguous constructions, because there are two
possible outcomes for the theta role assignment, which are the reason for the ambiguous interpretation in CCC. However, this hypothesis was not supported by the data, as illustrated in Figure 3. The RT in the V2 region for the CCC was shorter than the V1 region in the animate (3a) and inanimate (3b) conditions. These figures also show that the readers took longer to read the embedded verb in Raising and SC constructions.

I checked to see whether there was a significant difference between the RT on the V1 and V2 regions averaging across the animate and inanimate conditions in each verb category. The findings show that the V2 region in CCC were read 10.16 ms faster than the V1 region ($\beta = -10.16$, SE = 6.98, $t = -1.46$) although the difference between the RT in these two regions was not significant. However, significant differences were found between the reading of the V1 and V2 regions in Raising constructions ($\beta = 44.79$, SE = 6.52, $t = 6.87$), as well as in SC constructions ($\beta = 65.26$, SE = 6.35, $t = 10.28$). The V2 regions in these two constructions were read significantly more slowly than the V1 regions.
The next question that arises is whether the animacy of the NP matrix subject or the verb categories affect the processing of the embedded verb. The results show that animacy did not affect the RT in the V2 region ($\chi^2(1) = 2.24, p = 0.13$). In addition, verb category also has a weak effect on the parsing of the V2 region ($\chi^2(2) = 2.33, p = 0.31$). Table 12 below shows how inanimacy affects the RTs in the V2 region in each verb category.

<table>
<thead>
<tr>
<th>Verb Category</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCC</td>
<td>4.609</td>
<td>10.005</td>
<td>0.461</td>
</tr>
<tr>
<td>Raising</td>
<td>-5.260</td>
<td>9.642</td>
<td>-0.546</td>
</tr>
<tr>
<td>SC</td>
<td>-24.87</td>
<td>10.09</td>
<td>-2.465*</td>
</tr>
</tbody>
</table>

Table 12. The effect of inanimacy on the RT of the V2 region

From the results in Table 12, we can see that the RTs in the V2 region in CCC constructions were 4.6 ms longer when the initial NP was inanimate. On the other hand, the RTs were 5.2 ms shorter in Raising constructions in the inanimate condition. Nevertheless, the differences in the V2 RT caused by the animacy of the matrix NP were not significant in these two constructions. The results indicate that the subject’s animacy only has a significant effect on the V2 region in SC constructions ($t = -2.46$), in which the V2 was read 24.87 ms faster when the subject was inanimate.

6.3.5. Discussion

In this study, the animacy of the preverbal NP in the three constructions was manipulated to check whether semantic cues are utilized early in thematic role assignment, and specifically to investigate whether animacy provides aid in resolving ambiguity within the CCC, as suggested by Kaswanti Purwo (1984). The data provide evidence that support
the predictions for Raising and SC constructions. The results of the study show that readers consulted semantic information early when assigning theta roles because they took a longer time to read SC verbs when the preverbal NP was inanimate. Likewise, the data support the prediction for the Raising constructions. Because Raising verbs do not have a theta role to assign to their subject, the animacy of the preverbal NP did not affect the parsing of these verbs. Furthermore, findings from the V2 regions in Raising and SC constructions were as expected. The results indicate that the readers faced difficulty in parsing the passive embedded verb since they anticipated the embedded clause to be in the active voice structure which has a higher probability than the passive voice structure. Because they had to reassign the Theme role to the silent embedded subject and the Agent role to the object of PP, it cost more to parse the V2 region than the V1 region in these two constructions.

The results for the CCC verbs were more complicated to interpret. To begin with, more time was needed to read CCC verbs that were preceded by an inanimate NP, suggesting similar behavior to the SC verbs. Yet, the CCC verbs also have similarities with Raising verbs for two reasons. First, animacy does not significantly influence the RTs in the V1 region. Second, the RTs of the CCC verbs were not significantly different than the RTs of the Raising verbs in both the animate and inanimate conditions. Furthermore, the readers took more time in reading CCC and Raising verbs compared to SC verbs when the subject was an animate NP. Do these results suggest that the structure of CCC is more like Raising constructions than SC constructions?

If CCC have a similar structure to Raising constructions, the readers were expected to take more time to process the embedded verb because they had to reassign a thematic role to the silent embedded subject. On the contrary, the findings show that the readers
needed less time to read the embedded verb compared to the reading of the matrix verb. Seeing that the readers did not find any difficulty in parsing the embedded verb in CCCs suggests that the structure of CCCs may not resemble the structure of Raising constructions (or the structure of SC constructions for that matter).

The fact that it takes longer to read CCC verbs than Raising and SC predicates when the preverbal NP is animate is a potential indicator of CCC verbs’ inherent nature for ambiguous theta role assignment. Because the readers had to decide how to assign the verbs’ thematic roles (whether to assign an Experiencer/Agent role or a Theme role to the preceding NP), it took them longer to read the matrix verb in CCC sentences. The readers possibly made a commitment on how they would assign the thematic role while parsing the matrix verb, which explains the significant decrease in the RT of the V2 region, as the reprocessing of thematic role assignment did not occur in the reading of the passive embedded verb.

The results of this self-paced reading experiment does not provide evidence to support the prediction that the animacy constraint can help resolve the ambiguity of CCC constructions, which raises an essential question. How do we know that the ambiguity in CCCs is resolved? Does an individual reader always have a preference for one interpretation over the other when they read a CCC sentence? What other constraints do the readers consult in determining what thematic role to assign to the NPs within a CCC sentence?

Another constraint that is found to influence ambiguity resolution is a discourse-based constraint. In their experiment, Binder, Duffy, & Rayner (2001) assess the impact of contextual constraints on clauses similar to those investigated by Ferreira & Clifton (1986)
and Trueswell et al. (1994). They found that by manipulating the referential context which the sentence is in, the ambiguity is resolved and the reduced relative clause reading is preferred over the main clause reading. Likewise, it is likely that the ambiguity in CCC is resolved through the discourse in which the sentence occurs. The second experiment explores the role of a discourse-based constraint in the resolution of ambiguity in Balinese CCCs.

6.4. EXPERIMENT 2

6.4.1. Goals

This second experiment has two goals. The first goal is to assess the participants’ interpretation of the purported “ambiguous” CCC sentences versus the “non-ambiguous” SC sentences. The second aim of the experiment is to investigate the influence of context on the interpretation of these ambiguous CCC sentences. Several context-based constraints that are considered to be influential in ambiguity resolution are referential NP context (Altmann & Steedman, 1988; Spivey-Knowlton, Trueswell, & Tanenhaus, 1993; Spivey-Knowlton & Sedivy, 1995; Spivey & Tanenhaus, 1998), temporal context (Trueswell & Tanenhaus, 1991; 1992), and discourse context (Binder, Duffy, & Rayner, 2001). In the following subsection, I discuss the results of the previous studies that investigate the role of contextual constraints in ambiguity resolution as the benchmark for making predictions for this experiment 2.

6.4.2. Predictions

In their second experiment, Binder et al. (2001) investigated the role of thematic fit and discourse context in the ambiguity resolution of reduced relative clauses using the eye-tracking paradigm. They tested the effect of three variables. The first variable was
ambiguity of the target sentence (reduced versus unreduced relative clause). Second, they manipulated the thematic fit information in which they utilized two types of noun-verb combinations: balanced noun-verb combinations vs. biased noun-verb combinations. The balanced noun-verb combinations are pairs of nouns and verbs which have the same likelihood to get a reduced relative clause interpretation or main verb interpretation, e.g. *the patient cured*. The biased noun-verb combinations are noun-verb pairs that are mainly interpreted as main verb constructions, e.g. *the wife deserted*.

Third, they conditioned the discourse context to have a reduced relative clause bias or a main verb bias. In the reduced relative clause biasing discourse context, Binder et al. introduced two characters that had the same occupation and/or social roles in the first sentence. Each one of the characters was discussed in the second and third sentence. However, the third sentence included information that primes the character as the object of the target sentence. For the main verb biasing discourse context, they introduced two characters that have different occupations and/or social roles. The third sentence consisted of information about one of the characters that makes the person likely to be the subject of the target sentence. Examples of the stimuli for their Experiment 2 are given in Table 13.
<table>
<thead>
<tr>
<th>Balanced Noun-Verb combination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reduced relative clause biasing discourse context</strong></td>
</tr>
<tr>
<td>Two visiting poets were living in the guest house on the edge of campus. One poet was experiencing a terrible case of writer’s block, and he was also having trouble teaching. The other poet was finding that whenever he taught, he was filled with new ideas that came from his students. Both poets had been invited to teach advanced writing classes. <em>The poet (who was) inspired by his students helped them with their writing.</em> He continued to love teaching and to take new inspiration from his students.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Main verb biasing discourse context</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The visiting poet and the novelist were living in the guest house on the edge of campus. The novelist was experiencing writer’s block, and she was also having trouble teaching. The poet was a fantastic teacher, and students from all over campus competed to be in his classes, which were always full. Both teachers were invited to teach advanced writing classes. <em>The poet (who was) inspired by his students helped them with their writing.</em> He continued to love teaching and to take new inspiration from his students.</td>
</tr>
</tbody>
</table>

Table 13. Examples of discourse contexts in Binder et al. (2001)

Each noun-verb combination was presented in four conditions: (1) reduced relative biasing context – reduced relative clause sentence, (2) reduced relative biasing context – unreduced relative clause sentence, (3) main verb biasing context – reduced relative clause sentence, and (4) main verb biasing context – unreduced relative clause sentence. The results of this eye movement experiment provide evidence for a significant effect of discourse context on the parsing of reduced relative clause sentences, because the participants spent more time on the disambiguating region when the preceding context was biased toward a main verb reading than when the discourse context was biased toward a relative clause reading.

There are several predictions that can be made based on the results of this study. We can predict that if discourse context helps readers determine the structure of CCC sentences, reaction time for the CCC sentences when preceded by discourse context will
be shorter than for the CCC sentences without context. In comparison to SC sentences, the prediction is that the reaction time for CCC sentences will be longer because the parsers have to decide between two plausible interpretations.

Furthermore, both the garden-path and constraint-based theories predict that the normal control interpretation is more preferred than the crossed control interpretation because it is the most frequently found structure. Nevertheless, if the purported CCC predicates are truly ambiguous, then pictures that depict normal control and crossed control interpretations have an equal chance to be chosen. Context can be expected to have an influence on participants’ interpretations of CCC sentences. Depending on the context, one interpretation should be chosen more than the other.

6.4.3. Method

6.4.3.1. Participants

Sixty-two male and female Balinese speakers who were 30 years or older were recruited to participate in this study. They were paid IDR 40,000 (±USD 3.00) for their participation. Apart from speaking Balinese, these participants also speak Indonesian mainly in professional settings. All of these participants had basic computer skills, particularly in moving the mouse. In order to capture valid data on the northern lowland dialect, the participants were recruited from the same areas in Buleleng Regency as pinned down in Figure 1. These participants were randomly assigned into Group 1 or Group 2, where each group was assigned a different set of target sentences.
6.4.3.2. Materials

6.4.3.2.1. Part I

For Part I of the experiment, two sets of target sentences were generated (see Appendix 2). Both sets had 5 CCC sentences, 5 SC sentences, and 5 Raising sentences. All of the sentences had animate subjects, and the main verbs (V1) used were the same in both sets, but the embedded verbs (V2) in Set 1 differed from Set 2. Example sentences from each set are presented in Table 14. These sentences were recorded and saved into .wav audio files. Each of these sentences was presented with a pair of pictures relevant to the event described in the sentence.

<table>
<thead>
<tr>
<th>Set</th>
<th>Category</th>
<th>Stimuli</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>CCC</td>
<td>Jogéd-é buang ento nagih gelut-a tekén anak-é dancer-DEF promiscuous DEM want hug-PV by person-DEF ngibing. follower ‘The promiscuous dancer wanted to be hugged by the follower. / The follower wanted to hug the promiscuous dancer.’</td>
</tr>
<tr>
<td></td>
<td>SC</td>
<td>Murid-murid-é makeneh ajah-in-a nyait canang sari RED-student-DEF intend teach-APPL-PV AV.sew offering tekén guru-né. by teacher-DEF ‘The students intended to be taught to make offerings by the teacher.’</td>
</tr>
<tr>
<td></td>
<td>Raising</td>
<td>I Nyamprut terus jagur-a tekén I Doplar. DET Nyamprut continue hit-PV by DET Doplar ‘Nyamprut continued to be hit by Doplar.’</td>
</tr>
</tbody>
</table>

Table 14. Examples of target sentences in Set 1 and Set 2
Anak-é cerik ento nagih sangkol-a tekén mémé-n-né.
person-DEF small DEM want hold-PV by mother-POSS-DEF
‘That child wanted to be held by the mother. / The mother wanted to
hold the child.’

Anak-é cerik ubuh ento makeneh idih-a tekén
person-DEF small orphan DEM intend request-PV by
I Wayan.
DET Wayan
‘That orphan intended to be adopted by Wayan.’

I Kadék terus éréd-a tekén bapa-n-né ka sakolah.
DET Kadék continue drag-PV by father-POSS-DEF to school
‘Kadek continued to be dragged by his father to school.’

Table 14 – continued

The pairs of pictures for the CCC were ambiguous because both pictures were
possibly correct. One picture depicted the subject as the Experiencer of the matrix verb,
while the other picture portrayed the PP argument to be the Experiencer of the matrix verb.
Examples of ambiguous pairs of pictures can be seen in Figure 4, which illustrates the CCC
sentence in Set 1. The Subject-bias picture (Figure 4a) illustrates the normal control
reading, where the dancer is the one that chases after the follower, thus indicating that she
wanted to be hugged by the follower. On the contrary, the PP-bias picture (Figure 4b)
illustrates the crossed control interpretation, in which the follower was the one that wanted
to hug the dancer because he was the one that moved close to the dancer.
Figure 4. A pair of pictures depicting the CC sentence from Set 1.

Similar to the CCC stimuli, the pictures for the SC sentences only differ in terms of which argument is the doer of the action. Figure 5 is the representation of the SC sentence in Set 2. Figure (5a) shows that the orphan child is the one that has the intention to be adopted, whereas Figure (5b) illustrates the man’s intention to adopt the orphan. Even though the pair of pictures seemed to be ambiguous, the participants should only consider one picture as the correct illustration of the sentence, unlike the CCC stimuli.

Figure 5. A pair of pictures depicting the SC sentence from Set 2.
The pairs of pictures for the Raising sentences were unambiguous, which means that only one of the pictures correctly illustrates the sentence. Figure 6 exemplifies the Raising sentence in Set 2. Figure (6a) expresses the sentence correctly, where a father is dragging his son. Figure (6b) shows a father chasing after his son, which is not relevant to the sentence.

Figure 6. A pair of pictures depicting the Raising sentences from Set 2

6.4.3.2.2. Part II

There were three types of stimuli in Part II of the present study. First were the written passages that provided context for the target sentences. Two types of paragraph were generated for each of the target sentences, i.e. the CCC sentences. The paragraphs provided context that either primed for the normal control reading (Context B-NC) or the crossed control reading (Context C-CC). Similar types of passages were created for the SC sentences as control stimuli. The Raising sentences were used as fillers; thus, only one paragraph was generated for each of the Raising sentences.

The paragraphs were constructed in a manner similar to Binder et al.’s experimental design (2001). The first sentence introduced the character that would be the subject of the
target sentence. The second sentence contained more information about the same character to generate it as the prominent argument that would occupy the subject position in the target sentence. The third sentence introduced the other character that would be the object of preposition (by-phrase) in the target sentence. The fourth sentence contained information about one of the characters (subject or PP-Agent) that made it likely as the Experiencer of the main verb. These four sentences were followed by the target sentence and a pair of pictures similar to that of Part I. Examples of the contextual passages are given in Table 15.

<table>
<thead>
<tr>
<th>Sentence</th>
<th>Context B (Normal Control)</th>
<th>Context C (Crossed Control)</th>
</tr>
</thead>
</table>
| Sentence 1 | Dugase ene ada anak nganten ngundang joged.  
‘Sometime ago, there was a wedding party with joged (dance) as entertainment.’ | Dugase ene ada anak nganten ngundang joged.  
‘Sometime ago, there was a wedding party with joged (dance) as entertainment.’ |
| Sentence 2 | Jogede ento jegeg, kewala buang gati igelne.  
‘The joged (dancer) was pretty, but her dance was very provoking.’ | Jogede ento jegeg lan moleh gati.  
‘The joged (dancer) was very pretty and sexy.’ |
| Sentence 3 | Ada anak muani bagus gati, kedenga teken jogede apang nyak ngibing.  
‘There was a very handsome man who was pulled in to dance by the joged (dancer).’ | Ada anak punyah ngibing.  
‘There was a drunk man who danced.’ |
| Sentence 4 | Jogede terus mepet lan nguberin anake ngibing ento.  
‘The joged (dancer) kept on chasing and trying to get close to him.’ | Jogede terus uberina teken anake muani ento.  
‘That man kept on chasing after the joged dancer.’ |
| Target Sentence | Jogede buang ento nagih geluta teken anake ngibing.  
‘The promiscuous joged dancer wanted to be hugged by the follower.’ | Jogede buang ento nagih geluta teken anake ngibing.  
‘The follower wanted to be hugged by the joged dancer.’ |

Table 15. Examples of contextual passages used in Experiment 2
These stimuli were divided into two groups. The two sets of target sentences in Part I were combined in Part II. Therefore, each group consisted of: (a) 10 CCC sentences preceded by 5 passages in Context A and 5 passages in Context B, (b) 10 SC sentences preceded by 5 passages in Condition A and 5 passages in Condition B, and (c) 10 Raising sentences (see Appendix 3).

6.4.3.3. Procedures

This experiment was conducted using the Mousetracker program installed on a Lenovo Yoga i5 laptop with a 11.6 inch screen. First the participants underwent training. They were presented with seven simple sentences alternating in active or passive form. They were instructed to click the ‘Start’ button in the bottom center of the screen to listen to the target sentence. Then they were asked to choose one of the pictures on the top left and top right corner of the screen by clicking on the picture they deemed most appropriate in portraying the event expressed in the audio stimulus. The Subject-bias and PP-bias pictures were randomly positioned either on the left or the right corner of the screen. Once they clicked on one picture, they were taken to the next page with a new stimulus. Figure 7 shows the layout of the screen in this experiment.

39 Mousetracker was downloaded from http://www.mousetracker.org/. This program was used in this experiment because its interface allowed the use of audio and visual stimuli at the same time. The trajectory of the participants’ mouse movement was not analyzed because the purpose of this experiment is to determine participants’ interpretation of the target sentences. Only their choice of picture and reaction time is being considered in the analysis.
6.4.4. Results

The purpose of this experiment is to investigate the role of discourse context on ambiguity resolution of Balinese CCCs. In this section, I analyze participants’ interpretation (i.e. their choice of pictures) and their reaction times (i.e. the length of time required to choose a picture). 2790 data points were observed for the reaction time. However, all data points beyond 2 standard deviations were excluded from the analysis, which amounts to 100 observations (3.58% of the total data). In addition, the data points from the fillers (Raising sentences) were also excluded; thus, a total of 1784 reaction time data points are included in this analysis. As for the picture-choice, none of the data is excluded from the analysis.

The Linear Mixed Effects Model with lme4 package in the R environment (Bates, Mächler, Bolker, & Walker, 2012) was employed to analyze the participants’ reaction time to assess the effect of discourse context on the processing of CCC and SC sentences. I ran three LME models, which are listed in Table 16. The Full Model has context and category
as the main effects. The Reduced Models have either context or category as the main effects. All of these models have subject (participants), V1, V2, and group (2 sets of stimuli) as the random effects.

| Full Model                                      | Formula: Time ~ 1 + Context + Category + (1 | Subject) + (1 | V1) + (1 | V2) + (1 | Group) |
|------------------------------------------------|----------------------------------------------------------------------------------|
| Reduced Model 1                                 | Formula: Time ~ 1 + Category + (1 | Subject) + (1 | V1) + (1 | V2) + (1 | Group) |
| Reduced Model 2                                 | Formula: Time ~ 1 + Context + (1 | Subject) + (1 | V1) + (1 | V2) + (1 | Group) |

Table 16. The LME models testing context and category effects on Reaction Time

Any t-value above 2 or below -2 is considered to be statistically significant at an alpha level of $p = 0.05$. To verify the significance of the models, I also utilized an ANOVA test to do a comparison between the models. The null hypothesis posits no influence of context over reaction time: the participants should take the same amount of time to choose a picture that best describes a target sentence in all three context conditions, namely the Null, NC, and CC contexts.

In analyzing the participants’ interpretation, I utilized the Chi-square goodness-of-fit tests to check if the purported CCC predicates are truly ambiguous. The null hypothesis is that the Subject-bias picture and the PP-bias picture have an equal chance to be chosen. If the null hypothesis is supported, then it means that the predicates in consideration can ambiguously assign their external theta role to either the DP-Subject (portrayed by the Subject-bias picture) or the PP-Agent (depicted in the PP-bias picture). If the null hypothesis is rejected because one picture is chosen over the other, we can assume that the predicates are not ambiguous. Furthermore, the Chi-square test of independence were
administered to confirm whether context and the embedded verb (V2) influence participants’ interpretation of the target sentences.

6.4.4.1. Reaction time

In this section, I analyze the effect of contexts and verb categories on reaction time: the length of time the participants needed to choose a picture that best portrayed the target sentence. A decrease in reaction time is expected when the target sentences were preceded by discourse context. In fact, a significant effect of context was found on the participants’ reaction time ($\chi^2 (2) = 26.925, p = 1.423e-06^*$) by comparing the Full Model with the Reduced Model 1 using ANOVA. The reaction time in the NC context was 641.8 ms shorter than the reaction time in Null context, while in CC context, the reaction time decrease by 341.2 ms.

Moreover, because the CCC sentences were purported to be ambiguous, it can be expected that the participants needed more time to choose a picture for these sentences compared to the SC sentences. However, after comparing the Full Model and the Reduced Model 2 with ANOVA, the results indicate that the reaction time between CCC and SC sentences does not differ significantly ($\chi^2 (1) = 0.1381, p$-value = 0.7102), where the reaction time for SC sentences is only 163.7 ms shorter than for CCC sentences. Figure 8 illustrates the reaction time for CCC sentences (on the left) and SC sentences (on the right) in Null, NC, and CC contexts.
To check the effect of context within each verb category, I reran Reduced Model 2 twice, once with the reaction time data for CCC sentences and the other with the reaction time data for SC sentences. The results shown in Table 17 provide evidence for the influence of the NC context on the significant decrease of reaction time for both CCC and SC sentences. The participants needed 381.9 ms longer to interpret the CCC sentences in the null context than the NC context. When the SC sentences were preceded by the NC context, the participants responded 920.3 ms faster than to the corresponding sentences without context. On the other hand, the CC context only influences the reaction time for the SC sentences, but not the CCC sentences.

Figure 8. Boxplot of reaction time for CCC and SC sentences in three contexts
Table 17. The comparison of reaction time between contexts

<table>
<thead>
<tr>
<th>Context</th>
<th>CCC sentences</th>
<th>SC sentences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>Std. Error</td>
</tr>
<tr>
<td>Null - NC</td>
<td>-381.9</td>
<td>180.6</td>
</tr>
<tr>
<td>Null - CC</td>
<td>-212.3</td>
<td>181.4</td>
</tr>
</tbody>
</table>

The fact that the CC context does not significantly decrease the reaction time for CCC sentences is not congruent with the prediction, in which the reaction time for the CCC sentences when preceded by discourse context was supposed to be shorter than for the CCC sentences without context. Can we assume that the ambiguity of CCC sentences is not resolved when the context primes for a crossed control reading? In the following subsection, I investigated the picture-choice that represents how the participants interpret the target sentences in order to examine if context is a factor that helps with the resolution of ambiguity in CCC sentences.

6.4.4.2. Picture-choice

Because there were two sets of stimuli utilized in this study, I first checked if these two sets behave differently using Pearson’s Chi-squared test with Yate’s continuity correction. The result ($\chi^2 (1) = 3.44, p = 0.064$) indicates that the picture-choice results from the two groups of participants do not differ, the number of Subject-bias or PP-bias pictures chosen is similar in the two groups. Therefore, I combined the results from the two groups and analyzed them en masse.

I ran the chi-squared test of independence to check if context has an effect on picture-choice. The result suggests a rejection of the null hypothesis ($\chi^2 (2) = 32.71, p = 7.885e-08*$), which means there is a relationship between context and the participants’ choice of pictures. In addition, the result of Pearson's Chi-squared test with Yates'
continuity correction indicates that the participants’ choice of pictures was dependent on the verb category ($\chi^2 (1) = 49.36$, p-value = 2.13e-12*), in which the number of Subject-bias pictures chosen for SC sentences was higher than CCC sentences, while CCC sentences have a greater number of PP-bias pictures than SC sentences.

Figure 9 displays the number of Subject-bias and PP-bias pictures chosen for CCC and SC sentences in the three context conditions. In both verb categories, more Subject-bias pictures were chosen in the NC context, while the number decreased in the CC context. Pearson’s chi-square test indicates that context influences the picture-choice for CCC sentences ($\chi^2 (2) = 13.511$, p-value = 0.001164*) as well as for SC sentences ($\chi^2 (2) = 21.158$, p-value = 2.544e-05*).

![Figure 9. Picture-choice for CCC and SC sentences in three contexts](image)

The bars on Figure 9 also indicate that participants have an ambiguous interpretation for CCC sentences in the Null context and CC context, because both types of pictures have a similar ratio in the two contexts. The chi-square goodness-of-fit tests were run to check if there is an equal proportion of Subject-bias and PP-bias pictures.
chosen in each context for CCC and SC sentences. The results are enumerated in Table 18. More Subject-bias pictures were chosen for the SC sentences across the three context conditions, as predicted. As for the CCC sentences, the results suggest that the null hypothesis is supported in the Null and the CC context, which signifies the ambiguity of the CCC sentences because the participants can have a normal control interpretation (illustrated by the Subject-bias pictures) or a crossed control interpretation (demonstrated by PP-bias pictures). In the NC context, the null hypothesis is rejected because the participants chose more Subject-bias pictures than PP-bias pictures, which confirms the prediction.

<table>
<thead>
<tr>
<th></th>
<th>Null Context</th>
<th>NC Context</th>
<th>CC Context</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\chi^2$ (1)</td>
<td>p-value</td>
<td>$\chi^2$ (1)</td>
</tr>
<tr>
<td>CCC sentences</td>
<td>2.1806</td>
<td>0.1398</td>
<td>32.258</td>
</tr>
<tr>
<td>SC sentences</td>
<td>51.213</td>
<td>8.287e-13***</td>
<td>131.63</td>
</tr>
</tbody>
</table>

Table 18. The results of $\chi^2$ goodness-of-fit test with given probability

The results laid out in Table 18 above reveal that only the NC context can help the participants in resolving the ambiguity of CCC sentences, whereas the CC context does not seem to help in ambiguity resolution. When the ratio of pictures chosen for CCC sentences in Null and CC contexts were compared using the chi-squared test of independence, the results support the null hypothesis ($\chi^2$ (1) = 0.058358, p-value = 0.8091), confirming the assumption that there is no significant difference between the numbers of Subject-bias and PP-bias pictures chosen for CCC sentences in Null and CC contexts.
6.4.5. **Discussion**

In this section, I examine the main effects of context and category and the interaction between the two on the length of time the participants needed to choose the best portrayal of the target sentences. Only the context effect is significant. The category effect and the interaction between context and category are not significant. Furthermore, I checked context effects on the reaction time for each sentence category, namely CCC and SC sentences. The results indicate the main effects of the NC context on the reaction time for CCC and SC sentences. Most importantly, the CC context biasing for the crossed control meaning only has significant effect on SC sentences, but not on CCC sentences. This result suggests that the participants required approximately a similar amount of time to choose a picture for CCC sentences in the null context and in the CC context. Is this an indication that the ambiguity of the CCC sentences are not resolved by this particular context?

The results of picture-choice for the CCC sentences substantiate the reaction time findings because the ratio of Subject-bias and PP-bias pictures selected in these two contexts do not differ significantly. It means that the ambiguity of CCC sentences was not resolved when the context primes for the crossed control interpretation. One possible explanation for this unexpected result was given by Polinsky & Potsdam (2003), who acknowledge the crossed control reading as a dialectal variation since it is only available to some speakers, but not to other speakers. Therefore, the fact that Subject-bias pictures were still chosen even though the context primes for PP-Agent may be due to the unavailability of the crossed control reading for a number of participants.
Another interesting finding is the fact that verb category does not have an effect on reaction time. This implies that the participants required the same amount of time to process these two sentence categories, despite the fact that CCC sentences are purported to be ambiguous while the SC sentences are not. Recall that the grouping of the predicates into CCC and SC categories is based on their syntactic properties. The CCC verbs can take inanimate Theme DPs as their subject, and the predicates nagih, edot, and engsap can have an ambiguous interpretation when there are two animate arguments within the sentence. On the other hand, the SC verbs cannot have a preverbal inanimate Theme DP and the sentences do not have an ambiguous interpretation if the Subject and the PP-Agent are both animate. Nonetheless, the results of picture-choice support the prediction that verb category plays a significant role in participants’ choice of pictures, where they chose Subject-bias pictures over PP-bias pictures for the SC sentences.

To understand more about the nature, in particular the semantics, of these CCC and SC predicates, I also checked how the participants interpreted each of the 10 predicates. The result supports the alternative hypothesis, which implies the participants’ choice of pictures is dependent upon the predicate ($\chi^2(9) = 269.07, p < 2.2e^{-16}$). In other words, more Subject-bias pictures were chosen for certain predicates, while PP-bias pictures were preferred for other predicates. Figure 10 portrays the percentage of Subject-bias and PP-bias pictures chosen for each predicate.
From Figure 10, we can see that *nagih* ‘want/ask’ is an anomaly when compared to the other predicates, as more participants chose PP-bias pictures than Subject-bias pictures. This raises the question of what variables influence the interpretation of the target sentences with *nagih* and whether these variables have different effects on the other desiderative predicates such as *edot* ‘want/desire’ and *makita* ‘want/wish’.

### 6.4.6. The desiderative predicates in Balinese

In this section, I compared the picture-choice and the reaction time for the three desiderative predicates in Balinese, namely *nagih* ‘want/ask’, *edot* ‘want/desire’, and *makita* ‘want/wish’ to identify what variables instigates the differences between the outcomes.

#### 6.4.6.1. Picture-choice

Figure 11 illustrates how the participants interpreted sentences with *nagih* when followed by two different verbs (V2) in the three context conditions. We can see that the participants’ interpretation slightly changed given different contexts. The graph also shows
that there may be a relationship between V2 and picture-choice. When nagih ‘want/ask’ is followed by geluta ‘to be hugged’, the number of Subject-bias pictures chosen the in null context was very low. However, the number of Subject-bias pictures increased in the NC context, while none of the Subject-bias pictures was chosen in the CC context for the sentence with nagih geluta ‘want to be hugged’. In contrast, when nagih ‘want’ occurs with sangkola ‘to be carried’, the highest number of Subject-bias pictures occurred in the Null context, and the lowest was in the CC context.

![Figure 11. Picture choice results for nagih ‘want/ask’ in contexts and V2 conditions](image)

In order to know whether there is a relationship between participants’ choice of pictures with context and V2, I ran Pearson’s chi-squared test of independence and found that the number of Subject-bias or PP-bias pictures chosen by the participants depends on the context ($\chi^2 (2) = 6.6769$, p-value = 0.03549*) and the V2 ($\chi^2 (1) = 4.809$, p-value = 0.02831*). Furthermore, the results of the chi-square goodness-of-fit tests laid out in Table 19 reject the null hypothesis, indicating PP-bias pictures were chosen significantly more than the Subject-bias pictures in all three contexts.
<table>
<thead>
<tr>
<th>V1</th>
<th>V2</th>
<th>Null Context</th>
<th>NC Context</th>
<th>CC Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>nagih 'ask'</td>
<td>geluta 'hugged'</td>
<td>$\chi^2$ (1) = 23.516</td>
<td>$\chi^2$ (1) = 9.3226</td>
<td>$\chi^2$ (1) = 31</td>
</tr>
<tr>
<td>sangkola 'carried'</td>
<td></td>
<td>p = 1.239e-06*</td>
<td>p = 0.002263*</td>
<td>p = 2.58e-08*</td>
</tr>
</tbody>
</table>

Table 19. The results of $\chi^2$ goodness of fit test for given probability for *nagih*

Apparently, the target sentences with *nagih* were more likely to have the crossed control interpretation than the normal control interpretation. The fact that picture choice of the participants did not change despite the NC context is unexpected of *nagih* as a ‘Subject Control’ predicate that assigns a theta role to its subject DP. The comparison of *nagih* with other desiderative predicates provides an insight on the peculiarity of this predicate.

The picture-choice result for *edot* ‘want/desire’, shows that more participants have a normal control interpretation than a crossed control interpretation. As can be seen in Figure 12, context and V2 seems to have an influence over which pictures the participants chose as the best portrayal of the *edot* sentences. Pearson’s chi-squared tests were run to check this assumptions. The results reveal that there is no relationship between context and picture-choice ($\chi^2$ (2) = 3.1146, p-value = 0.2107), but V2 is found to be a significant variable in participants’ interpretation of sentences with the predicate *edot* ($\chi^2$ (1) = 25.436, p-value = 4.573e-07*).
Figure 12. Picture choice results for edot ‘want/desire’ in contexts and V2 conditions

It can be seen that when edot ‘desire’ is combined with the V2 lalinina ‘to be visited’, more Subject-bias pictures were chosen, and this is supported by the results of the chi-square goodness-of-fit tests with p-values less than .05 (see Table 20). Only the target sentence with edot pabaliha ‘desired to be watched’ in the null context has an ambiguous interpretation, given that the chi-squared test results support the null hypothesis: either picture has an equal chance to be chosen. Nonetheless, the null hypothesis was rejected for the same sentence (i.e. edot pabaliha) in the NC and CC contexts, which means the distributions of Subject-bias and PP-bias pictures chosen were not equal when the target sentence was preceded by contexts.

<table>
<thead>
<tr>
<th>V1</th>
<th>V2</th>
<th>Null Context</th>
<th>NC Context</th>
<th>CC Context</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>edot</td>
<td>lalinina</td>
<td>χ² (1) = 27.129</td>
<td>χ² (1) = 27.129</td>
</tr>
<tr>
<td></td>
<td>‘want/desire’</td>
<td>‘visited’</td>
<td>p = 1.903e-07*</td>
<td>p = 1.903e-07*</td>
</tr>
<tr>
<td></td>
<td>pabaliha</td>
<td>‘watched’</td>
<td>χ² (1) = 0.032258</td>
<td>χ² (1) = 7.2581</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>p = 0.8575</td>
<td>p = 0.007058*</td>
</tr>
</tbody>
</table>

Table 20. The results of χ² goodness-of-fit test for given probability for edot
Another desiderative predicate in Balinese is *makita* ‘want/wish’. Figure 13 depicts the ratio of Subject-bias and PP-bias pictures chosen for the two sentences with *makita* in null, NC, and CC contexts. The number of Subject-bias pictures picked is higher than the PP-bias pictures in the two *makita* sentences. A Chi-squared test of independence was carried out to examine whether participants’ interpretations of *makita* sentences were influenced by context and V2. The results confirm that neither context ($\chi^2 (2) = 5.3816$, p-value = 0.06783) nor V2 ($\chi^2 (1) = 3.4055$, p-value = 0.06498) had a main effect on the participants’ choice of pictures.

Moreover, when the picture choice ratios in the three context conditions were tested using the chi-squared goodness-of-fit test, the results reject the null hypothesis (all p-values are < 0.05), as laid out in Table 21.

<table>
<thead>
<tr>
<th>V1</th>
<th>V2</th>
<th>Null Context</th>
<th>NC Context</th>
<th>CC Context</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>makita</em></td>
<td><em>candaina</em> ‘teased’</td>
<td>$\chi^2 (1) = 7.2581$</td>
<td>$\chi^2 (1) = 23.516$</td>
<td>$\chi^2 (1) = 5.4516$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>p = 0.007058*</td>
<td>p = 1.239e-06*</td>
<td>p = 0.01955*</td>
</tr>
<tr>
<td></td>
<td><em>lukisa</em> ‘painted’</td>
<td>$\chi^2 (1) = 17.065$</td>
<td>$\chi^2 (1) = 23.516$</td>
<td>$\chi^2 (1) = 20.161$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>p = 3.613e-05*</td>
<td>p = 1.239e-06*</td>
<td>p = 7.118e-06*</td>
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</table>

Table 21. The results of $\chi^2$ goodness-of-fit test for given probability for *makita*
In conclusion, the participants prefer subject-bias picture to PP-bias pictures, which is an indicator that *makita* sentences have normal control interpretation, and that the crossed control interpretation is generally unavailable for these sentences.

6.4.6.2. Reaction time

To examine whether context and V2 have an effect on the reaction time of each predicate, I utilized LME models with context and V2 as the fixed effects, while the random effects included subject and group. Afterward, I compared the LME models using ANOVA to confirm what variable(s) impacted reaction time for the target sentences.

An interesting discovery on the variance of reaction times among the three desiderative predicates is that the *nagih* sentences took longer to process in the NC context than in other contexts, as shown in Figure 14. This boxplot shows that the longest processing time was required for the *nagih* sentences when preceded by the context which biased for the normal control interpretation. The participants also took longer to process the *nagih* sentences when they were preceded by the CC context than by the Null context.

![Figure 14. Boxplots of reaction time for the *nagih* sentences in three contexts](image)

Figure 14. Boxplots of reaction time for the *nagih* sentences in three contexts
The findings indicate a main effect of V2 ($\chi^2 (1) = 6.5749$, p-value = 0.01034*), where the reaction time for the nagih sentence with sangkola as the V2 is significantly different (859.3 ms shorter) than the reaction time for the nagih geluta sentence. A main effect of context was also found on the reaction time for the nagih sentences ($\chi^2 (2) = 8.343$, p-value = 0.01543*); however, only the reaction time for the nagih sentences in NC context is significantly longer than the corresponding sentence in the null context. The participants required 1016.8 ms longer to react to the nagih sentences when they were preceded by context that primes for normal control reading. The reaction time for nagih is contradictory to the reaction time for the other two desiderative in NC context, as shown in Figure (15a) and (15b) in the following. The reaction times for both edot sentences and makita sentences were shorter when they were preceded by the context that primed for the normal control interpretation.

![Figure 15. Boxplots of reaction time for edot (a) and makita (b) in three contexts](image)

Figure 15. Boxplots of reaction time for edot (a) and makita (b) in three contexts

The results show that V2 effects on edot is significant ($\chi^2 (1) = 23.592$, p-value = 1.191e-06*), where the sentence edot pabaliha ‘wanted to be watched’ is 1447.1 ms longer
than *edot lalinina* ‘wanted to be visited’ sentence. Note that the picture choice result for the *edot pabaliha* sentence shows that this sentence is ambiguous because participants have equal numbers of Subject-bias and PP-bias pictures chosen for the sentence in the Null context. Furthermore, a main effect of context was found on the reaction time for the *edot* sentences ($\chi^2 (2) = 8.9647$, p-value = 0.01131*). The participants processed the *edot* sentences 951.2 ms faster in NC context and 217.9 ms shorter in CC context compared to processing these sentences without preceding context.

As for the *makita* sentences, I found no significant influence of V2 ($\chi^2 (1) = 1.0368$, p-value = 0.3086), but there is a main effect of context ($\chi^2 (2) = 14.936$, p-value = 0.000571). Compared to processing of *makita* sentences in null context, the participants took 1276.6 ms less time to choose a picture for these sentences in NC context, while it took them 688.4 ms shorter time to choose a response in CC context.

There are two main points that can be inferred from these results. First, participants’ processing of CCC and SC sentences was influenced by discourse context in an arbitrary manner, as indicated by the changes in participants’ choice of pictures and the shorter reaction times for the target sentences when they were preceded by context. Second, *nagih* is an anomaly because it mainly has a crossed control interpretation, while a normal control interpretation is preferred for the other two desiderative predicates. Furthermore, the fact that the participants needed more time to choose a response for the *nagih* sentences in the NC context indicates that they do not expect the normal control interpretation from this sentence. On the other hand, the NC context helped the participants in processing the *edot* sentences and the *makita* sentences, suggesting that participants preferred a normal control interpretation for these sentences. Polinsky & Potsdam (2008) hypothesize the Indonesian
wanting verbs, i.e. *mau* and *ingin*, to be an instance of auxiliary verb, thus allowing the crossed control interpretation. It is likely that *nagih* has evolved into an auxiliary-type of verb, similar to its Indonesian counterparts; hence, it has a different structure than the other two desiderative predicates.

6.5. **CONCLUSION AND LIMITATIONS OF THE STUDY**

The general goal of these experiments was to pioneer an on-line sentence processing study on Balinese, a less-commonly researched language, to contribute to the literature on the processing of ambiguous constructions. Through these experiments, I attempted to examine the well-studied CCC from a different angle, specifically from the perspective of cognition. These experiments suggest that CCC predicates behave differently than the SC and Raising predicates. However, animacy and discourse constraints seem to have an arbitrary influence on CCC predicates. Notwithstanding these results, there are still many unanswered questions about the nature of CCC. Cross-linguistic processing studies on CCC are required to verify the results of these experiments.

As mentioned previously, the Linear Mixed-Effects Model I used to analyze the RT data allows the inclusion of random effects, such as participants, verb items, and residuals in the analysis. These factors are some of the possible elements that influence the participants’ performance in this experiment. One limitation of this study is that I found the effect of residuals (which may include factors such as participants’ age, gender, places of residence, and other factors) to be very large. Therefore, these factors should be put into consideration when designing future experiments.
Based on the results of Experiment 1, the lack of evidence for the influence of the subject animacy over the RT on the V2 regions seems to indicate support for a modular view of sentence processing, which assumes separate processing of syntax from the use of semantic or discourse information. However, the results of this experiment cannot be assumed as definite evidence for an autonomous model because there is no point of disambiguation in CCC. In addition, corresponding constructions with syntactic cues that can resolve the ambiguity in CCC are not included in this experiment. For future experiments, I would like to compare CCC complements with their corresponding s-like complements headed by the overt complementizer *apang*. The corresponding s-like complement is unambiguous as the CCC verb can only assign its theta role to the preverbal NP argument, not the PP in the embedded clause. Therefore, the overt complementizer *apang* can act as a syntactic cue, and it may provide more convincing evidence for autonomous model.

Four main weaknesses can be identified in Experiment 2. The arbitrariness of context effects may be due to the constraints taken to control the contextual stimuli. For example, the limited number of sentences and the forced structure of the sentences, where each sentence served a specific purpose, may influence the flow of the story. Hence, the context utilized in this experiment may not have had enough information to generate the intended interpretation. Second, the pictures may not be valid portrayals of the target sentences. It was difficult to come up with pictures that clearly distinguished the Subject-bias (normal control) or PP-bias (crossed control) interpretations because the CCC and SC verbs are related to psychological attitudes, not physical activities. Third, the paradigm in which this experiment was designed does not measure participants’ unconscious reactions.
Many participants moved the mouse after they had made a decision, or they moved the mouse around because they lost track of the cursor. Therefore, the data do not convey the participants’ thought processes. Fourth, the design in which half of the target sentences in Part II were the repetition of the target sentences in Part I might influence the participants’ choice of pictures. Some participants may have chosen the same pictures that they chose previously despite of the context given.

Future studies utilizing an eye-tracking device would provide a better perspective on the process of parsing CCC sentences from the participants’ eye-trajectory, which conveys their unconscious processing of the target sentences. Furthermore, a better experimental design is needed to control the bias from the repeated target sentences and the obscurity of the pictures, as well as to control dialectical variations.
CHAPTER 7. CONCLUSIONS

The general goal of this Balinese complementation study is to contribute to the body of literature on the typology, syntax, and cognitive processing of clausal complements. From the typological perspectives, Balinese has four types of clausal complements, namely sentence-like (s-like) complements, Subject Control (SC) complements, Object Control (OC) complements, and Raising complements. These four complement types are categorized based on their distinguishing properties—including the type of complementizer, whether there is a change of meaning when the embedded clause is passivized, and whether elements such as overt pronoun, aspectual auxiliaries, modals, and temporal adverbs can be admitted within the complements.

In regards to theoretical syntax, the structure of Balinese monoclausal construction within the Minimalist framework can be generalized as follows:

1. Balinese Hierarchy of Projections:

   \[ C > T > (Neg) > (Auxiliary) > (Modal) > Voice > \nu > V \]

   A separate VoiceP projection above the verbal projection is required to account for the Voice system which consists of Active Voice (AV), Object Voice (OV), and Passive Voice (PV). Because the surface subject in Balinese sentences have a specificity requirement, the specific and/or definite argument occupies the outermost specifier of vP, which eventually moves out of the vP shell to satisfy EPP features (on Voice and T). The specificity requirement for the surface subject triggers ‘object shift’ (Diesing, 1996; Rackowski & Richards, 2005): the shifting of a specific and/or definite internal argument to the edge of vP to receive its specific interpretation; hence, the OV construction is formed.

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Following the assumption of Phase theory (Chomsky, 2001), passive vP in Balinese is a weak phase that does not have a specifier projection; therefore, the internal argument within the vP is available for probing from the higher constituent and can raise to satisfy the EPP feature on T.

This hierarchy of projections also applies to the structure of Balinese clausal complements. Balinese s-like complements, for example, have a CP structure similar to the monoclausal construction. In comparison, Balinese Control and Raising complements have different structures which are related to the (non)finiteness of the TP projection. In this thesis, I have shown that finiteness in Balinese is not specified by the presence of modals and aspectual auxiliaries, or the temporal specification of clausal complements. Instead, finite clauses in Balinese are indicated by the presence of overt subject. This conclusion is derived from evidence provided by the comparison between Balinese Control complements versus subjunctive s-like complements. The syntactic properties of Balinese Control and Raising complements suggest that the structures of these complements follow the standard minimalist account, in which Control complements have a nonfinite CP structure while Raising complements have a nonfinite TP structure.

Moreover, B. Larson (personal communication, February 22, 2018) noted an interesting topic related to the finiteness in Balinese and first language acquisition. Because the concept of finiteness is abstract and can only be determined by the absence of a subject, what would be the cue that children utilize when acquiring Balinese as their first language, especially since Balinese is a contextual language and null arguments often occurs in finite clauses? This topic of finiteness and first language acquisition will be an interesting subject to explore in future studies.
Another concern of this thesis is the debate on the syntactic structure of the notorious CCC constructions. Taking into account previous studies on CCC in other Austronesian languages, I laid out the properties of Balinese CCC and adopted the VoiceP analysis (Kurniawan, 2013) as the structure of the complements in Balinese CCC. The syntactic properties of Balinese CCC are mostly similar to the properties of CCC in other languages. For instance, the clause-initial DP has the behavior of a sentence subject, and a reflexive in the clause-initial position can have the same coreference as the Agent in the OV embedded clause. The CCC predicates cannot undergo voice alternation, nor can they be used in an imperative sentence. The clausal complements following the CCC predicates do not accept elements such as complementizers and auxiliaries, which suggests a small clause structure. Despite my adopting Kurniawan’s analysis of CCC, I raise questions about the ambiguous theta role assignment within CCC, which is accounted for by Kurniawan through the application of feature-inheritance concept (Sato & Kitada, 2012). Furthermore, I provided some examples of Balinese CCC found within the discourse and introduced factors that may help resolve the ambiguity of the CCC sentences.

In order to have a deeper understanding of the nature of CCC predicates, I conducted a cognitive processing study that examines how the animacy of the subject and discourse context affect how Balinese native speakers process the ambiguous CCC sentences compared to the processing of other unambiguous biclausal constructions, such as Subject Control and Raising.

Experiment 1 is a self-paced reading experiment aiming at examining the role of the animacy of the subject DP on the ambiguity resolution of CCC sentences. The variables measured in this experiment are the reading times of the CCC predicates (V1) and the
embedded predicates (V2) when the clause-initial DP is either animate or inanimate. If the CCC predicates do assign theta roles to its subject, then it is expected that the reading time for CCC predicates would be longer when its subject is inanimate compared to when it has an animate subject. Even though the reading time for the CCC predicates is longer in the inanimate condition compared to the animate condition as predicted, the difference is not statistically significant. In addition, if the animacy of the subject is a constraint that helps resolve ambiguity, it can be predicted that the V2 within CCC sentences in the inanimate condition would be faster to read compared to the V2 in the animate condition. However, the results indicate that the inanimacy of the clause-initial DP does not have a significant influence on the reading time for the V2 within CCC sentences.

The goal of Experiment 2 is to investigate whether discourse context helps Balinese speakers in resolving the ambiguity of CCC sentences. There are three types of context manipulated in this experiments: Null context, NC context (priming for the normal control interpretation), and CC context (biasing for the crossed control interpretation). The measured data in Experiment 2 are reaction time and the choice of picture that illustrates the parsers’ interpretation of CCC sentences. The hypothesis states that discourse context is a constraint that helps with ambiguity resolution; therefore, it predicts that the participants will take a shorter length of (reaction) time to choose a picture that describes the stimuli best. The reaction time results suggest that discourse context has an arbitrary influence on the participants’ reaction time for the CCC sentences. Only the NC discourse context that primes for the normal control reading has a significant influence on reaction time, while the CC discourse context that primes for the crossed control reading does not significantly shorten the reaction time. Furthermore, the picture-choice results indicate that
only the NC context can help the participants in resolving the ambiguity of CC sentences, whereas the CC context does not seem to help in ambiguity resolution.

Although the results of these two experiments do not provide evidence to support the hypotheses (predicting that animacy and discourse context play a role in ambiguity resolution), there are some interesting findings to be considered. The comparison of reading time between the verbs in CCC, SC, and Raising sentences from Experiment 1 indicate that these three verb categories have distinctive behaviors. For instance, the reading time for the V2 in CCC sentences is significantly shorter than the V2 in SC sentences and Raising sentences, which may be an indicator of a different syntactic structure for the CCC sentences. Furthermore, the results of experiment 2 reveal that nagih ‘want’ has anomalous behavior compared to the other desiderative predicates. In conclusion, further studies are needed to understand these interesting findings.
REFERENCES


Kurniawan, E. (2011). Does Sundanese have prolepsis and/or Raising to Object constructions? *AFLA 18*, (pp. 66-79).


APPENDIX A. CODES FOR THE WRITTEN CORPUS DATA

1. Source: Wayang (Shadow Puppet Performance), Code: WYG

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2. Source: Punk Kwala Ngibur Facebook Page, Author: Made Arjun Warnita, Code: PKN

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## APPENDIX B. STIMULI FOR EXPERIMENT I

### GROUP 1

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<th>Sentence</th>
<th>Lit.</th>
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<td><strong>Raising 1</strong>&lt;br&gt;<em>Terus</em>&lt;br&gt;‘continue’</td>
<td><strong>Animate</strong></td>
<td><em>Anake cerik ento terus ereda teken meme-bapane ajaka ka sekolahne.</em>&lt;br&gt;‘The parents continued to drag that child to school.’&lt;br&gt;Lit: ‘That child continued to be dragged by his mother and father to his school.’</td>
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<td></td>
<td><strong>Inanimate</strong></td>
<td><em>Polisi-polisine makejang terus sabata teken makejang anake ane sedek demonstrasi.</em>&lt;br&gt;‘The people who were demonstrating continued to throw (things) at the cops.’&lt;br&gt;Lit: ‘The cops continued to be thrown at by the people who were demonstrating.’</td>
<td></td>
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<tr>
<td><strong>Raising 2</strong>&lt;br&gt;<em>Suud</em>&lt;br&gt;‘finish/stop’</td>
<td><strong>Animate</strong></td>
<td><em>Jogede buang ento suud pabaliha teken lua-luane ulian gedeg ningalin.</em>&lt;br&gt;‘The ladies stopped watching the promiscuous dancer because watching (her) made them mad.’&lt;br&gt;Lit: ‘The promiscuous dancer stopped being watched by the women because (they were) mad watching (her).’</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Inanimate</strong></td>
<td><em>Punyan biune di abian suud runguanga teken Bapa Nyoman ulian kena penyakit.</em>&lt;br&gt;‘Mr. Nyoman stopped taking care of the banana trees in the garden because they caught disease.’&lt;br&gt;Lit: ‘The banana trees in the garden stopped being taken care of by Mr. Nyoman because (they) caught disease.’</td>
<td></td>
</tr>
<tr>
<td><strong>Raising 3</strong>&lt;br&gt;<em>Payu</em>&lt;br&gt;‘execute / carry out (a plan)’</td>
<td><strong>Animate</strong></td>
<td><em>Muride ane dueg payu kirima teken kepala sekolahe tundena milu olimpiade.</em>&lt;br&gt;‘The headmaster carried out his plan of sending the smart student to join in the Olympics.’</td>
<td></td>
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<tr>
<td></td>
<td><strong>Inanimate</strong></td>
<td><em>Danu Bature ento payu lukisa teken pelukis terkenal uli negara Prancis.</em>&lt;br&gt;‘The famous painter from France carried out his plan of painting Batur lake.’</td>
<td></td>
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<td><strong>Raising 4</strong>&lt;br&gt;<em>Ngenah</em>&lt;br&gt;‘appear’</td>
<td><strong>Animate</strong></td>
<td><em>Anake luh ento ngenah demenina teken truna-trunane di banjar kajanan.</em>&lt;br&gt;‘The youth from the south district appeared to like that girl.’&lt;br&gt;Lit: ‘That girl appeared to be liked by the youth from the south district.’</td>
<td></td>
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<tr>
<td></td>
<td><strong>Inanimate</strong></td>
<td><em>Montor anyare ento ngenah korodanga teken anake ngelahang ka tembok batune.</em></td>
<td></td>
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<td>‘intend / plan / think / wish’</td>
<td>Animate</td>
<td>‘Mother and Father wished to be hugged by their children on their birthday. (Lit: Mother and Father intended to be hugged by their children on their birthday.)’</td>
</tr>
<tr>
<td>SC 2 Ngekoh</td>
<td>‘lazy / reluctant / uneager’</td>
<td>Animate</td>
<td>‘That lady is uneager to be waited on by her husband while she’s shopping at the market.’</td>
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<tr>
<td>SC 3 Demen</td>
<td>‘like’</td>
<td>Animate</td>
<td>‘That girl liked to be looked at by the youth who hang around there.’</td>
</tr>
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<td>SC 4 Inget</td>
<td>‘remember’</td>
<td>Animate</td>
<td>‘The fifth grade students remembered being taught to make a penjor before Galungan Day.’</td>
</tr>
</tbody>
</table>

Raising 5 Buung ‘cancel / decided to not’

Animate | ‘The parents decided to not hitting the child because s/he was crying. (Lit: The parents cancelled hitting the child because s/he was crying.)’ |

Inanimate | ‘My friend decided to not taking that Saba bananas because they were not ripe yet. (Lit: That Saba bananas was cancelled to be taken by my friend because there were not ripe yet.)’ |

Inanimate | ‘That motor race planned to be watched by the boys who were hanging out there.’ |

Inanimate | ‘The guavas were uneager to be picked by Mr. Ketut because they had worms.’ |

Inanimate | ‘Those Manalagi mangoes liked to be picked by the youth because they taste sweet.’ |

Inanimate | ‘Those Manalagi mangoes liked to be picked by the youth because they taste sweet.’ |
<table>
<thead>
<tr>
<th>Language</th>
<th>Verb</th>
<th>Subject</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC 5</td>
<td><em>Makita</em></td>
<td>Animate</td>
<td><em>I kaki lan I dadong makita lalinina teken cucu-cucunne sabilang hari minggu.</em>&lt;br&gt;‘Grandpa and Grandma wished to be visited by the grandchildren every Sunday.’</td>
</tr>
<tr>
<td></td>
<td>Inanimate</td>
<td></td>
<td><em>Montore barak ento makita adepa teken reraman tiange anggona mayah utang.</em>&lt;br&gt;‘That red motorcycle wished to be sold by my parents to be used to pay the debt.’</td>
</tr>
<tr>
<td>CCC 1</td>
<td><em>Nagih</em></td>
<td>Animate</td>
<td>Anake muani ento nagih periksana teken dokter-dokter di rumah sakit.&lt;br&gt;‘That man wanted to be examined by the doctors at the hospital.’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inanimate</td>
<td>Jaja godohe apiring nagih daara teken cerik-cerike ane malali mai.&lt;br&gt;‘The children who were coming here to visit wanted to eat that whole platter of banana fritters.’&lt;br&gt;Lit: ‘That whole plate of banana fritters wanted to be eaten by the children who were coming here to visit.’</td>
</tr>
<tr>
<td>CCC 2</td>
<td><em>Edot</em></td>
<td>Animate</td>
<td>Murid-muride makejang edot pabaliha teken meme-bapane pas manggung di sekolah.&lt;br&gt;‘All the students wanted to be watched by their parents when they performed on stage at school.’</td>
</tr>
<tr>
<td></td>
<td>Inanimate</td>
<td></td>
<td>Bola baskete ento edot siliha teken cerik-cerike ane maplalianan ditu.&lt;br&gt;‘The children who were playing there wanted to borrow that basketball.’&lt;br&gt;Lit: ‘That basketball wanted to be borrowed by the children who were playing there.’</td>
</tr>
<tr>
<td>CCC 3</td>
<td><em>Nyak</em></td>
<td>Animate</td>
<td>Anake luh ento nyak lalinina teken truna-trunane uli desa Tejakula.&lt;br&gt;‘That woman agreed to be visited by the young men from Tejakula village.’</td>
</tr>
<tr>
<td></td>
<td>Inanimate</td>
<td></td>
<td>Lolohe ane pait nyak daara teken anake cerik ane gelem ento.&lt;br&gt;‘That sick child agreed to drink the bitter herbal drink.’&lt;br&gt;Lit: ‘The bitter herbal drink agreed to be drunk by that sick child.’</td>
</tr>
<tr>
<td>CCC 4</td>
<td><em>Bani</em></td>
<td>Animate</td>
<td>Anake cerik ento bani pabaliha teken anake rame dugase ia ngigel.&lt;br&gt;‘That child dared to be watched by the crowd when s/he was dancing.’</td>
</tr>
<tr>
<td></td>
<td>Inanimate</td>
<td></td>
<td>Lelipine gede ento bani tebeka teken anake ane ngaba tiuk gede.”</td>
</tr>
<tr>
<td>Verb type</td>
<td>Animacy</td>
<td>Sentence</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
<td>----------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>CCC 5</td>
<td>Animate</td>
<td>‘The person who brought a big knife dared to stab the big snake.’ Lit: ‘That big snake dared to be stabbed by the person who brought a big knife.’</td>
<td></td>
</tr>
<tr>
<td>Engsap</td>
<td>Animate</td>
<td>Anake luh ento engsap telpuna teken timpalne krana ia bes sibuk. ‘That woman forgot having been called by her friend because she was too busy.’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inanimate</td>
<td>Atape bocor ento engsap benahina teken tukang-tukange sakonden mulih magae. ‘The handymen forgot to fix that leaking roof before they went home.’ Lit: ‘That leaking roof forgot to be fixed by the handymen before they went home.’</td>
<td></td>
</tr>
</tbody>
</table>

**GROUP 2**

<table>
<thead>
<tr>
<th>Verb type</th>
<th>Animacy</th>
<th>Sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raising 1</td>
<td>Animate</td>
<td>Anake buduh ento terus sabata teken cerik- cerike sabilang ia liwat. ‘The children continued to throw (things) at the crazy person every time s/he passed by.’ Lit: ‘The crazy person continued to be thrown at by the children as s/he passed by.’</td>
</tr>
<tr>
<td></td>
<td>Inanimate</td>
<td>Bangken kuluke ento terus ereda teken bajang-bajange abana ka pangkunge. ‘The youth continued to drag the dog’s carcass to be brought to the sewer.’ Lit: ‘The dog’s carcass continued to be dragged by the youth to be brought to the sewer.’</td>
</tr>
<tr>
<td>Raising 2</td>
<td>Animate</td>
<td>Anake cerik ento suud runguangsa teken meme-bapanne ulian sing dadi orain. ‘The parents stopped paying attention to that child because s/he never listens.’ Lit: ‘That child stopped being paid attention to by his/her parents because s/he never listens.’</td>
</tr>
<tr>
<td></td>
<td>Inanimate</td>
<td>Film horore ento suud pabaliha teken cerik-cerike ulian serem gati. ‘The children stopped watching the horror movie because it was too scary.’ Lit: ‘The horror movie stopped being watched by the children because it was too scary.’</td>
</tr>
<tr>
<td>Raising 3</td>
<td>Animate</td>
<td>Anake luh ento payu lukisa teken pelukise ane terkenal uli Francis.</td>
</tr>
</tbody>
</table>
| **Payu**  
| ‘execute/ carry out a plan’ | ‘The famous painter from France carried out his plan of painting that woman. (Lit: The famous painter from France executed (his plan) of painting that woman.)’ |
| **Raising 4**  
| **Ngenah**  
| ‘appear’ | **Inanimate**  
| *Surat cintane ento payu kirima teken murid barune sasubane suud ospek.*  
| ‘The new student carried out her plan of sending the love letter after the orientation period.’ |
| **Raising 5**  
| **Buung**  
| ‘cancel / decided to not’ | **Animate**  
| *Bos tokone ento ngenah bobogina teken pegawene unduk pipise ane ilang.*  
| ‘The employee appeared to be lying to the boss about the missing money.’  
| Lit: ‘The boss appeared to have been lied to by the employee about the missing money.’ |
| **Inanimate**  
| *Mobil-mobilane ento ngenah demenina teken panakne Wayan ulian warnane kuning.*  
| ‘Wayan’s child appeared to like that car toy because the color is yellow.’  
| Lit: ‘That car toy appeared to be liked by Wayan’s child because the color is yellow.’ |
| **SC 1**  
| **Makeneh**  
| ‘intend / plan / think / wish’ | **Animate**  
| *Pemain musike ento makeneh pabaliha teken dosen-dosene dugasne konser di kampus.*  
| ‘The music player wished to be watched by the lecturers during the concert on campus. (Lit: The music player intended to be watched by the lecturers during the concert on campus.)’ |
| **Inanimate**  
| *Punyan bingine ento makeneh plekora teken timpale makejang dugase mapoto bareng.*  
| ‘The banyan tree planned to be hugged by all my friends when taking picture together.’ |
| **SC 2**  
| **Ngekoh**  
| ‘lazy / reluctant / uneager’ | **Animate**  
| *Kelian subake ento ngekoh aliha teken penyakape ane konden maan rabuk.*  
| ‘The head of the farmer community was uneager to be sought for by the farmers who have not got fertilizer.’ |
| **Inanimate**  
| *Lawar getihe ento ngekoh antianga teken I bapa krana ia maluan seduk.*  
| ‘The blood lawar (dish) was uneager to be waited for by Father because he was already hungry.’ |
| SC 3  | Demen  | Animate | Anake cerik ento demen dimana teken bajang-bajange sabilang suud kayeh.  
‘That child liked to be kissed by the girls after his/her bath.’ |
|       | ‘like’  | Inanimate | *Montore gede ento demen tingalina teken bajang-bajange ulian luung ngenahne.  
‘That big motorcycle liked to be looked at by the boys because it looks cool.’ |
| SC 4  | Inget  | Animate | Anake cerik ento inget tabraka teken supir bemone dugase ia nyebrang.  
‘That child remembered being hit by the cab driver when s/he crossed (the street).’ |
|       | ‘remember’ | Inanimate | *Atape bocor ento inget benahina teken tukang-tukange sakonden musim ujan.  
‘That leaking roof remembered to be fixed by the handymen before the rainy season.’ |
| SC 5  | Makita  | Animate | Anake cerik ento makita idiha teken reramane ane sing ngelah panak.  
‘That child wanted to be adopted by the relative who does not have children.’ |
|       | ‘want / wish / yearn’ | Inanimate | *Kebun rayane ento makita lalinina teken cerik-cerike sabilang rainan Galungan.  
‘The botanical garden wanted to be visited by the children every Galungan Day.’ |
| CCC 1 | Nagih  | Animate | Jogede buang ento nagih geluta teken muani-muanine ane sedek ngibing.  
‘The promiscuous dancer wanted to be hugged by the male follower.’ |
|       | ‘want’ | Inanimate | Alat operasine ento nagih periksana teken dokter-doktere sakonden mulai operasi.  
‘The doctors wanted to examine the surgery tools before the surgery starts.’  
Lit: ‘The surgery tools wanted to be examined by the doctors before the surgery starts.’ |
| CCC 2 | Edot  | Animate | Bungan desane ento edot telpuna teken doktere ane magang di puskesmas.  
‘The village flower (the most beautiful girl in the village) wanted to be called by the doctor who interned at the village clinic.’ |
|       | ‘desire’ | Inanimate | Montore usak ento edot benahina teken anake ngelahang apang dadi anggo.  
‘The person who owns it wanted to fix that broken motorcycle so that it can be used.’  
Lit: ‘That broken motorcycle wanted to be fixed by the person who owns it so that it can be used.’ |
| CCC 3 | Nyak ‘agree / willing’ | Animate | *Anake mokoh ento nyak gandonga teken beline ajaka ka kamar mandi.*<br>‘That fat boy agreed to be carried (on the back) by his big brother to be taken to the bathroom.’<br>**Inanimate** | *Darma wacanane ento nyak dingehanga teken bajang-bajange uli desa Tejakula.*<br>‘The youth from Tejakula village agreed to listen to that sermon.’<br>Lit: ‘That sermon agreed to be listened to by the youth from Tejakula village.’ | **CCC 4** | Bani ‘dare’ | Animate | *Anake kerasukan ento bani tebeka teken timpal-timpalne nganggon keris mangan.*<br>‘The possessed person dared to be stabbed by his friends using a sharp ceremonial knife.’<br>**Inanimate** | *Umahe tenget ento bani celepina teken bajang-bajange uli banjar kanginan.*<br>‘The youth from the east district dared to enter that haunted house.’<br>Lit: ‘That haunted house dared to be entered by the youth from the east district.’ | **CCC 5** | Engsap ‘forget’ | Animate | *Turis Jepange ento engsap papagina teken supir hotelé di bandara Ngurah Rai.*<br>‘The Japanese tourists forgot being picked up by the hotel driver at the Ngurah Rai airport.’<br>**Inanimate** | *Jelanan umahe ento engsap kuncina teken Pan Balang sabilang ia pesu.*<br>Mr. Balang forgot to lock that house door everytime he went out.’<br>Lit: ‘That house door forgot to be locked by Mr. Balang every time he went out.’ |
## APPENDIX C. STIMULI FOR EXPERIMENT II

### PART I

<table>
<thead>
<tr>
<th>Verb Category</th>
<th>Sentence</th>
<th>Picture A (Subj-bias)</th>
<th>Picture B (PP-bias)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCC 1</td>
<td><em>Jogede buang ento nagih geluta teken anake ngibing.</em></td>
<td><img src="image1" alt="Picture A" /></td>
<td><img src="image2" alt="Picture B" /></td>
</tr>
<tr>
<td></td>
<td>Normal Control: ‘That promiscuous joged (dancer) wanted to be hugged by the follower.’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crossed Control: ‘The follower wanted to hug that promiscuous dancer.’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCC 2</td>
<td><em>I Komang Ayu edot pabaliha ngigel teken meme-bapanne.</em></td>
<td><img src="image3" alt="Picture A" /></td>
<td><img src="image4" alt="Picture B" /></td>
</tr>
<tr>
<td></td>
<td>Normal Control: ‘Komang Ayu wanted to be watched by her parents.’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crossed Control: ‘Her parents wanted to watch Komang Ayu.’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCC 3</td>
<td><em>Iluh Sri engsap papagina teken bapanne.</em></td>
<td><img src="image5" alt="Picture A" /></td>
<td><img src="image6" alt="Picture B" /></td>
</tr>
<tr>
<td></td>
<td>Normal Control: ‘Iluh Sri forgot being picked up by her father.’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crossed Control: ‘Her father forgot to pick up Iluh Sri.’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCC 4</td>
<td><em>I Arya nyak gandonga teken belinne.</em></td>
<td><img src="image7" alt="Picture A" /></td>
<td><img src="image8" alt="Picture B" /></td>
</tr>
<tr>
<td></td>
<td>Normal Control: ‘Arya agreed to be carried on the back by his older brother.’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crossed Control: ‘His older brother agreed to carry Arya on his back.’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCC 5</td>
<td><em>Petinjune uli Malaysia bani lawana teken petinjune uli Filipina.</em></td>
<td><img src="image9" alt="Picture A" /></td>
<td><img src="image10" alt="Picture B" /></td>
</tr>
<tr>
<td></td>
<td>Normal Control: ‘The boxer from Malaysia dared to be fought against by the boxer from the Phillippines.’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crossed Control: ‘The boxer from the Phillippines dared to fight the boxer from Malaysia.’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verb Category</td>
<td>Sentence</td>
<td>Picture A (Subj-bias)</td>
<td>Picture B (PP-bias)</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>CCC 1</td>
<td><strong>Anake cerik ento nagih sangkola teken memenne.</strong> Normal Control: ‘That child wanted to be carried by the mother.’ Crossed Control: ‘The mother wanted to carry that child.’</td>
<td><img src="image1" alt="Picture A" /></td>
<td><img src="image2" alt="Picture B" /></td>
</tr>
<tr>
<td>CCC 2</td>
<td><strong>Kaki Nyoman edot lalinina teken cucunne.</strong> Normal Control: ‘Grandpa Nyoman wanted to be visited by his grandchildren.’ Crossed Control: ‘His grandchildren wanted to visit Grandpa Nyoman.’</td>
<td><img src="image3" alt="Picture A" /></td>
<td><img src="image4" alt="Picture B" /></td>
</tr>
<tr>
<td>CCC 3</td>
<td><strong>I Bayu engsap ajakina mabalih teken timpal-timpalne.</strong> Normal Control: ‘Bayu forgot to be invited to watch by his friends.’ Crossed Control: ‘His friends forgot to invite Bayu to watch (together)’</td>
<td><img src="image5" alt="Picture A" /></td>
<td><img src="image6" alt="Picture B" /></td>
</tr>
<tr>
<td>CCC 4</td>
<td><strong>Anak cerik ento nyak suntika teken doktere.</strong> Normal Control: ‘That child agreed to be injected by the doctor.’ Crossed Control: ‘The doctor agreed to inject that child.’</td>
<td><img src="image7" alt="Picture A" /></td>
<td><img src="image8" alt="Picture B" /></td>
</tr>
<tr>
<td>CCC 5</td>
<td><strong>Pak Wayan bani periksana teken polisine.</strong> Normal Control: ‘Mr. Wayan dared to be investigated by the cops.’ Crossed Control: ‘The cops dared to investigate Mr. Wayan.’</td>
<td><img src="image9" alt="Picture A" /></td>
<td><img src="image10" alt="Picture B" /></td>
</tr>
<tr>
<td>SC 1</td>
<td><strong>Anake luh ento demen tingalina teken truna-trunane.</strong> ‘That woman liked to be looked at by the young men.’</td>
<td><img src="image11" alt="Picture A" /></td>
<td><img src="image12" alt="Picture B" /></td>
</tr>
</tbody>
</table>
| SC 2 | Anake cerik ubuh ento makeneh idiha teken I Wayan.  
‘That orphan wished to be adopted by Wayan.’ |
| SC 3 | I Wibi ngekoh telpuna teken kabakne.  
‘Wibi is uneager to be called by his girlfriend.’ |
| SC 4 | I Komang Dewi makita candaina teken belinne.  
‘Komang Dewi wanted her brother to play with her.’ |
| SC 5 | I Komang Adi inget telpuna teken memene.  
‘Komang Adi remembered having been called by his mother.’ |
| Raising 1 | Bos tokone ento ngenah bobogina teken pegawene.  
‘That shop owner appeared to be lied to by his employee.’ |
| Raising 2 | I Kadek terus ereda teken bapane kasakolah.  
‘Kadek continued to be dragged by his father to school.’ |
| Raising 3 | Gurune jegeg ento suud olaha teken murid-muridne.  
‘That beautiful teacher stopped being teased by the students.’ |
Raising 4  
*I Suka buung kalaina teken kurnane.*
‘His wife decided to not leaving Suka.’

Raising 5  
*Muride ento payu kirima teken kepala sekolahe ka Singapur.*
‘The principal carried out his plan of sending that student to Singapore.’

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**PART II**

<table>
<thead>
<tr>
<th>Verb Type</th>
<th>Stimuli Type</th>
<th>GROUP 1</th>
<th>GROUP 2</th>
</tr>
</thead>
</table>
| CCC 1 nagih | Passage | Context A (normal control)  

‘Sometime ago, there was a wedding party with *joged* (dance) as entertainment. The *joged* (dancer) was pretty, but her dance was very provoking. There was a very handsome man who were pulled in to dance by the *joged* (dancer). The *joged* (dancer) kept on chasing and trying to get close to him.’  

<table>
<thead>
<tr>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Jogede buang ento nagih geluta teken anake ngibing.</em></td>
</tr>
<tr>
<td>CCC 2 nagih</td>
</tr>
<tr>
<td>---</td>
</tr>
</tbody>
</table>
| | ‘The promiscuous joged dancer wanted to be hugged by the follow.’ | Context B (crossed control)  
*Dugase tangkil ke Pura Lempuyang, tiang ningalin anak cerik majalan uli tongos parkir. Ia majalan becat gati, sambilanga malaib lan kecag-kecog. Memene kenehne sing ngamaang anake cerik ento majalan, jejeh ningalin panakne kecag-kecog. Pas anake cerik ento labuh, memene langsung malaib maakin panakne.* | Anake cerik ento nagih sangkola teken memenne. |
| | ‘The follow wanted to be hugged by the joged dancer.’ | Context A (normal control)  

<table>
<thead>
<tr>
<th>CCC 3 edot</th>
<th>Interpretation</th>
<th>Passage</th>
<th>Target</th>
</tr>
</thead>
</table>
| | ‘The mother wanted to carry the child.’ | Context A (normal control)  
*I Komang Ayu tumben maan giliran pentas di acara perpisahan kelas nem jani. Ia ngoyong ngajak dadongne di Buleleng. Meme-bapanne ane ngalih gae di Badung sing taen ngidaang mulih. I Komang Ayu lakar nelpon meme-bapanne nakonang* | ‘The child wanted to be carried by his mother.’ |
| | ‘The child wanted to be carried by his mother.’ | Context B (crossed control)  
Komang Ayu got a chance for the first time to perform in the graduation ceremony for the sixth graders. She lived with her grandmother in Buleleng. Her mother and father who were working in Badung never had the time to come home. Komang Ayu will call her parents to ask whether they can come home when she is performing.

Komang Ayu learned to do the Cendrawasih dance at an art institution. In a month, Komang Ayu and her friends will perform in Badung. Her mother and father knew that Komang Ayu will perform in Badung. Her parents have been busy borrowing a camera and renting a car to be taken to Badung.

I Komang Ayu edot pabaliha ngigel teken meme-bapane.

Komang Ayu wanted to be watched by her mother and father when dancing.

Komang Ayu’s mother and father wanted to watch her dancing.

Grandpa Nyoman lives in the village alone. He has a child and a grandchild who lives in the city. His grandchild really likes to go to the village to help his grandpa in the ricefield. Now, his grandchild is having a school break.

Grandpa Nyoman lives in the village alone. In the past, he was often visited by his child and grandchild. Usually, his grandchild come to the village every school break. However, it has been a year since he last visited Grandpa Nyoman.
<table>
<thead>
<tr>
<th>CCC 5</th>
<th>Target</th>
<th>Kaki Nyoman edot lalinina teken cucunne.</th>
<th>Kaki Nyoman edot lalinina teken cucunne.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation</td>
<td>‘His grandchild wanted to visit Grandpa Nyoman.’</td>
<td>‘Grandpa Nyoman wanted to be visited by his grandchild.’</td>
<td></td>
</tr>
<tr>
<td>Passage</td>
<td>Context A (normal control) Ada anak cerik ane kebusne kanti 40 derajat Celsius. Anake cerik ento ajaka ka dokter. Doktere nagih nuntik anake cerik ento apang enggal seger. Anake cerik ento takut masuntik, sakewala meme-bapanne ngalesmesin ia, nyanjiang meliang ia es krim yen suba seger.</td>
<td>Context B (crossed control) Ada anak cerik ane kebusne kanto 40 derajat Celsius. Anake cerik ento ajaka ka dokter. Krana meme-bapanne sing ngelah pipis anggona mayah, ia ngidih tulung gati teken doktere apang maan suntikan gratis. Anake cerik ento pedalema teken doktere.</td>
<td>‘There was a child whose fever was up to 40 degrees Celsius. That child was taken to the doctor. The doctor wanted to inject him so that he would recover quickly. That child is afraid of being injected, but his mother and father persuaded and promised to buy him ice cream when he is healthy.’</td>
</tr>
<tr>
<td>Context A (normal control)</td>
<td>Ada anak cerik ento nyak suntika teken doktere.</td>
<td>Ada anak cerik ento nyak suntika teken doktere.</td>
<td>‘The child agreed to be injected by the doctor.’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CCC 7 engsap</th>
<th>belinne ngandong I Arya neked di purane.</th>
<th>majalan ke pura, kanti ia ulung ulian kenyelne.</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Arya was only eight years old, but his weight is already sixty kilograms so he had difficulty getting up from his bed, not to mention walking. During the ceremony, he was told to walk to the temple because his big brother didn’t want to carry Arya on his back. He walked until he fell because of exhaustion. His mom told the big brother to carry Arya on his back until they reach the temple.’</td>
<td>‘Arya was only eight years old, but his weight is already sixty kilograms. He was ashamed because his friends often mocked him for not being able to walk very far. Usually, his big brother is the one that carry Arya on his back. During the ceremony, Arya didn’t let his brother to help him; he forced himself to walk to the temple until he fell down from exhaustion.’</td>
<td></td>
</tr>
<tr>
<td>Target</td>
<td>I Arya nyak gandonga teken belinne.</td>
<td>I Arya nyak gandonga teken belinne.</td>
</tr>
<tr>
<td>Interpretation</td>
<td>‘Arya’s brother agreed to carry Arya on his back.’</td>
<td>‘Arya agreed to be carried on his brother’s back.’</td>
</tr>
</tbody>
</table>
| ‘Iluh Sri is now in high school. Usually, Iluh Sri takes public transport to school. Her father said that he would pick her up because he had some business near the school (that day). When the school bell rang, Iluh Sari quickly went on the public transportation.’ | ‘Iluh Sri is now in high school. Usually, Iluh Sri takes public transport to school. But, earlier this morning she asked her father to pick her up at school so that she could arrive at home faster since"
<table>
<thead>
<tr>
<th>Target</th>
<th>Passage</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iluh Sri engsap papagina teken bapanne.</td>
<td>Context B (crossed control) I Bayu sabilang wai magadang mabalih sepakbola ajak timpal-timalpalne. Kewala suba aminggu I Bayu luas ke Jawa, sing ngidaang ia mabalih sepakbola ajak timpal-timalpalne. Ibi timpal-timalpalne ngarencanaang mabalih sepakbola rame-rame. Timpal-timalpalne sing inget I Bayu suba teka uli Jawa.</td>
<td>‘Every day, Bayu and his friends stay up late to watch soccer. However, Bayu went to Java for a week and he couldn’t watch soccer with his friends. Yesterday, his friends were planning to watch soccer together. His friends forgot that Bayu is already back from Java.’</td>
</tr>
<tr>
<td>Iluh Sri engsap papagina teken bapanne.</td>
<td>Context A (normal control) I Bayu demen gati mabalih sepakbola. Ia sabilang wai magadang mabalih sepakbola ajak timpal-timalpalne. Uling ibi I Bayu lan timpal-timalpalne ngarencanaang kumpul-kumpul mabalih sepakbola. Sakewala, I Bayu sibuk gati ngurusang ngae tugas kuliahne ane laker makumpul buin mani uling semengan.</td>
<td>‘Bayu really likes to watch soccer. Every day, he watches soccer late into the night with his friends. Since yesterday, Bayu and his friends planned to watch soccer together. However, since morning Bayu was busy working on his school assignment that needs to be submitted the next day.’</td>
</tr>
<tr>
<td>I Bayu engsap ajakina mabalih teken timpal-timalpalne.</td>
<td>I Bayu engsap ajakina mabalih teken timpal-timalpalne.</td>
<td>‘His friends forgot to invite Bayu to watch (soccer together).’</td>
</tr>
<tr>
<td>I Bayu engsap ajakina mabalih teken timpal-timalpalne.</td>
<td>‘Bayu forgot that he was invited by his friends to watch (soccer together).’</td>
<td></td>
</tr>
<tr>
<td>Target</td>
<td>Petinjune uli Malaysia bani lawana teken petinjune uli Filipina.</td>
<td>Petinjune uli Malaysia bani lawana teken petinjune uli Filipina.</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------</td>
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</tr>
<tr>
<td>Interpretation</td>
<td>‘Mr. Wayan is the chairman of the Provincial House of Representatives. He corrupted billions of rupiah. There is a person who reported him to the police. Many thugs threatened the police so that they will not investigate Mr. Wayan. But the police is not afraid of the threat.’</td>
<td>‘Mr. Wayan was accused of stealing by his neighbor. He didn’t confess because he has proof that he didn’t steal. The neighbor still reported him to the police. Mr. Wayan is not afraid of being reported to the police.’</td>
</tr>
</tbody>
</table>
### SC 1 makita

<table>
<thead>
<tr>
<th>Target</th>
<th>Pak Wayan bani periksana teken polisine.</th>
<th>Pak Wayan bani periksana teken polisine.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation</td>
<td>‘The police dare to investigate Mr. Wayan.’</td>
<td>‘Mr. Wayan dared to be investigated by the police.’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Passage</th>
<th>Context A (normal control)</th>
<th>Context B (crossed control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ada anak luh ane jegeg gati di desa. Krana ia jegeg, liu anake nagih motrek lan ngalukis. Di desane ento ada tamiu uli Perancis ane dueg gati ngalukis. Anake luh ane jegeg ento ningeh unduk kaduegan tukang gambare uli Perancis ento, lantas ia malali ka umah tamiune ento.</td>
<td>‘There was a very pretty girl in the village. Because she was pretty, many people wanted to take pictures and paint her. At the village, there was a tourist from France who was really good at painting. That pretty girl heard about how good that French painter was, so she visited that tourist’s house.’</td>
<td></td>
</tr>
</tbody>
</table>

### SC 2 makita

<table>
<thead>
<tr>
<th>Target</th>
<th>Anake jegeg ento makita lukisa teken turise uli Perancis.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation</td>
<td>‘That pretty girl wanted to be painted by the tourist from France.’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Passage</th>
<th>Context B (crossed control)</th>
<th>Context A (normal control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>‘Komang Dewi is a five-year old child. She doesn’t like to be tickled. Mang Dewi’s brother is very naughty and likes to tease his sister. He is stealthily coming from behind to tickle her.’</td>
<td>‘Komang Dewi is a five-year old child. She really likes to play around with her big brother when he comes home from school. But today, her big brother is busy working on his homework. Mang Dewi is crying because her brother does not play with her.’</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Interpretation</td>
<td>‘Komang Dewi wanted her brother to play with her.’</td>
<td>‘Komang Dewi wanted her brother to play with her.’</td>
</tr>
<tr>
<td>Passage</td>
<td>I Komang Dewi makita candaina teken beline.</td>
<td>I Komang Dewi makita candaina teken beline.</td>
</tr>
<tr>
<td>SC 3 demen</td>
<td>‘Ayu takes her younger brother to the village hall every evening. That boy is very handsome and cute. All the girls that hang out at the village hall are enamored of him so they like to kiss the boy. That boy was smiling anytime he was kissed by the girls.’</td>
<td>‘Ayu takes her younger brother to the village hall every evening. That boy is very handsome and cute. All the girls that hang out at the village hall are enamored of him so they like to kiss the boy. The girls (sometimes) kissed him until he cried.’</td>
</tr>
<tr>
<td>Target</td>
<td>Anaké cerik ento demen dimanina tekén bajang-bajangé.</td>
<td>Anaké cerik ento demen dimanina tekén bajang-bajangé.</td>
</tr>
<tr>
<td>Interpretation</td>
<td>‘That little boy likes to be kissed by the girls.’</td>
<td>‘That little boy likes to be kissed by the girls.’</td>
</tr>
<tr>
<td>Passage</td>
<td>Ada anak luh ane sabilang sanja ngaliwatin bale</td>
<td>Ada anak luh ane sabilang sanja ngaliwatin bale</td>
</tr>
<tr>
<td>SC 4 demen</td>
<td>Context B (crossed control)</td>
<td>Context A (normal control)</td>
</tr>
</tbody>
</table>
### Passage

**SC 5**


‘There is a child whose parents passed away. The child’s parents are Wayan’s cousins. When the parents were still alive, Wayan often took that child for

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### Target

<table>
<thead>
<tr>
<th>Anake luh ento demen tingalina teken truna-trunane.</th>
</tr>
</thead>
</table>

### Interpretation

‘That woman likes to be looked at by the young men.’

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### Context A (normal control)


‘There is a child whose parents passed away. The child’s parents are Wayan’s cousins. When the parents were still alive, Wayan often took that child for

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### Context B (crossed control)


‘There is a child whose parents passed away. The child’s parents are Wayan’s cousins. Wayan really loves the child because he was close to the (child’s) father. Wayan has asked the lawyer about the
<table>
<thead>
<tr>
<th>SC 6 makeneh</th>
<th>trips. That child really likes Wayan and he keeps on asking to stay with Wayan since his parents passed away.’</th>
<th>process for adopting a child.’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>Anake cerik ubuh ento makeneh idiha teken I Wayan.</td>
<td>Anake cerik ubuh ento makeneh idiha teken I Wayan.</td>
</tr>
<tr>
<td>Interpretation</td>
<td>‘That child wished to be adopted by Wayan. (Lit: That child intended to be adopted by Wayan.)’</td>
<td></td>
</tr>
</tbody>
</table>
| Passage | Context B (crossed control)  
‘The fifth grade students get to learn how to make offerings (at school). Everybody learned to make porosan and tipat. The teacher saw that the students are already able to make porosan and tipat. In a week, the students will be taught to make something else, as they were asked to bring busung (young coconut leaves), semat (bamboo thread), knife, flower petals in five colors, and samsam (slivers of pandanus leaves).’ | Context A (normal control)  
‘The fifth grade students get to learn how to make offerings (at school). Everybody learned to make porosan and tipat. After (they are all) able (to make it), the teacher said that she will teach the students to make other things. The teacher told the students to choose what they want to learn to make next.’ |
<p>| Target | Murid-muride makeneh ajahina nyait canang sari teken gurune. | Murid-muride makeneh ajahina nyait canang sari teken gurune. |</p>
<table>
<thead>
<tr>
<th>SC 7</th>
<th>Interpretation</th>
<th>Passage</th>
<th>Context A (normal control)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>‘The students wished to be taught to make (flower) offering by the teacher. (Lit: The students intend to be taught to make (flower) offering by the teacher.)’</td>
<td>I Komang Adi masuk di universitas di Badung. Ia jani nu sibuk gati ngae tugas akhir semester. Memene maan nelpun ia ipuan, sakewala ia sing nyidaang nutur makelo krana ia lakra ngalanjutang ngae tugas. Ia ngorahang lakra nelpun memene petengan, sakewala ia engsap teken pasubayane kanti tuni semengan.</td>
<td>‘Komang Adi studies at a university in Badung. He is now really busy working on his end-of-semester assignment. His mother called two days ago, but he couldn’t talk for long because he continued working on his assignment. He said he would call his mom later in the evening, but he forgot his promise until this morning.’</td>
</tr>
<tr>
<td>Target</td>
<td>I Komang Adi inget telpuna teken memene.</td>
<td>‘Komang Adi remembered being called by his mother.’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SC 8</th>
<th>Interpretation</th>
<th>Passage</th>
<th>Context A (normal control)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>‘Komang Adi remembers being called by his mother.’</td>
<td>I Meme sebet krana I Ketut luas magae ka Kalimantan. Ia mabesen apang I Ketut sai-sai ngirim surat. I Ketut sibuk gati nyemak gae. Sakewala ia sing taen engsap ngirim surat ka memene sabilang minggu.</td>
<td>‘Komang Adi doesn’t have money to copy his course book. (So,) he sent a text message asking his mother to give him a call. His mother was attending a funeral when she received Mang Adi’s text. Mang Adi was called right away by his mom after she came from the funeral.’</td>
</tr>
<tr>
<td>SC 9</td>
<td>Passage</td>
<td>Target</td>
<td>Interpretation</td>
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<tr>
<td>-------</td>
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<tr>
<td></td>
<td>‘Mother was sad because Ketut went to work in Kalimantan. She instructed him to send letters often. Ketut is very busy working. However, he never forgets to send a letter to his mother every week.’</td>
<td>I meme inget kirimina surat teken I Ketut.</td>
<td>‘Mother remembered being sent a letter by Ketut.’</td>
</tr>
<tr>
<td></td>
<td><strong>Context A (normal control)</strong></td>
<td>I Wibi anakne polos lan satia gati teken kabakne. Sabilang pesu ia maorahan teken kabakne. Sakewala, kabakne I Wibi cemburuan gati, pragat nelpun nunden I Wibi mulih. Jani I Wibi sing taen ngangkat telpun kabakne pas pesu jak timpal-timpalne.</td>
<td>‘Wibi is a good man and very loyal to his girlfriend. Every time he goes out, he always tells his girlfriend. However, Wibi’s girlfriend is the jealous type, as she always calls Wibi to tell him to come home. Now, Wibi never picks up her call whenever he goes out with his friends.’</td>
</tr>
<tr>
<td></td>
<td><strong>Context B (crossed control)</strong></td>
<td>I Wibi tusing demen ngaba hape ideh-ideh. Hapene pragatan kalaina jumah. Kanti med kabakne nelpun I Wibi, sing taen angkata. Jani suba sing taen nelpun buin kabakne, I Wibi dogenan ane nelpun maluan.</td>
<td>‘Wibi doesn’t like to carry a cellphone around. His cellphone is always left at home. His girlfriend is tired of calling him because he rarely picks up. Now Wibi is never called by his girlfriend anymore; he is the one that calls first.’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SC 10</th>
<th>Passage</th>
<th>Target</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Context B (crossed control)</strong></td>
<td>I Wibi ngekoh telpuna teken kabakne.</td>
<td>‘Wibi doesn’t want to be called by his girlfriend.’</td>
</tr>
<tr>
<td></td>
<td><strong>Context A (normal control)</strong></td>
<td>I Wibi ngekoh telpuna teken kabakne.</td>
<td></td>
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<td>---</td>
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<tr>
<td></td>
<td>‘Mother went shopping to the market every day. She likes to choose (carefully) and bargain when she shops. Father does not like spending much time at the market. Every time Mother asked to be accompanied to the market, Father would sulk.’</td>
<td>‘Mother went shopping to the market every day. She likes to choose (carefully) and bargain when she shops. When Father is accompanying Mother shopping, he does not let her bargain for too long. Every time Father accompanies her to the market, Mother would sulk.’</td>
<td></td>
</tr>
<tr>
<td><strong>Target</strong></td>
<td><em>I Meme ngekoh atehanga mablanja teken I Bapa.</em></td>
<td><em>I Meme ngekoh atehanga mablanja teken I Bapa.</em></td>
<td></td>
</tr>
<tr>
<td><strong>Interpretation</strong></td>
<td>‘Mother does not want to be accompanied by Father when she is shopping.’</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Raising 1 ngenah</strong></td>
<td><em>Uling ipuan nyama-nyaman tiange di desa makejang uyut ngarebutin warisan. Tusing ada ane nyak ngalah, kanti nagih maurusan nalih pengacara. Ada anake ngorahang nepukin I Men Ratri ane ngoyong di samping umahe sai-sai malali ka umah nyama-nyama tiange. Suud ia malali ento ba nyama-nyamane nyumunin magerengan.</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘For the last two days, all my relatives in the village have been arguing about inheritance. Nobody agrees to make compromises until they deal with it through lawyers. Somebody said that (s/he) saw Men Ratri, who lives next to our compound, often visited my relatives’ houses. It is after her visits that my relatives started to argue’</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Target</strong></td>
<td><em>Nyama-nyaman di jumah ngenah adokanga teken Men Ratri.</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interpretation</strong></td>
<td>‘Men Ratri appeared to have brought my relatives at home into conflict.’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raising 2</td>
<td>Passage</td>
<td>Bos toko kelontonge di peken terus kahilangan pipis. Ia curiga teken pegawene ane matugas dadi kasir. Pegawene ento tepukina kipak-ipek sakondene muka laci. Pas takonina teken bosne, pegawene ento ngengkebang limane lan ngorahang ia menahin laci, sing nyemak pipis uli lacine.</td>
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<td></td>
</tr>
<tr>
<td>Target</td>
<td>Bos tokone ento ngenah bobogina teken pegawene.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpretation</td>
<td>‘The owner of the grocery store has been losing money. He suspects his employee whose duty is to be the cashier. He saw that employee looking left and right before opening the drawer. When he was being interrogated by the owner, that employee hid his hands and said that he was fixing the drawer, not taking money from it.’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Raising 3</th>
<th>Passage</th>
<th>I Nyamprut murid ane paling duega di sekolah, anakne berag cenik lan makaca-mata tebel. Krana I Nyamprut anakne kimud, bek murid-murid ane lenan demen ngolah ia. I Doplar murid paling belera, anakne gede ganggas lan demen nyagur. Sabilang wai I Nyamprut aliha teken I Doplar, baanga gemelan.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>I Nyamprut terus jagura teken I Doplar.</td>
<td></td>
</tr>
<tr>
<td>Interpretation</td>
<td>‘Nyamprut is the smartest student in school; he is small, skinny, and wears a thick pair of glasses. Because Nyamprut is a shy boy, many other students like to bully him. Doplar is the naughtiest student; he is big, tall, and likes to fight. Every day Doplar looks for Nyamprut to give him a punch.’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Raising 4</th>
<th>Passage</th>
<th>I Kadek ngidih apang belianga HP ajak bapane. Ulian sing belianga, ia ngambul sing nyak masuk ka sekolah. I Kadek suba orahina melah-melah teken bapane, kewala ia iteh sing nyak masuk. Bapane galak lan ngedeng limane I Kadek ajaka ka sekolahne ane paak teken umahne.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>I Kadek terus ereda teken bapane ka sakolah.</td>
<td></td>
</tr>
<tr>
<td>Interpretation</td>
<td>‘Kadek asked his father to buy him a cellphone. Because he didn’t get one, he was cranky and didn’t want to go to school. His dad had talked to him patiently, but he still didn’t want to go to school. His dad became angry and took Kadek’s hand and pulled him to school which is near their house.’</td>
<td></td>
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<tr>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td></td>
<td>Target</td>
<td>Anake cerik ento suud runguanga teken meme-bapane.</td>
</tr>
<tr>
<td></td>
<td>Interpretation</td>
<td>‘There is a really whiny child. The parents had taken him around, played with him, bought him lots of things. But he was still crying. Because the parents were really tired of dealing with it, they let the child cry.’</td>
</tr>
</tbody>
</table>

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<thead>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Target</td>
<td>Gurune jegeg ento suud olaha teken murid-muridne.</td>
</tr>
<tr>
<td></td>
<td>Interpretation</td>
<td>‘There is a new teacher who was still young and beautiful in SMA 1. That beautiful teacher was teaching biology in Grade 12. She was always teased by the students in class, so she reported it to the principal. The students were scolded by the principal.’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Raising 7</th>
<th>Passage</th>
<th>Dugas purnamane, ada anak cenik ngamaling pipis sesari di Pura Jagatnatha. Anake cerik ento nudukin pipis sesari di canange. Bapan anake cerik ento galak gati pas ningalin ia nyelepan pipis ka kantongne. Sakewala, makejang anake ditu sing ngemaang ia nigtig panakne.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Target</td>
<td>Anake cerik ento buung tigtiga teken bapane.</td>
</tr>
<tr>
<td></td>
<td>Interpretation</td>
<td>‘During the full moon, there was a child that stole donation money at the Jagatnatha temple. That child took the money from other people’s offerings. The father of that child was really angry when he saw his child put the money into his pocket. However, everybody there did not allow him to hit his child.’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Raising 8</th>
<th>Passage</th>
<th>I Suka suba atiban nganggur ulian kena PHK. Ia ngelamar gae dini ditu sing taen maan. Kurnanne I Suka ngorahang mulih ka umah bajangne krana I Suka terus sing maan gae. Sakewala, I Suka ngorahang teken kurnane, ia lakar nyemak gae dadi supir uli buin mani.</th>
</tr>
</thead>
</table>
‘Suka has been without job for a year after being fired. He applied for jobs everywhere, but he never got one. Suka’s wife said that she will go back to her parents because Suka couldn’t not find a job. However, Suka told her that he will work as a driver starting from the next day.’

<table>
<thead>
<tr>
<th>Target</th>
<th>I Suka buung kalaina teken kurnane.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation</td>
<td>‘His wife cancelled (decided against) leaving Suka.’</td>
</tr>
</tbody>
</table>

‘During summer break, Adi was told to spend some time at the village. Adi did not want to stay at the village for a week. When his grandfather promised him a visit to the Botanical Garden (in Bedugul), then he agreed to go to the village. Adi and his grandfather departed for Bedugul early in the morning yesterday.’

<table>
<thead>
<tr>
<th>Target</th>
<th>I Adi payu ajaka ka Bedugul teken kakine.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation</td>
<td>‘The grandpa did take Adi to Bedugul.’</td>
</tr>
</tbody>
</table>

‘In the science major, there is a student who is really good in mathematics. He received one hundred (percent) on every math test. The principal said that he will send the student to a Mathematic Olympics in Singapore if the school gets funding. A ticket was bought for the student once the funding was given yesterday.’

<table>
<thead>
<tr>
<th>Target</th>
<th>Muride ento payu kirima teken kepala sekolahe ka Singapur.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation</td>
<td>‘The principal did send that student to Singapore.’</td>
</tr>
</tbody>
</table>