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Argument structure and morphological marking in Indonesian
A research on verbalisations and its consequences for nominalisations

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Contents

List of Tables	vi
List of Figures	vii
1 Introduction	1
2 Background: Basic facts about Indonesian and theoretical assumptions	3
2.1 Indonesian language	3
2.1.1 Indonesian verbal phrases	4
2.1.2 Indonesian noun phrases	7
2.1.3 Indonesian adjectives	7
2.2 Assumptions about the verbal structure	9
2.2.1 The eventuality descriptive heads	9
2.2.2 Argument structure: main proposals	11
2.2.3 Applicative heads	15
2.2.4 EventP as the head that connects the description with time and world	17
2.3 Assumptions about the deverbal nominalisations	18
2.4 Assumptions about spell out	21
3 Methodology	24
4 Verbal affixes	27
4.1 Absence of verbal affixes in Standard Indonesian	29
4.2 Main verbal affixes	31
4.2.1 <i>Meng-</i>	31
4.2.2 <i>Ber-</i>	40
4.2.3 <i>Ter-</i>	42
4.2.4 <i>Meng-kan</i> and <i>meng-i</i>	47
4.2.5 Summary	62
4.3 Analysis	63
4.3.1 The nature of the verbal prefixes	63
4.3.2 Verbs with <i>meng-</i>	67
4.3.3 Verbs with <i>ber-</i>	73
4.3.4 Verbs with <i>ter-</i>	77
4.3.5 The nature of the suffixes: <i>-kan</i> and <i>-i</i>	80

5	Deverbal nominalisations in Indonesian	96
5.1	Overview of the general properties of Indonesian nominalisations.....	96
5.1.1	The suffix <i>-an</i>	98
5.1.2	Overview of the morphological patterns with each verb class.....	99
5.2	Nominalisations from <i>meng-</i>	102
5.2.1	Complex event nouns with internal argument.....	102
5.2.2	Nominalisation construal with possessive: simple event nouns	104
5.3	Nominalisations from <i>meng-kan</i> and <i>meng-i</i>	105
5.3.1	Complex event nouns derived from verbs with <i>meng-kan</i>	105
5.3.2	Simple event nouns derived from verbs with <i>meng-kan</i>	107
5.3.3	Complex event nouns derived from verbs with <i>meng-i</i>	108
5.3.4	Simple event nouns derived from verbs with <i>meng-i</i>	110
5.4	Nominalisations from <i>ber-</i>	111
5.4.1	<i>Per-an</i>	111
5.4.2	<i>Ke-an</i>	112
5.5	Nominalisations from <i>ter-</i>	113
5.6	Summary	114
5.7	Preliminary analysis	114
5.7.1	The prefixes	115
5.7.2	The suffix <i>-an</i>	117
5.7.3	The argument structure in nominalisations.....	120
6	Concluding Remarks.....	130
	Bibliography	137

List of Tables

1	Some of the most frequently used verbs with prefix <i>meng-</i>	32
2	Some of the most frequently used verbs with verbs with <i>ber-</i>	40
3	Some of the most frequently used verbs with prefix <i>ter-</i>	43
4	Some of the most frequently used verbs with prefix <i>meng-kan</i>	49
5	Some of the most frequently used verbs with verbs with <i>meng-i</i>	56
6	Generalisations of verbal affixes.....	63
7	Structure comparison between <i>meng-kan</i> and <i>meng-i</i>	82
8	Generalisations of nominal affixes.....	114

List of Figures

1	Ramchand's (2008, p. 39) syntactic projection of event structure.....	10
2	Biezma's (2008, p. 4) syntactic projection of imperatives.....	65
3	Versions of Evt in Indonesian	67

Chapter 1

Introduction

The main goal of this master thesis is to provide an analysis of the relation between morphological marking in Indonesian verbs and the argument structure that the corresponding verbal constituents exhibit. Secondly, we will extend the discussion to the nominalisations of these verbs, and how the argument structure of their bases is modified on a par with morphological marking; however, it is important to emphasise from the beginning that our main focus is on verbal structures.

The motivation for choosing this topic is mainly the complex set of questions that the definition of argument structure in languages pose. The relationship between a predicate and its arguments is generally taken to be specified in what has been called “the argument structure of the predicate” (Carnie, 2008, p. 49). Part of a language grammar involves determining how this relationship is reflected in the system: an argument can be marked as such by a certain case value based on the theta-role assigned to it, or, more relevantly for our purposes, a predicate can bear a certain affix that reflects the number of arguments associated with it, among other typological possibilities.

Standard Indonesian, the language that I concentrate on in this thesis, is an example of the second situation. This variety has verbal affixes which, when applied to a base form, define the number of arguments involved in the event or state that is represented by the resulting verb. The mapping is not, however, very neat, as there are apparent exceptions that challenge the predictability of those affixes. My goal in this thesis is to explore in some detail the correlations between these markers and the resulting argument structure, to see whether it is possible to establish generalisations that also include the examples that seem to fit less neatly with the general tendencies. My hope is that an empirically-rich discussion of these topics, putting Indonesian verbs in the centre, will allow me to contribute something to the theoretical question of whether argument structure should be listed in the lexical entry of individual predicates or, alternatively, can be derived from the syntactic configuration.

The structure of this thesis is as follows. The next chapter (§2) provides the background necessary to understand the research contribution that I will make in the following chapters: the main properties of Indonesian language and the main analytical assumptions that are hold in this research about the verbal structure, deverbal nominalisations, and the spell out procedure. That background overview is then followed by a brief explanation of the methodology used in this research, in Chapter 3.

Two chapters are devoted to the description and analysis, where I present my own contribution. Chapter 4 concentrates on the data description and analysis of Indonesian verbal affixes, and the argument structures related to them. Chapter 5 presents the description of the nominalisations of the verb classes discussed in Chapter 4, with a preliminary analysis of their main aspects. Finally, Chapter 6 concludes, emphasising our main claims and noting the questions that are still unanswered in my research.

Chapter 2

Background: Basic facts about Indonesian and theoretical assumptions

This chapter introduces the theoretical background that is relevant for my thesis, which concentrates on the internal argument structure of Indonesian verbs, and their nominalisations. The structure of this chapter is as follows. In section §2.1 I introduce some basic facts about Indonesian that are necessary to understand the data that I will provide. Since the topic of this thesis is argument structure in verbs and their deverbal nominalisation, the parts of Indonesian language to cover are the basic structure of verbal and nominal phrases; I will, however, leave the detailed discussion of the verbal affixes and nominalising affixes for Chapter 4 and Chapter 5, and restrict myself to the general overview of their syntactic properties in this chapter. In addition, Indonesian adjectives are also included in section §2.1 because, for the reasons presented in their subsection, the categories traditionally classified as adjectives in Indonesian should be viewed as verbs.

The rest of the chapter consists of the presentation of the state of the art and my main assumptions about the verbal structure (§2.2) and the notion of deverbal nominalisations (§2.3). Section §2.2 is in turn divided into subsections devoted to my assumptions about the heads that describe an eventuality, the notion of argument structure, the use of applicative heads, and the assumption that there is an Event Phrase that closes the verbal domain.

2.1 Indonesian language

Indonesian is an Austronesian language that, historically, was developed and standardized from Malay in a way that now is the name given to the national language of Indonesia. The country

has over 270 million¹ population, all of which are expected to speak Indonesian albeit only less than a half of them have Indonesian as their first language².

For the purposes of this thesis, there is a crucial distinction between the sociolinguistic varieties of Indonesian, as the presence of the verbal confixes that is at the centre of this thesis is restricted to one of them, the variety that from now on we will call Standard Indonesian. Standard Indonesian is the variety of Indonesian learned at school and the rest of the educational system. This variety is used both in the written and in the oral language in formal situations. There is an institution that normativises this variety: the *National Agency for Language Development and Cultivation* provides guidelines of grammar, terminology, and other relevant aspects of the formal use of Standard Indonesian. We must emphasise that, despite its formal value, this variety is used actively by the population, and as expected of any living variety, the usage of the speakers might differ from the guidelines provided by these institutions.

On the other hand, colloquial Indonesian is the variety that is widely used in the media and in the daily life of Indonesian people when they are not in formal situations. As most Indonesian speakers are bilingual or multilingual, colloquial Indonesian is influenced by other languages that are in contact with this language due to immigration, cultural influences, or social ties. To give an example of this, one of the most prominent instances of such influence is the adoption of the verbal suffix *-in* from Balinese Malay via Betawi Malay (Muhadjir, 2000, p. 47) to replace the verbal suffixes *-i* and *-kan* that we will study in some detail in this thesis.

Only Standard Indonesian is covered in the research presented here. The following subsections provide brief explanations of Indonesian verbal phrases, noun phrases, and adjectives as background to the discussion that will be presented in chapters 4 and 5.

2.1.1 Indonesian verbal phrases

A basic sentence structure in Indonesian consists of a subject and a predicate. Unlike English, which requires every sentence to have a verb, a sentence in Indonesian does not need to have

¹ Based on the 2020 population census retrieved February 18, 2021, from <https://www.bps.go.id/pressrelease/2021/01/21/1854/hasil-sensus-penduduk-2020.html>

² In 2010 only 21,6% of the population acquired Indonesian as their first language according to <https://www.ethnologue.com/language/IND> retrieved on February 18, 2021.

an overt copulative verb. The overt predicate in Indonesian can be of other categories, such as a noun *guru* “teacher” in sentence (1) and an adjective *senang* “happy” in sentence (2).

(1) *Saya guru.*
I teacher
“I am a teacher.”

(2) *Saya senang.*
I happy
“I am happy.”

A verb is typically positioned between the subject and the object, as Indonesian is a SVO language. For instance, sentence (3) has a subject *Saya* “I”, a verb *makan* “to eat”, and an object *nasi* “rice”.

(3) *Saya makan nasi.*
I eat rice
“I eat rice.”

As can be seen in the gloss above, Indonesian does not inflect the verb for person. In other words, no morphological marker in the verb indicates that the subject is first person singular. This impoverished inflection is general in verbal phrases in Indonesian. In order to indicate aspect in the predicate, instead of inflecting the verb, an aspectual marker precedes the verb, such as *sudah* “already” preceding *makan* “to eat” in sentence (4).

(4) *Saya sudah makan nasi.*
I already eat rice
“I have eaten (some) rice.”

The same goes for temporal properties. A temporal marker can be placed practically anywhere in the sentence except between the verb and the object.

(5) *Saya makan nasi tadi pagi.*
I eat rice last morning
“I ate rice this morning.”

(6) *Tadi pagi saya makan nasi.*
last morning I eat rice
“This morning I ate rice.”

(7) **Saya makan tadi pagi nasi.*
I eat last morning rice

It is also possible to have the verb to stand alone without an object nor an aspectual marker. When neither aspectual nor temporal marker is overt in the sentence, the speakers involved in the conversation rely on the context to interpret the aspectual and the temporal properties of a verbal phrase. For example, sentence (8) can have four interpretations (a-d).

- (8) *Saya makan.*
 I eat
a. “I am eating.”
b. “I ate.”
c. “I have eaten.”
d. “I will eat.”

As seen in sentence (8), the verb *makan* “to eat” does not inflect.

Another relevant property of verbal phrases is that the arguments do not receive overt case marking to indicate their functions. However, Indonesian can use affixation to denote some properties of the verbal predicate, for instance transitivity. We will discuss this in detail in Chapter 4, but for the time being we will advance some relevant facts. In Standard Indonesian the verbs are tagged in many cases with overt morphemes that seem to have incidence on the number and type of arguments. Some of these affixes are *meng-* which makes monotransitive verbs, the combination *meng-kan* –traditionally considered a confix– which makes ditransitive verbs, and *ber-* which makes intransitive agentive verbs. In (9), the verb *mengambil* “to take” is the result of the combination between the verbal prefix *meng-* and the verbal base *ambil* “to take”. In (10), the verb *mengambilkan* “to take A for B” is made up of the verbal confix *meng-kan* and the verbal base *ambil*. In (11), the verb *berhasil* “to succeed” consists of the verbal prefix *ber-* and the nominal base *hasil* “result”.

- (9) *Saya mengambil buku.*
 I take book
 “I take a book.”
- (10) *Saya mengambilkan buku untuk kamu.*
 I take book for you
 “I am taking a book for you.”
- (11) *Saya berhasil.*
 I succeed
 “I succeeded.”

These affixes mentioned above, and more, will be the focus of Chapter 4.

2.1.2 Indonesian noun phrases

The subject of a sentence is usually occupied by a noun phrase (Moeliono et al., p. 260); a noun phrase can also be the object of a sentence. In (12), the noun phrase *dua mekanik itu* “the two mechanics” is the subject and the noun phrase *mobil baru kami* “our new car” is the object.

- (12) *Dua mekanik itu akan memeriksa mobil baru kami.*
two mechanic that will check car new we
“The two mechanics will check our new car.”

As seen in (12), there are no overt case markers that differentiate the object from the subject. The internal structure of the noun phrase is also relevant: in *mobil baru kami* “our new car” the head is the noun *mobil* “car” followed by an adjective *baru* “new” and a possessive pronoun *kami* “our”. Note that the pronoun *kami* has the same shape as possessive, as object meaning “us” and as subject meaning “we”. In fact, what we have in this sentence is a possessive construction, which in Indonesian is performed without any overt preposition or case marker, as in (13-14).

- (13) *Itu kucing Maria.*
that cat Maria
“That is Maria’s cat.”

- (14) *Ini kucing saya.*
this cat I
“This is my cat.”

In *dua mekanik itu* “the two mechanics”, the determiner demonstrative *itu* “that” also comes after the noun *mekanik* “mechanic”. Nevertheless, Indonesian does not require overt determiners in the noun phrase, as we can see in (15):

- (15) *Kucing-kucing tidur di kasur.*
cat.redup sleep in bed
“(The) cats sleep on the bed.”

As can be seen, most other categories in a noun phrase follow the noun.

2.1.3 Indonesian adjectives

Despite having mentioned in the previous subsection that *baru* “new” is an adjective, this claim has to be taken to be semantically based, meaning that *baru* expresses a quality that is used to

modify the noun. In fact, there is no distinct set of grammatical properties that differentiate adjectives from verbs or nouns in Indonesian (Stassen, 1997, p. 47). In the examples below, there is no syntactic difference between *gembira* “to be happy”, which is traditionally categorised as an adjective, and *bergembira* which has the verbal prefix *ber-* and thus is a verb.

(16) *Saya akan gembira jika Anda datang.*
I will happy if you come
“I will be happy if you come.”

(17) *Saya akan bergembira jika Anda datang.*
I will be ber-happy if you come
“I will be happy if you come.”

The crucial property is that the types of objects that are traditionally understood as adjectives given their semantic properties can be categorised as verbs in Indonesian, as in (16).

Stassen (1997) proposes that all “adjectives” in Indonesian are in fact verbs. When an adjective is used within a noun phrase, there is also no difference between the behaviour of such element and a verb used as a modifier. For instance, the noun phrase *mobil baru* “new car” in sentence (18) has a modifier *baru* “new”, which is traditionally categorized as an adjective. Meanwhile, the noun phrase *mobil terbang* “flying car” in sentence (19) has the verb *terbang* “to fly” as a modifier. Both *baru* and *terbang* follow the noun and do not get any grammatical mark assigned.

(18) *Mereka sedang merancang mobil baru.*
they in.progress.of design car new
“They are designing a new car.”

(19) *Mereka sedang merancang mobil terbang.*
they in.progress.of design car fly
“They are designing a flying car.”

Another argument that the categories traditionally classified as adjectives in Indonesian should be viewed as verbs can be drawn from how negation works with an adjective (17), a verb (18), and a noun (19). Like a verb, an adjective has the negation *tidak* preceding it. Nouns are negated by a different negative word, that is *bukan*.

(17) *Saya tidak marah.*
I not angry
“I am not angry.”

(18) *Saya tidak minum susu.*
I not drink milk
“I do not drink milk.”

(19) *Saya bukan guru.*
I not teacher
“I am not a teacher.”

These examples have been interpreted in other works as meaning that adjectives are probably not independent grammatical categories in Indonesian, and we mention it to complete the picture of the main grammatical properties of this language. However, as the analysis of adjectives in Indonesian is not the focus of this thesis, we will not discuss the status of the adjectives in the language any further. In chapters 4 and 5, we will keep occasionally the traditional label “adjective” for descriptive purposes; the reader should interpret “adjective” in this context as “a word typically used as a modifier of nouns”, without any implication that their internal structure should in any way be significantly different from verbs or nouns.

With this background in mind, let us now move to the exposition of the theoretical and analytical assumptions that I make in our work, starting for what we assume for the structure of lexical verbs.

2.2 Assumptions about the verbal structure

In describing verbal structures, we follow Ramchand (2018, 2008, p. 39-40) to split up the structure in two areas: we assume that a verb consists of a lower area where the eventuality – that is, state or dynamic event– is described, arguments and the lexical aspectual properties are defined, and a head EventP that dominates that area, adding time and world parameters to the description.

2.2.1 The eventuality descriptive heads

The low area, where eventualities are described, consists maximally of three verbal projections: initiation, process, and result. When the three heads co-occur, the intermediate one must be ProcP or process phrase, which introduces the dynamic part of the event. ProcP does not only

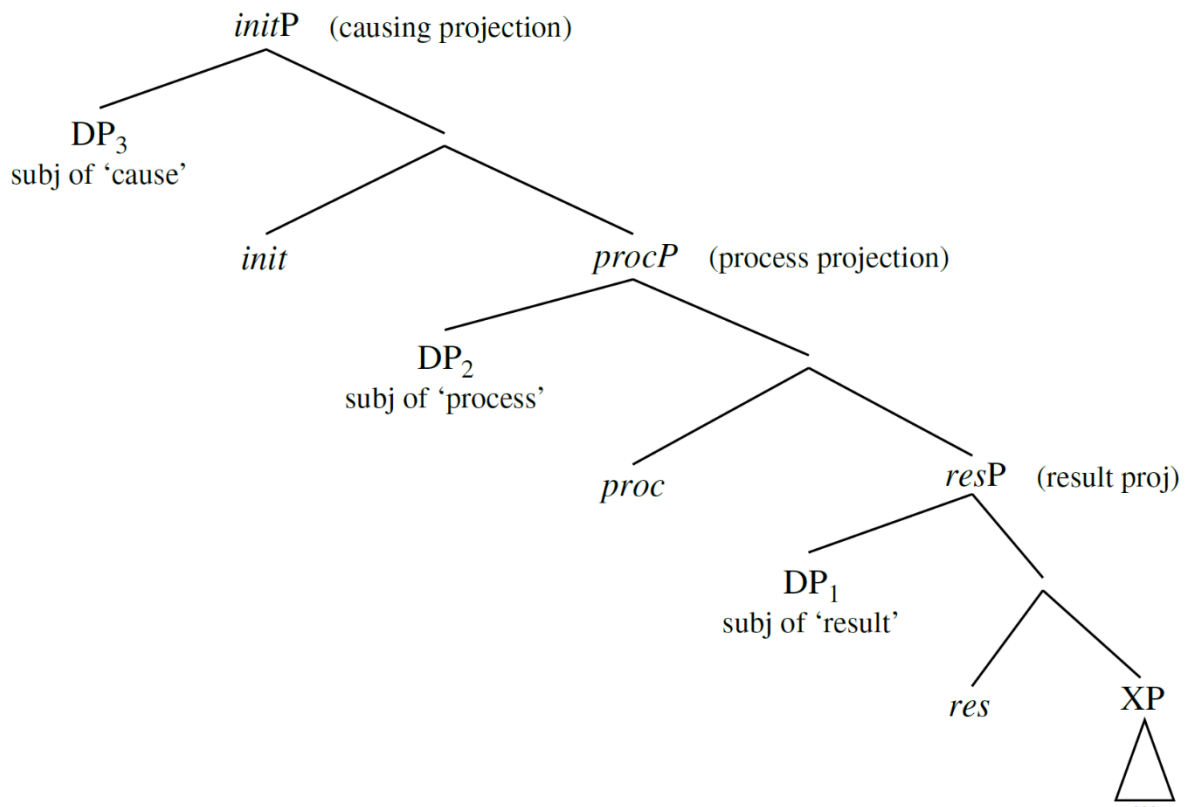
represent the change through time that the eventuality might describe but also specifies the nature of the change or process.

The other two heads, *Init* and *Res*, are stative. When the process or change is caused by an external argument, and is therefore caused or set into motion, *InitP* or initiation phrase is projected on top of *ProcP*. This projection, then, represents the stative relation between the dynamic change expressed by *Proc*, as its complement, and an external causer or initiator.

The head *Res* is also stative, but in contrast to *Init*, appears as the complement of *Proc*, not the head taking it as the complement. This head appears as a complement to the predicate which occupies *ProcP* when the eventuality expresses a result state; *ResP* defines in such cases the stative relation between the affected entity and the state that the entity has reached as a result of the change.

The hierarchical relation of these projections is presented below in Figure 1.

Figure 1. Ramchand's (2008, p. 39) syntactic projection of event structure



In the representation above, each projection has its own specifier in Ramchand (2008). The outer projection is *InitP*, a causing projection, and its subject is INITIATOR. We shall see in

section §2.2.4 that in Ramchand (2018) it is argued that the initiator is syntactically merged not on InitP, but on EvtP or event phrase, to define it as the external argument in the eventuality. ProcP is the central projection with its subject of process, UNDERGOER. Lastly, ResP has the subject of result called RESULTEE.

2.2.2 Argument structure: main proposals

In the previous subsection, we have seen how the projections of InitP < ProcP < ResP make up what Ramchand (2008) calls the first-phase syntax. In this phase, the event is described, using the three projections, without any temporal or worldly information, but specifying the other properties of the eventuality.

Of particular relevance for this research is the notion of argument, which is part of the information that these three descriptive heads introduce. This section overviews some relevant aspects of argument structure.

The argument structure of a predicate is a representation that tells how many participants, that is, the entities involved in the state, process or change, a predicate defines to satisfy its semantic description (Carnie, 2008, p. 49). Arguments, as participants, are assigned theta-roles that define the type of involvement that they have in the description provided by the predicate. While Carnie (2008, p. 219-220) lists 9 theta roles, there is no general consensus about how many theta-roles, and therefore classes of participants, should be considered, and other linguists differ in their lists. (20) presents the list with Carnie's own examples.

- (20)
- | | | |
|----|--------------|--|
| a. | Agent: | <u>Ryan</u> hit Andrew |
| b. | Experiencer: | <u>Leah</u> likes cookies. |
| c. | Theme: | The arrow hit <u>Ben</u> . |
| d. | Goal: | Doug went <u>to Chicago</u> . |
| e. | Recipient: | Mikaela gave <u>Jessica</u> the book. |
| f. | Source: | Stacy came directly <u>from sociolinguistics class</u> . |
| g. | Location: | We're all <u>at school</u> . |
| h. | Instrument: | Chris hacked the computer apart <u>with an axe</u> . |
| i. | Beneficiary: | He bought these flowers <u>for Aaron</u> . |

The argument that in unmarked cases occupies the external argument position of a transitive predicate is normally assigned the agent theta-role, which is generally defined as the entity that sets an action into motion, prototypically in a conscious and voluntary way.

The arguments affected by the event can be divided into three main roles: an experiencer, a theme, or a recipient. The experiencer is the entity that perceives or undergoes a psychological state. The theme is the entity affected by the process of change, or a change in location, although sometimes the term is used to refer to a “default” theta-role that internal arguments receive. The recipient is the entity that is the goal of some transfer event, becoming the possessor of a theme that changed location.

It was generally believed that the assignment of theta-roles to arguments was constrained by the so-called Theta-Criterion (Chomsky, 1981):

(21) At D[EEP]-Structure, each argument is in one theta-position and each theta-position contains one argument.

This principle would involve that the assignment of theta-roles is performed in a syntactic structure, and that there are specific positions where each argument is introduced, each one of them associated to one theta-role. In Figure 1 above, we see that Ramchand (2008) shares this assumption, because the subject of each one of the heads gets a particular theta-role assigned (e.g., Initiator, Undergoer, and Resultee). However, the theta-criterion has two more consequences:

(22) a. Each argument is in only one theta-position, that is, each argument has only one theta-role
b. Each theta-role is only assigned to one argument, that is, in a predicate it is never the case that two distinct arguments are assigned the same theta role

Ramchand's theory (2008) does not incorporate the first consequence, although she follows the second consequence. Within her theory, more than one theta-role can be assigned to the same participant because she allows movement between –for instance– the specifier of Res, the specifier of Proc, and the specifier of Init, as she assumes for instance for the verb *arrive* (Ramchand, 2008, p. 79). In such cases the same argument gets more than one theta-role assigned, simply adding the entailments associated to each theta-role together. However, those positions where the interpretation is obtained are unique, which means that the theta-role cannot

be assigned to more than one participant because that would involve two DPs moving to the same position in the tree.

As mentioned before, the subjects of the projections of InitP < ProcP < ResP are Initiator, Undergoer, and Resultee, which do not correspond exactly to the traditional theta-roles. They are the arguments based on “the functional sequence within the verb phrase” (Ramchand, 2008, p. 22) that is the syntactic projections InitP - ProcP - ResP. This categorization is syntactic and is the one that we assume in this research.

Theories about argument structure can be broadly divided in two groups: those that propose that argument structure is defined lexically, with each predicate listed with a list of theta-roles that it must assign to its participants (Chomsky, 1957; Jackendoff, 1972), and those that propose that the argument structure is in essence a syntactic property, so that each theta-role is only assigned in one particular configuration (Baker, 1988).

What counts in Ramchand's (2008), as it was the case in Baker's (1988) proposal, is the syntactic position occupied by each element, and more fine-grained classifications of theta-roles not reflected in the syntax are left for conceptual semantics. This is most clearly when we examine the notion of Initiator. For Ramchand (2008, p. 24), an initiator is “an entity whose properties/behaviour are responsible for [an] eventuality coming into existence”. Given this definition, the term initiator includes agents, but also instruments, non-conscious causers, and even some experiencers if the psychological state is triggered by its internal properties –e.g., a tendency to fear some animals–.

- (23) a. John opened the door.
b. The storm opened the door.
c. This key opens that door.
d. Mary fears spiders.

An initiator is responsible for what happens, for causing the event to exist (Ramchand, 2008, p. 24). As an argument, initiator is considered as external argument because it is not affected by the process and it interacts with the event, of process or change, as a whole (Ramchand, 2008, p. 27). In the functional hierarchy, an external argument is merged above ProcP. On the other hand, internal arguments are considered as parts of the event and are merged below ProcP, thus undergoer and resultee are internal. The direct object in (24) is an example of an undergoer, that is, the entity that experiences a change in state or location.

(24) I kick the ball (into the house).

Another kind of internal argument is a resultee, which is the specifier of ResP. An entity is considered a resultee when it holds the final state of the process (Ramchand, 2008, p. 34). In (25) below, *vase* is a resultee because it holds the state of finished as defined as *one thousand pieces* in composition with the verb *broke* “to break”.

(25) I broke the vase (in one thousand pieces).

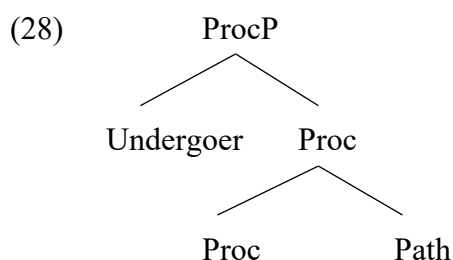
Within the realm of direct objects, Ramchand (2008) makes a further distinction between undergoers and rhemes (or path objects). When the transition denoted by the process is measured by the material change across a dimension expressed overtly in the syntax, the participant expressing this dimension of change is assigned a PATH interpretation, which corresponds to the material extent covered by the undergoer during the event (Ramchand, 2008, p. 34). For example, *to the goalpost* in (26) below is the path of motion for the event as it defines the location where the undergoer ends up.

(26) I kicked the ball to the goalpost.

In (27), the direct object would also be considered a path, because the process described as *eat* is measured as a change that takes as its dimension the physical extension of the apple.

(27) I ate the apple.

The role of path is assigned in the complement position of Proc, while the undergoer is located in its specifier. (28) summarises the positions for Proc.



To summarize, the broadest syntactically relevant theta roles are Initiator, Undergoer, Resultee, and Path, which are defined in distinct syntactic positions. This theory is, therefore, syntactic in the sense that it proposes that the notions of arguments and theta-roles are defined in the

syntax, not the lexicon, and should then be describable through syntactic configurations, not through listing of properties in a lexicon. This produces our first research question for this work:

- (29) To what extent can the argument structure of a predicate be predictable by the syntactic properties of that predicate, without making reference to the lexical entry of each one of the bases?

In the case of Indonesian verbs, this question can be asked in the following way. Indonesian, as we saw above, uses verbal morphemes *–meng–*, *meng–kan*, etc.– that do not describe the eventuality, but combine with a base that provides conceptual meaning to the verb. Can the confixes or prefixes added to each verb be used to predict the argument structure of each verb? If the answer is affirmative, we have an argument in favour of a syntactic definition of argument structure, because the argument positions would depend on affixes without conceptual content. If the answer is negative, then we would have an argument for a lexical approach to argument structure, because the bases combined with those affixes would have to be the ones responsible for the particular argument structure of each verb, and the verbal affixes would then be added to them for purely morphological reasons that play no role in their argumental properties.

2.2.3 Applicative heads

In our analysis we differ from Ramchand (2008) in the analysis of transfer verbs and goals. In Ramchand's analysis (2008, p. 102-103), she treats indirect objects like those in (30) as introduced within Result Phrases.

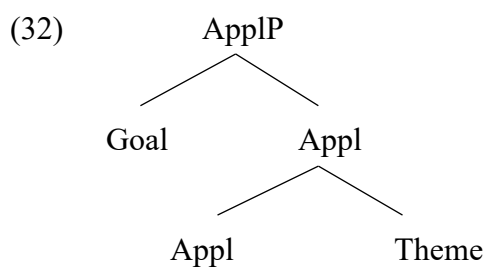
- (30) a. Alex gave the ball to Ariel.
b. Alex gave Ariel the ball.

For both structures, she proposes that the relation between the goal/recipient (Ariel) and the theme/undergoer (the ball) is established within ResP, in a way that in (30a) the goal preposition ends up being in the Res head position, and in (30b) the verb lexicalises Res and the preposition is empty and carries a possessive meaning similar to “have”.

- (31) a. [ProcP <the ball> Proc [ResP <the ball> to_{Res} [PP \emptyset Ariel]]
b. [Proc [ResP <Ariel> give_{Res} [PP \emptyset 'have' <the ball>]]

In Ramchand's proposal, (30a) –where the goal has a preposition– and (30b) –where the goal lacks the preposition– involve inverting the syntactic relation with the head Res. In the first case, the goal argument is the complement and the theme is the specifier, while in the second case the goal is the specifier and the theme is the complement. We will not adopt this analysis for reasons that will become clear in Chapter 4, and that can be summarised as follows: both in cases where Indonesian goals need a preposition –cf. *meng-kan*– and in cases where there is no preposition –*meng-i*– we document cases where the theme argument has been incorporated to the verb, and no cases where the goal argument is incorporated to the verb. This means, assuming Baker (1988), that in both cases the theme must be in a complement position and there are no cases in which the goal argument is the complement.

Instead, we will assume that the relation between goal and theme is expressed through an applicative head (Pylkkänen, 2002; 2008, p. 12-13, Cuervo 2003), which we assume in addition to Init, Proc and Res. The applicative head (Appl) is a functional head, just like Init, Proc and Res, but whose role is to establish a relation between the theme and the goal, such as the theme is always the complement of Appl and the goal is always the specifier.



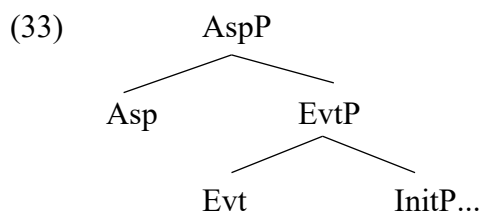
This allows us to reduce the cases in Indonesian to only instances where the theme can be incorporated to the verb, because the theme is always in a complement position. As we will see in §4.3.5, we assume that the applicative in Indonesian comes in two ways: one, materialised by *-i*, assigns case itself to the goal specifier, resulting in cases where the goal is materialised without a preposition. In contrast, *-kan* materialises an applicative head that is formally defective and does not assign case to the specifier, which then must appear carrying its own preposition. The reasons to treat *-i* and *-kan* both as applicatives, despite this difference, will be clarified in Chapter 5, where we will see that they behave in exactly the same way in nominalisations, that is, both elements disappear under the same conditions.

This final section completes the explanation of the first phase, and the next subsection will cover the event phase, which is projected above the first phase.

2.2.4 EventP as the head that connects the description with time and world

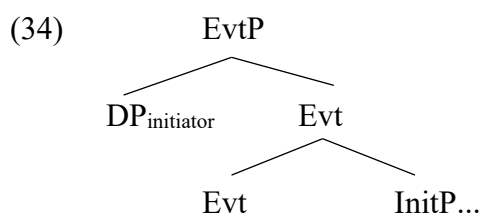
Temporal and worldly properties are added to the event under the projection of EvtP or event phrase at the edge of the first phase, resulting in the sequence EvtP < InitP < ProcP < ResP (Ramchand, 2018, p. 14-16).

Remember that the heads Init, Proc and Res –to which we have added Appl– only describe an event, introducing arguments and defining aspect, but lack information about the time or world in which that event happens. In order to build an event that then can be located in time through tense and world through mood, these heads are insufficient. The role of the head Evt is precisely to add time and world information to the descriptive heads so that the predicate can then combine with the functional information of the sentence, specifically Aspect, Mood and Tense (Ramchand, 2018, p. 19). The diagram in (33) represents the basic relation without arguments: Init (or Proc, or Res) cannot directly combine with grammatical aspect, mood or tense because they lack temporal properties. Those temporal properties are added by Evt.



The main role of Evt, then, is to build an event that can be located in time and world, and projected into a full clause, on top of the descriptive heads.

There is a secondary role to Evt, which makes Ramchand (2018, p. 79) compare Evt to Voice in other proposals. Evt, in the 2018 version of Ramchand's theory, is the syntactic locus where the external argument is introduced: in this version, Init only introduces a causation subevent, and Evt provides a syntactic position for the argument, which is interpreted as an initiator when the complement of Evt is Init (34), but presumably could be interpreted in other ways when Init is not in the complement of that head.



In Chapter 4, we will argue that the prefixal part of the verbal affixes *–meng-*, *ber-*, *ter-* is in fact a manifestation of Evt, more specifically to different versions of Evt that depend on whether the external argument is interpreted as an initiator or not, and secondarily on whether Evt can license the case of a direct object or not. We will support that analysis with a significant fact of Indonesian, which is that the prefixal part of the verbs disappear in imperatives, a fact that we take to mean that imperatives lack Evt because they are never inflected for tense, aspect or mood.

Here we finish our presentation of verbal phrases, and in the next and final section of this chapter we will concentrate on nominalisations.

2.3 Assumptions about the deverbal nominalisations

This thesis complements the focus on the verbal structure with an exploration of the argument structure possibilities within deverbal nominalisations. For this reason, it is relevant as a background also to make explicit our assumptions about nominalisations.

One of the fundamental differences between nouns and verbs is that taking arguments is optional for nouns but obligatory for verbs (Grimshaw, 1990, p. 47). This means that, in principle, it is not a given that argument structure will be found in nouns.

The question is, then, which nouns can take argument structure. The argument-taking possibilities depend on the existence of an argument structure, introduced in the lexicon or in the syntax but associated to verbal predicates. All verbs are then assumed to have an argument structure. Meanwhile, the nouns that have an argument structure should reduce to those that come from verbs and keep the structural information of the verb that associates to the argument structure.

The further implication is that nouns can be divided into two groups: nouns which take arguments and nouns which do not (Grimshaw, 1990, p. 47). Nouns of the latter group have participants, not grammatical arguments (Grimshaw, 1990, p. 54).

Nouns with obligatory arguments are those which denote events and have an internal event structure analysis coming from a verbal base (Grimshaw, 1990, p. 49), which by assumption in the theory that we assume (Ramchand, 2008, 2018) at least involves containing the verbal

descriptive heads of the verb. An example of how to detect an internal event structure with arguments was given by Grimshaw (1990, p. 49) showing contrasts like the following one:

- (35) a. The examination of the patients took a long time.
b. *The exam of the patients took a long time.
c. The exam took a long time.

As seen in (35a), the *examination* both takes an argument as indicated with *of the patients* and is, aspectually, a process that can be the subject of the predicate *took a long time*. In Grimshaw's (1990) terminology, this makes it a complex event nominal. The noun *exam*, in contrast, cannot take the argument (35b) although it can still be the subject of the predicate *took a long time* (35c). These nouns that denote actions but lack argument structure are assumed in Grimshaw (1990) not to come from a verbal base and are called Simple Event Nouns.

The distinction between complex and simple event nouns is, then, the possibility of introducing arguments, which Grimshaw (1990) reduces to the properties of the base of the noun: when the base is a verb, the argument structure that a complex event nominal has is inherited from its verbal base. In the case of *examination* in (35a), the argument (*of*) *the patients* is already selected by the verb base *examine*. As shown in (36b), it is not grammatical to leave out *the patients* because it is a part of the internal event structure of the predicate.

- (36) a. The doctor examined the patients for a long time.
b. The doctor examined * (the patients).

Another test to identify a complex event nominal is by the behaviour of possessives. A possessive can be interpreted as subject-like, but not as object-like when the base has argument structure –that is, is a complex event noun– (Grimshaw, 1990, p. 51). It is not clear whether the possessive *doctor's* in (37a) is a possessive subject-like element or a possessive modifier, but in either case the absence of an internal argument makes the sentence marginal. In (37b), the argument *of the patients* disambiguates the event reading, making it clear that *doctor's* is a possessive subject and that *examination* is a complex event nominal.

- (37) a. (*)The doctor's examination took a long time.
b. The doctor's examination of the patients took a long time.

Contrast this with a simple event noun: in them, there is no ungrammaticality in the possessive reading of the possessive, as there is no argument structure that has to be satisfied by the noun.

(38) The doctor's exam took a long time.

Both simple and complex event nouns denote events in some level, but they do not denote the same richness of information in the event in the two cases. Remember that in (35c) the noun *exam* can still take the temporal complement *took a long time*. This indicates that *exam* denotes some kind of an event that can extend in time. However, simple event nouns differ from complex event nouns in whether they accept NP-internal aspectual modifiers. Grimshaw (1990, p. 59) provides examples of simple event nominals like the following:

- (39) a. That trip/event took three weeks.
b. *The trip/event in five hours was interesting.
c. *The frequent trip/event was a nuisance.
d. The frequent trips/events were a nuisance.

The nouns *trip* and *event* are simple event nominals because they cannot have a temporal modifier such as *in five hours* in (39b) and *frequent* in (98c), which presupposes that the noun has a complex eventive structure. This contrasts with complex event nouns:

(40) The examination of the patient for three hours was a nuisance.

The last kind of noun that is relevant in our research are those nouns that, although derived from verbs, do not express events. This class is what Grimshaw (1990, p. 49) calls result nouns, referring by this term to “the output of a process”. (41) would be an example of such nouns: the noun does not denote an event and lacks argument structure. It denotes a participant in the event, that is in fact an argument of the predicate, in this case the path object that is produced when the event ends.

(41) That construction weighs three tons.

The term “result noun”, however, has been criticised by researchers like Alexiadou (2001) for its potential ambiguity. A result can be a state of the event, corresponding to the denotation of the Res head in Ramchand (2008), and thus it would be an eventuality which takes arguments, as for instance in *The interruption of the communications lasted for three days*, where we say that what lasted three days is the state of “having been interrupted”; the ability of taking arguments for such nouns would overlap with complex event nominals. Alternatively, a result can be a type of participant, specifically the entity that is produced when the event is completed, as in (41). Moreover, “result” would not apply to nominalisations denoting other participants,

such as the agent. In essence, the term “result noun” does not give a coherent class of nouns as a result.

For this reason, in Chapter 5 –even though we will adopt the terms *complex event nouns* and *simple event nouns*–, we will not use the term *result nouns*. We will specifically use *participant* instead of *result* to refer to the nominalisations that denote a person or an object that is an argument of an event expressed by the base, as in (41) or as in the agent noun *reader*. For the other interpretation of result, as an eventuality that is non-dynamic but still takes arguments, we will call such nouns *property* or *state nouns*, to avoid potential confusion.

This discussion produces the second research question in this thesis: To what extent are the argument structure of verbs preserved in Indonesian nominalisations, and to what extent is the morphological marking of such constituents transparent of the argument-taking possibilities within them?

2.4 Assumptions about spell out

This section is devoted to presenting the procedure that we assume for spelling out the syntactic constituents with specific exponents. We assume two procedures:

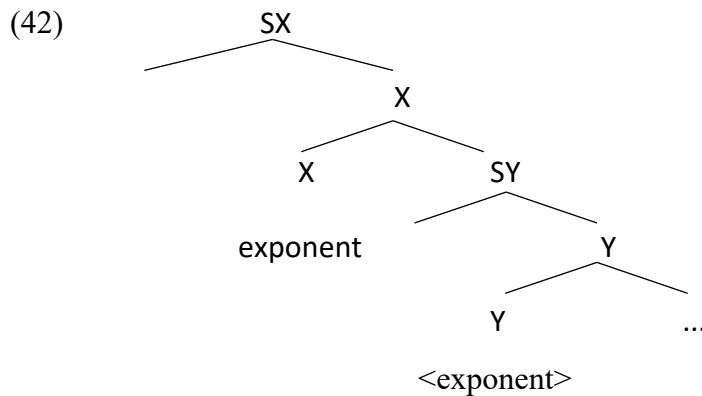
- a) Spanning, in order to explain how a specific exponent materialises a chunk of the syntactic material,
- b) Incorporation, understood as movement, in order to explain morpheme ordering.

Starting with spanning, splitting the eventuality into three verbal projections (Init, Proc, Res), as Ramchand (2008) does, implies that a single lexical item –one exponent– has more than one head to spell out, and therefore that its lexical entry has more than one category feature and does not correspond to one single category. The sequence of verbal heads are, from the perspective of spell out, lexicalised chunks of trees, which means that the procedure of lexical insertion that introduces exponents to spell out the syntactic tree has to be reconfigured (Ramchand, 2008, p. 97).

To facilitate the insertion of multiple functional heads, Ramchand (2008, p. 97) assumes the notion that one exponent or lexical item corresponds to a sequence of heads, a procedure that is combined with the rule of *underassociation*. However, a brief introduction of Peter

Svenonius' notion of *span* and Michal Starke's *superset principle* are necessary to understand the spell out of sequences of heads and underassociation.

The spanning procedure allows the insertion of exponents to materialise head-complement sequences. Therefore, a morpheme or a syntactic word spells out a sequence of heads and complements instead of single terminal nodes (Svenonius, 2016, p. 204).



In contrast to spanning, the superset principle allows a morpheme to spell out different sizes of phrasal constituents as long as they are (sub)constituents of the sequence that the category signature has access to (Caha, 2009, p. 1), including in the spelled out material not only the sequence of heads but also the whole phrasal constituent. Spell out itself is a mechanism which relates morphemes to syntactic features by translating syntactic structures onto phonological and conceptual structures (Caha, 2007, p. 51-53).

Here we assume spanning, not phrasal spell out, and as Ramchand (2008) we treat the insertion of lexical items as identifying sequences of heads.

A lexical item does not need to identify each single head within its lexical entry. Ramchand's (2008, p. 97) underassociation refers to the "use of a lexical item that bears a superset of the category features it actually spells out in the structure" under the following conditions.

(43) *Underassociation* (Ramchand, 2008, p. 98)

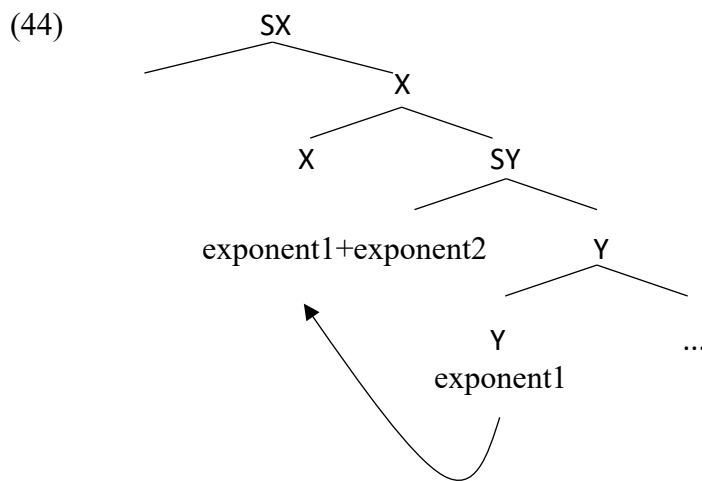
If a lexical item contains an underassociated category feature,

(i) That feature must be independently identified within the phase and linked to the underassociated feature, by Agree;

(ii) The two category features so linked must unify their lexical-encyclopedic content.

This makes it possible, like phrasal spell out, that an exponent that identifies for instance the heads Proc and N only spells out one of them, provided that the exponent identifying the other head has a conceptual relation; this procedure is used by Ramchand (2008) to explain the so-called “conflation verbs”, which we will briefly present in §4.3-§4.5, as they are relevant for some of the Indonesian cases.

Another operation that we shall use in this work is that of *incorporation* (Baker, 1988), understood as follows: the exponent corresponding to a complement integrates with the exponent corresponding to the head that selects it as a complement.



While head movement only indicates, as the name suggests, the movement of heads across phrases (Adger, 2003: 141), incorporation is specifically the movement of the material in the complement position into the head of a verbal projection (Ramchand, 2008, p. 92). The crucial restriction of incorporation is then that the element incorporated must be in a complement position, never in a specifier position, a fact that will allow us to diagnose that in Indonesian the theme argument is always in the complement position. This kind of movement will be relevant in explaining certain types of morpheme ordering in both verbs and deverbal nouns, particularly when the suffixes *-i*, *-kan* or *-an* are involved.

This is the end of the background chapter. In the next chapter I will make my methodology of data collection explicit.

Chapter 3

Methodology

This chapter is devoted to presenting how the data used in the two analysis chapters, 4 and 5, were obtained and used in the research. As it is common in a theoretical linguistics study, no experimental methodology was involved and the data that are reported here reflect the native intuitions of the author of this thesis, who is a native speaker of the Indonesian variety under study.

To avoid the author's bias in reporting the data and also to avoid the possibility that our research would concentrate on an arbitrarily picked set of complex verbs that would not let us notice possible exceptions to our proposal, however, a corpus was used to select the specific verbs that will be part of the analysis. In doing so, we searched in corpus for verbs corresponding to the specific affix combinations under study and the most frequently used verbs in each category were included as data in this investigation. Therefore, we can guarantee that the words used in the analysis for this research did not come from one single person's perspective of the language, reflect broadly used forms across speakers and are not cherry-picked to fit some type of initial theoretical expectation.

The corpus used in this research was a part of the Leipzig University's Corpora Collection (© 2021 Abteilung Automatische Sprachverarbeitung, Universität Leipzig)³. Among the files available for Indonesian, we chose to download `ind_newscrawl_2016_1M`, which had 1 million sentences crawled from news websites and includes content older than 2016. The download package included a list of words, among other things, tagged with their frequency. This wordlist was then manually processed in Microsoft Excel to filter what was needed in this research, that is, to eliminate cases where the words contained sequences homophonous to the relevant prefixes or suffixes but where these affixes could not be segmented or identified.

For this research, we needed to make lists of the most frequently used verbs which contains the affixes *meng-*, *ber-*, *ter-*, *meng-kan*, and *meng-i*. To obtain these lists, the following steps were

³ Accessed from https://corpora.uni-leipzig.de/en?corpusId=ind_mixed_2013 in August 2020.

taken, illustrated with the case of the prefix *meng-* even though the same set of steps was performed with all combinations.

a) First, the wordlist obtained from the corpus was sorted by lemma, not by its frequency.

b) Then, we proceeded with the manual revision of the list. The entries corresponding to all words which did not contain the relevant affix –here, the prefix *meng-* even if they were initiated with the same combination of letters were removed.

c) Given that the words starting with the prefix *meng-* fall into three types (no suffix, suffix *-kan*, and suffix *-i*), we then proceeded to separate the words into three lists: (1) only contained the prefix *meng-*, (2) also contained the suffix *-kan*, and (3) also contained the suffix *-i*.

d) For each one of these lists, now cleaned up of sequences not corresponding to the relevant affixes and divided by the presence of the possible suffixes, we sorted the remaining words based on their frequency and kept the 30 most frequent among them.

e) Finally, we provided translations of each word and identified their bases, when they could be decomposed. To translate and gloss each word, in addition to my own native intuitions and knowledge about English, the online official Indonesian language dictionary kbbi.kemdikbud.go.id (last access: 10 May 2021) was consulted.

These steps were then repeated for the prefixes *ber-* and *ter-*, excluding the separation stage described in (c), since for these prefixes there is no relevant suffix combinations, as we will see in detail in the next chapter.

This word list was the starting point of the data collection. Other than the most frequent words, we also needed sentences based on them in order to determine their argument structure in the case of verbs. Considering that I am a native speaker of the language in question, I generated the sentences by myself. Sometimes, however, I consulted korpusindonesia.kemdikbud.go.id (last access: 31 January 2021) and the web browser to make sure that the sentences I made were not different or atypical from the common usage of the words.

In the following chapter (§4), the lists of verbs and the generated sentences are described according to their morphosyntactic and semantic behaviour, followed by an analysis for them in the same chapter.

In Chapter 5, the focus is in deverbal nouns. Given that the treatment of deverbal nominalisations is taken in this research as a way to further explore our hypotheses about the relation between the verbal affixes and the argument structure of verbs, we did not look for the most frequently used deverbal nouns from the corpus. Instead, the verbs from Chapter 4 were nominalised, using my own native intuitions, so that a direct comparison can be made between the verbs and the deverbal nouns investigated in this research. Nominal structures involving these deverbal nouns were also generated in the same way with the sentences for verbs, that is, I produced them as a native speaker and checked with the corpus in the cases where I thought it was necessary. After the description of the data, a preliminary analysis of deverbal nominalisations is provided.

We end here this methodological description, and now we move to the presentation of the results of our study, starting with the verbal structures in the next chapter.

Chapter 4

Verbal affixes

The goal of this chapter is to provide a full description of the first grammatical property that is involved in the analyses provided in this thesis, namely the so-called verbal affixes in Indonesian. We will see that the verbal affixes are morphemes that attach to different types of bases in order to build verbs and condition the number and sometimes type of arguments that the verb takes. This chapter is structured as follows: Verbal affixes, The absence of verbal affixes in Standard Indonesian, Main verbal affixes (*meng-*, *ber-*, *ter-*, *meng-kan*, and *meng-i*), and Summary.

A verbal affix, also called a verb-forming affix in Kridalaksana (2010) and Moeliono et al. (2017), is a dependent morpheme which is part of the morphological make-up of a verb when combined with a base that can belong to another category or be a root. The base can be, for instance, a noun (1), an adjective (2), a numeral (3), a pronoun (4), or an interjection (5). The following sentences illustrate each one of these cases.

- (1) *kata* “word”, *mengatakan* “to say”
Mereka mengatakan sesuatu.
they meng-word-kan something
“They say something.”
- (2) *buruk* “bad”, *memburuk* “to get worse”
Situasi politik memburuk.
situation politics meng-bad
“The political situation gets worse.”
- (3) *satu* “one”, *bersatu* “to unite”
Tim A dan Tim B bersatu.
Team A and Team B ber-one
“Team A and Team B unite.”
- (4) *aku* “I”, *mengaku* “to admit, to confess”
Pencuri itu mengaku salah.
thief that meng-I wrong
“The thief admit that he/she is wrong.”

- (5) *aduh* “ouch”, *mengaduh* “to groan ‘ouch’”
Dia jatuh dan mengaduh.
 he/she falls and meng-ouch
 “He/she falls and groans.”

In some cases, these verbal affixes are traditionally described as prefixes, while in other cases they are described as a part of confixes. A prefix is an affix attached to the left side of the base (Fábregas and Scalise, 2012, p. 10), such as the verbal prefix *meng-* attached to the adjectival base *buruk* to make *memburuk* (2), in contrast to suffixes, that are added to the right of the base. A confix or circumfix is descriptively a single morphological unit consisting of the combination of a prefix and a suffix, therefore it has an affix attached to the left side of the base and another affix attached to the right side of the base (Fábregas and Scalise, 2012, p. 11). A sample of a word with a verbal affix that is taken to be a part of a confix in traditional descriptions is *mengatakan* (1); it consists of the nominal base *kata* combined with the verbal prefix *meng-* and the verbal suffix *-kan*, which when added simultaneously are described as the single confix *meng-kan*.

In (1), the noun *kata* “word” is derived into a monotransitive verb *mengatakan* “to say” by adding the confix *meng-kan* to it. The changes of other categories into a verb are illustrated in (2-5). All of them involve adding something to the start or the end of a word, a process referred to as an affixation (Adger, 2003: 23).

In other cases, the base does not belong to another category and in fact can be used as a verb without these affixes in Standard Indonesian. For example, in (6) below, *buka* is a verbal root and the verbal prefix *meng-* is added to it in Standard Indonesian to mark it as a monotransitive verb.

- (6) *buka* “to open”, *membuka* “to open”
Saya membuka pintu.
 I meng-open door
 “I open the door.”

Both in cases where the base is a verbal root and when it is a word belonging to another category, phonological changes may occur in this type of affixation. In the examples (3), (4) and (5) above, there is no phonological change. In (3), the verbal prefix *ber-* is added to *satu* “one” to make *bersatu* “to unite”. The verbal prefix *meng-* is transparently combined with *aku* “I” and *aduh* “ouch” into *mengaku* “to admit, to confess” and *mengaduh* “to groan ‘ouch’”.

On the contrary, (1-2) show phonological changes. In (2), *memburuk* seems to have a prefix *mem-* instead of *meng-*, but actually *mem-* [məm] is the form that surfaces from the contact between the nasal sound [ŋ] in *meng-* [məŋ] with the voiced bilabial sound [b] in the base *buruk* [buruk]. In (1), the base *kata* [kata] undergoes a deletion of its voiceless velar [k] that comes in contact with the nasal [ŋ] in the left part of the confix *meng-kan* [məŋ-kan].

The above explanation only covers a little of the typical usages, phonological changes, and affix selections. Not all of them will be elaborated further in the following sections, but they may be brought up later when necessary.

4.1 Absence of verbal affixes in Standard Indonesian

There are situations where verbal affixes are not attached to verbs. One situation involves a distinction in transitivity and the other situation concerns part of the inflection, specifically imperative forms.

Verbs that can be used as such without affixes in Standard Indonesian are categorized as independent base verbs in Moeliono et al. (2017, p. 108). The following samples (7-9) show how the absence of affix affect the transitivity of the verb. In (7), the verb *buka* is intransitive because there is no object and the entity open is the subject. It is also stative because the sentence means being in the state of being open. If the prefix *meng-* is added to *buka*, the result is *membuka*, which forcefully must combine with an object.

- (7) *buka* “to open”
Toko itu buka setiap hari.
shop that open every day
“The shop is open every day.”

To make a monotransitive verb out of *buka*, it is necessary to add the prefix *meng-*. In (8), the verb *membuka* is followed by an object, indicating that it is a monotransitive verb. However, as seen in (9), the same sentence can be grammatical without any affix being attached to *buka*, showing that the prefix forces a transitive construction of the verb, but the absence of the prefix does not really block the transitivity.

- (8) *buka* “to open”, *membuka* “to open”
Pedagang itu membuka toko setiap hari.
merchant that meng-open shop every day
“The merchant opens the shop every day.”

- (9) *buka* “to open”
Pedagang itu buka toko setiap hari.
 merchant that open shop every day
 “The merchant opens the shop every day.”

The second situation of absence of verbal affixes involves an inflectional form of the verb. A verb in the morphological imperative removes part of the verbal affix: the prefixal part of the affix is removed. The imperative form of the verb, then, uses the bare base verbal form, as in (10), or the base combined with the suffixal part of the verbal circumfix, for instance *-kan* as in (11).

- (10) *mem-buka* “to open”
Buka pintu!
 open.imp door
 “Open the door!”

- (11) *mem-buka* “to open”, *mem-buka-kan* “to open (imperative)”
Bukakan pintu!
 open-kan door
 “Open the door!”

The prefix, such as *meng-* in (12), is in contrast removed in the imperative form of the verb.

- (12) **Membuka(-kan) pintu.*

An exception is when *jangan* “do not” precedes the imperative verb to build a prohibitive form; in this case, *meng-* is optional and both (13) and (14) are acceptable.

- (13) *buka* “to open”, *membuka* “to open”
Jangan membuka pintu pada tengah malam.
 do.not meng-open door in middle night
 “Do not open the door in the middle of the night.”

- (14) *buka* “to open”
Jangan buka pintu pada tengah malam.
 do.not open door in middle night
 “Do not open the door in the middle of the night.”

With this background in mind, let us now move to the description of the role of each one of the different verbal affixes.

4.2 Main verbal affixes

This subsection covers *meng-*, *meng-kan*, *ber-*, *ter-*, and *meng-i*. Each of them includes their typical usages, their apparent counterexamples, and their real counterexamples. Not all verbal affixes discussed have apparent and real counterexamples, as we will see, and very solid generalisations can be made in almost all the cases.

4.2.1 *Meng-*

In the following discussion, a brief description of the verbal prefix *meng-* precedes the samples that will be discussed in more detail. Further down, the exposition of the main usage reveals the transitivity of the verbal prefix *meng-*. It is then followed by how the apparent counterexamples can be explained and why the real counterexamples are problematic.

4.2.1.1 Main usage

This is a verbal affix which is attached before a base or on the left side of the base, therefore it is described as a prefix in grammars (Fábregas and Scalise, 2012, p. 93). With this prefix, a speaker can form a verb from a noun (15), an adjective (16), a numeral (17), a pronoun (18), and an interjection (19). It can also be attached to a verb (20).

- (15) *lawan* “opponent”, *melawan* “to oppose”
Petani melawan hama.
farmer meng-fight pest
“Farmer fights pests.”
- (16) *baik* “good”, *membalik* “to get better”
Keadaan pasien membaik.
condition patient meng-good
“The patient’s condition gets better.”
- (17) *satu* “one”, *menyatu* “to become one”
Air dan minyak tidak menyatu.
water and oil not meng-one
“Water and oil do not become one”

- (18) *aku* “I”, *mengaku* “to admit, to confess”
Pencuri itu mengaku salah.
 thief that meng-I wrong
 “The thief admit that he/she is wrong.”
- (19) *aduh* “ouch”, *mengaduh* “to groan ‘ouch’”
Dia jatuh dan mengaduh.
 he/she falls and meng-ouch
 “He/she falls and groans.”
- (20) *buka* “to open”, *membuka* “to open”
Saya membuka pintu.
 I meng-open door
 “I open the door.”

The typical result is a monotransitive verb, that is, a verb that takes one single object. It is supported by the finding on the corpus. Most verbs among the most frequent verbs with *meng-* are monotransitive verbs. There are also counterexamples that we will discuss later. The following table presents instances of some commonly used monotransitive verbs with the prefix *meng-*.

Table 1. Some of the most frequently used verbs with prefix *meng-*

affixed word	gloss	base	gloss
membuat	to make, to create	buat	to make, to create
meminta	to ask, to request	pinta	to ask, to request
melihat	to see	lihat	to see
mendapat	to get	dapat	to get, to be able to
menerima	to receive	terima	to receive
membantu	to help	bantu	to help
mendukung	to support	dukung	to support
membawa	to carry	bawa	to carry
membangun	to build	bangun	to wake up, to build
memilih	to choose	pilih	to choose
mencari	to look for	cari	to look for
menuju	to head to	tuju	to head to
menjaga	to guard	jaga	to guard
mengambil	to take	ambil	to take
meraih	to reach	raih	to reach
menunggu	to wait	tunggu	to wait
menggelar	to spread	gelar	to spread
membuka	to open	buka	to open
melawan	to oppose	lawan	opponent
menyebut	to mention	sebut	to mention
mendorong	to push	dorong	to push
menolak	to refuse	tolak	to refuse

membeli	to buy	beli	to buy
mengajak	to invite	ajak	to invite
menambah	to add	tambah	to add
mengingat	to remember	ingat	to remember
mencoba	to try	coba	to try
membayar	to pay	bayar	to pay

A few comments are in order with respect to the list above. As seen in the table above, the prefix *meng-* has four phonological surface forms: *meng-* (*aku* -> *mengaku*), *me-* (*lihat* -> *melihat*), *men-* (*jadi* -> *menjadi*), *mem-* (*buka* -> *membuka*). They are allomorphs and their distribution does not affect the meaning of the words in any way, to the best of my knowledge.

Most verbs in this list are monotransitive, as illustrated in the following examples. In sentence (21), the verb *meminta* requires the mentioning of an object that the subject ask for. The same verb can also be followed by the person who is expected to do or to give something to the subject as in sentence (22).

(21) *minta* “to ask”, *meminta* “to ask”
Mereka meminta bantuan kami.
they meng-ask help we
“They ask for our help.”

(22) *minta* “to ask”, *meminta* “to ask”
Mereka meminta kami untuk membantu mereka.
they meng-ask we to help they
“They ask us to help them.”

In (23), the verb *menerima* “to receive” requires an object that the subject should obtain from an external source. In (24), the verb *menuju* “to head to” requires an object that represents the final location of the subject after movement. Note that, despite the directional meaning, the verb does not require a directional preposition to introduce the internal argument; admittedly, a preposition *ke* “to” sometimes is used after *menuju* in the non-standard varieties of Indonesian, as shown in (25).

(23) *terima* “to receive”, *menerima* “to receive”
Karyawan menerima gaji.
employee meng-receive salary
“An employee receives a salary.”

(24) *tuju* “to head to”, *menuju* “to head to”
Mobil ini menuju bandara.
car this meng-head airport
“This car is heading to the airport.”

(25) **Mobil ini menuju ke bandara.*

In (26), *mencoba* “to try” requires an object that the subject wants to test by doing a relevant action. This relevant action can actually be expressed as a verb phrase following *mencoba* as in (27).

(26) *coba* “to try”, *mencoba* “to try”
Pelanggan mencoba pakaian di sini.
customer meng-try cloth in here
“Customers try on clothes here.”

(27) *coba* “to try”, *mencoba* “to try”
Pelanggan mencoba memakai pakaian di sini.
customer meng-try meng-wear cloth in here
“Customers try to put on clothes here.”

While the vast majority of verbs with the prefix *meng-* are monotransitive, there are counterexamples which show otherwise. They are discussed in the following subsections, divided into apparent counterexamples where the transitivity can be still valid, despite the surface representation, and the real counterexamples where it is difficult to identify a notion of monotransitivity.

4.2.1.2 Apparent counterexamples

Previously it has been shown that most verbs carrying the prefix *meng-* are monotransitive. There are also those verbs which are intransitive on the surface, but where a reasonable argument can be provided to treat the verb as covertly transitive or involving an object. This typically occurs when a noun base is combined with *meng-*. In *meng-NOUN*, one can argue that the resulting verb has an object incorporated, that is the noun root. The following examples are classified as such.

In (28-29), *nikah* is a noun and having *meng-* makes it a verb. It is an action which involves producing a marriage arrangement, where the marriage expressed as the base noun can be taken to be the result of the event, and therefore the underlying object. The first sample has a plural subject *mereka* “they” and the second sample has a singular subject *Ana*.

(28) *nikah* “marriage”, *menikah* “to get married”
Mereka menikah tahun lalu.
they meng-marriage year last
“They got married last year.”

(29) *Ana menikah tahun lalu.*
Ana meng-marriage year last
“Ana got married last year.”

The verb *menikah* is not monotransitive on the surface because it cannot be followed directly by an object, thus (30) is not grammatical. It requires a preposition if another argument other than the subject is included as in (31).

(30) **Ana menikah Budi tahun lalu.*

(31) *Ana menikah dengan Budi tahun lalu.*
Ana meng-marriage with Budi year last
“Ana got married with Budi last year.”

However, *menikah* is transitive if interpreted as “to make marriage” or “to do a marriage”, which are then monotransitive. The meaning “to make marriage” and “to do marriage” can also be expressed grammatically in Indonesian as *membuat nikah* in (32) and *melakukan nikah* in (33) although they are not preferred expressions. It shows that *membuat nikah* and *melakukan nikah* are ways of expressing, with a general verb corresponding to “do”, the same as *menikah*.

(32) *Ana membuat nikah.*
Ana make marriage
“Ana made a marriage.”

(33) *Ana melakukan nikah.*
Ana do marriage
“Ana did a marriage.”

It is not always the case that verbs comprising the prefix *meng-* and a noun root involve the result object interpretation of “to do/make the noun root”. Other covertly transitive verbs have different kinds of involvement with their objects. For example, *meningkat* “to increase, to level up” is the result of attaching the prefix *meng-* to the noun *tingkat* “level” and it does not mean “to make/do a level”, but rather “to move across levels” or “to obtain a certain level”. The sentence (34) illustrates how the subject experiences an increase. A possible interpretation for *meningkat* is “to obtain a (new) level”, that is something levels up or increase its level because it obtains a new, higher level as in (35).

- (34) *tingkat* “level”, *meningkat* “to increase, to level up”
Harga emas meningkat.
 price gold meng-level
 “The price of gold increased.”
- (35) *Harga emas mendapatkan tingkat baru.*
 price gold obtain level new
 “The price of gold reached a new level.”

Another example is *merumput*. The combination of *rumput* “grass” and the prefix *meng-* does not result in the meaning “to make grass”. Instead, *merumput* means “to graze” as in (36). It is considered as covertly transitive because it can be interpreted as “to eat grass”, or more generally, “to do an activity involving grass”, as in (37).

- (36) *rumput* “grass”, *merumput* “to graze”
Sapi merumput di lapangan.
 cow meng-graze in field
 “Cows graze in the field.”
- (37) *Sapi makan rumput.*
 cow eat grass
 “Cows eat grass.”

A proof that *merumput* is covertly transitive is that it can only be followed by an object that is a type of grass, such as *ilalang* “thatch” in (38), something reminiscent of the English pair *dance / dance the tango*, where one can make the point that the verb incorporates the noun *dance*. It cannot be followed by an object that is not a type of grass, including the general term *makanan* “food” in (39), just as the verb *dance* cannot be followed by an object that does not mean a type of dance.

- (38) *Sapi merumput ilalang.*
 cows graze thatch
 “Cows eat thatch.”
- (39) **Sapi merumput makanan.*
 cow graze food

The noun *jawab* “reply” and the prefix *meng-* makes the verb *menjawab* “to reply, to answer”. The verb *menjawab* itself can be interpreted transitively as “to give an answer”. However, the situation is a bit more complex here, as this verb can be followed with an object that represents what the answer replies to, as in (40). In this case, one could argue that the syntactic object which follows can be reanalysed as part of a complex noun phrase whose head is the noun that denotes the answer, as in (41).

(40) *jawab* “reply”, *menjawab* “to reply, to answer”
Peserta menjawab pertanyaan saya.
participant meng-jawab question I
“The participant answered my question.”

(41) *Peserta memberikan jawaban pertanyaan saya.*
participant give answer question I
“The participant gave the answer of my question.”

In the above examples, one can treat the verb as underlyingly monotransitive because it is possible to build a noun phrase which contains the argument corresponding to the surface object.

Other types of syntactic direct objects are possible, and despite them looking like ditransitive verbs (“to give A to B”) we will argue that they still can be treated as monotransitive, with a complex noun phrase that introduces a possessive argument. The object following *menjawab* can also be the person posing the question instead of the question itself, such as *saya* “me” in (42). This means that *menjawab saya* can be rephrased as *memberikan jawaban saya* “to give my answer”, as in (43).

(42) *Peserta menjawab saya.*
participant meng-jawab I
“The participant answered my question.”

(43) *Peserta memberikan jawaban saya.*
participant give answer I
“The participant gave the answer of my question.”

Other apparent counterexamples are lexicalized, such as *mengaku* “to admit” and *mengaduh* “to groan ‘ouch’”. These verbs come from a pronominal base and an interjection, respectively, and despite their level of lexicalisation we would argue that they still could be interpreted as covertly transitive. The verb *mengaku* “to admit” has the pronoun root *aku* “I/me”. It is usually used when someone admits their mistake, as in (44). A conversation that might take place when someone admits that they are wrong is depicted in (45). The responder in (45) uses the first-person pronoun to accept that they are what the other speaker is looking for. The meaning of the verb is difficult to trace to the one of the bases, but here we still have a nominal expression as base.

(44) *aku* “I/me”, *mengaku* “to admit”
Pencuri itu mengaku salah.
thief that meng-I wrong
“The thief admitted that they were wrong.”

- (45) “*Siapa yang salah?*” “Who is wrong?”
 “*Aku.*” “Me.”

As for the verb *mengaduh*, it comes from the interjection *aduh* “ouch” and the prefix *meng-*. Using this verb simply means the subject says “ouch” which is *aduh* in Indonesian. It can, therefore, be related to the result object structure, “to produce or to make ‘ouch’”, if the interjection is recategorised as a noun and therefore becomes a result entity.

- (46) *aduh* “ouch”, *mengaduh* “to groan ‘ouch’”
 Saya jatuh dan mengaduh.
 I fall and meng-ouch
 “I fell and groaned.”

This subsection has explored the apparent counterexamples of verbs containing the prefix *meng-*. They have noun roots which undergo derivation to have a transitive meaning added to them. The next category to discuss is the more problematic counterexamples.

4.2.1.3 Real counterexamples

The problematic counterexamples for verbs containing the prefix *meng-* involve verbs whose base is interpreted as a predicate, not as the object. As we will see, the expression of predicates as object should take another pattern of verbal formation in Indonesian.

In the apparent counterexamples, the noun root is an argument. That is not the case in real counterexamples. For some words which belong to this category, the root is a predicate, nominal or adjectival, which expresses a set of properties which the subject receives or turns into.

For example, *membatu* “to be petrified” is made of the noun *batu* “stone” and the prefix *meng-*. The literal meaning of *membatu* is “to be like a stone”. The verb *membatu* is intransitive as in (47). In Indonesian, it is possible to make a sentence consisting only of a subject, such as *saya* “I”, and a predicate, *batu*, as in (48).

- (47) *batu* “stone”, *membatu* “to be petrified”
 Saya membatu saat melihat ular.
 I meng-stone when meng-see snake
 “I was petrified when I saw the snake.”

- (48) *Saya batu.*
I stone
“I am a stone.”

One could argue here that the object is, in fact, the adjectival base –in particular given that Indonesian does not differentiate grammatically adjectives from nouns, and the distinction is purely based on meaning– but the base is taken as a predicate, not as a result object or the internal argument of an event.

A similar, equally problematic, example is *membeku* “to freeze” which is the result of the adjective *beku* “frozen” and the prefix *meng-*. The verb *membeku* can be used to illustrate the process of “freezing” as in (49). It is also grammatical to use *beku* “frozen” as a predicate for a subject as in (50).

- (49) *beku* “frozen”, *membeku* “to freeze”
Air bisa membeku.
water can meng-frozen
“Water can freeze.”

- (50) *Saya beku.*
I frozen
“I am frozen.”

Another adjectival base which behaves similarly is *buruk* “bad”. When it is combined with the prefix *meng-*, *buruk* becomes *memburuk* which literally means “to be bad” and lexically means “to be worse” as in (51). The adjective *buruk* can also be used as a predicate as in (52). For more insight about *meng-ADJECTIVE*, see 4.2.3.2.1.

- (51) *buruk* “bad”, *memburuk* “to be worse”
Situasi memburuk.
situation meng-bad
“The situation gets worse.”

- (52) *Situasi buruk.*
situation bad
“The situation is bad.”

The last problematic counterexample to discuss in this category is *melawan* “to oppose”. It is made of the noun *lawan* “opponent” and the prefix *meng-*. In (53), *melawan* “to oppose” means that the agent gives the object a status: their opponent, as in “to create an opponent”. In this case, it is also possible to have an overt object in the syntax, corresponding to the entity that is

taken as an opponent, showing that the base noun is a predicate (“to make someone become your opponent”).

- (53) *lawan* “opponent”, *melawan* “to oppose”
Tim A akan melawan Tim B.
 Team A will meng-oppose Team B
 “Team A will oppose Team B.”

This ends the discussion for the verbal prefix *meng-*. The next prefix that will be discussed is the verbal prefix *ter-*.

4.2.2 *Ber-*

Ber- is the last verbal affix that we will discuss. It is a prefix which can be attached to a noun to make a verb, as in the first example (54) below. It can also be attached to a verb and result in a verb as in the second example (55) below.

- (54) *beda* “difference”, *berbeda* “to have differences”
Mereka berbeda.
 they ber-difference
 “They are different.”
- (55) *main* “to play”, *bermain* “to play”
Kami sedang bermain.
 we in.the.process.of ber-play
 “We are playing.”

Here are some additional examples.

Table 2. Some of the most frequently used verbs with verbs with *ber-*

affixed word	gloss	base	gloss
berada	to be located	ada	to exist
berharap	to have a hope	harap	to hope
berhasil	to succeed	hasil	result
berjalan	to walk	jalan	walk (n)
berlangsung	to take place	langsung	directly, live
berbeda	to have differences	beda	to be different, difference (n)
bermain	to play	main	to play
berarti	to have a meaning	arti	meaning
belajar	to study	ajar	to teach
berasal	to come from	asal	origin
berupa	to have the likeness of	rupa	likeness, appearance

berlaku	to apply to, to be valid	laku	attitude, valid
berusaha	to make efforts	usaha	effort, venture
bertemu	to meet	temu	to meet
berusia	aged	usia	age
bernama	named	nama	name
berkembang	to develop	kembang	flower
berangkat	to leave, to depart	angkat	to lift
berubah	to change oneself	ubah	to change
bergerak	to move oneself	gerak	to move
bertahan	to withstand	tahan	to hold up
berakhir	to end (oneself)	akhir	end
bergabung	to join	gabung	to join
berupaya	to make efforts	upaya	effort
beragam	to have varieties	ragam	variety
berdiri	to stand up	diri	self
berhenti	to stop	henti	(pre-categorial)
berencana	to have a plan	rencana	plan
berbasis	to be based on	basis	base
berdampak	to impact	dampak	impact

The verbs containing this prefix are intransitive, meaning that they do not require any argument other than the subject. When *ber-* is attached to a verb, it makes the derived verb intransitive. A prepositional phrase can be added, as *di Jakarta* “in Jakarta” in (56). A subordinate clause, such as *kamu akan kembali* “you will return” in (57), can also be added, but the sentence *Kami berharap* is still grammatical without the subordinate clause. These additions have the flavour of adjuncts.

(56) *ada* “to exist”, *berada* “to be located (in)”
Kami berada di Jakarta.
 we ber-exist in Jakarta
 “We are in Jakarta.”

(57) *harap* “to hope”, *berharap* “to hope”
Kami berharap kamu akan kembali.
 we ber-hope you will return
 “We hope you will return.”

With a nominal base, the verbal prefix *ber-* derives an intransitive verb with the meaning “to do NOUN”, or “to have NOUN”. For example, in (58) *berhasil* “to succeed” is derived from *hasil* “result” and can be interpreted as “to have results”. Similarly, *berjalan* “to walk” in (59) is derived from *jalan* “a walk” and can be interpreted as “to have a walk”.

- (58) *hasil* “result”, *berhasil* “to succeed”
Mereka akan berhasil di bidang apa pun.
 they will ber-result in field what even
 “They will succeed in any field.”
- (59) *jalan* “walk (n)”, *berjalan* “to walk”
Proyek itu tidak pernah berjalan.
 project that not ever ber-walk
 “The project never went on.”

There are no counterexamples found for this category, and all the verbs than contain the prefix comply to the same description.

4.2.3 *Ter-*

The verbal prefix *ter-* is different from the verbal prefix *meng-* in terms of the transitivity of the verbs built with it. While the verbal prefix *meng-* is monotransitive, as presented in the previous part, the verbal prefix *ter-* is intransitive and relates to construals where the notional object is treated as the subject. Another thing that is consistent among the samples of the verbal prefix *ter-* and follows from the previous property is the lack of agent, including those belonging to the apparent counterexample group.

4.2.3.1 Main usage

Ter- is a prefix with which a speaker can form verbs. The categories of compatible roots are adjectives (60) and nouns (61). This verbal prefix can also be attached to a verbal base, in which case it produces a passive form (62). The following examples cover the three different root categories.

- (60) *lengah* “unwary”, *terlengah* “to be unwary”
Ade terlengah dan tertabrak mobil.
 Ade ter-unwary and crashed car
 “Ade was unwary and crashed by a car.”
- (61) *bukti* “proof”, *terbukti* “proven”
Mereka terbukti bersalah.
 they ter-proof guilty
 “They are proven guilty.”

- (62) *pilih* “to choose”, *terpilih* “chosen”
Maria terpilih menjadi ketua kelas.
 Maria ter-choose to.be leader class
 “Maria was chosen to be the class leader.”

The combination with a verbal base produces a passive construal, but this is also the case when the base is an adjective or a noun: the suffix produces a verb that only takes one subject and that subject is not the agent of the action, but rather a patient that comes to exist or gets its properties affected, or the notional object of a process.

Table 3. Some of the most frequently used verbs with prefix *ter-*

affixed word	gloss	base	gloss
terjadi	to happen	jadi	to become
termasuk	to be included	masuk	to enter
terlihat	to be seen	lihat	to see
terdapat	to be found	dapat	to get
terlibat	to be involved	libat	(pre-categorial)
terbuka	to be open	buka	to open
terdiri	to consist (of)	diri	self
tercatat	to be noted, recorded	catat	to note
terpilih	to be chosen	pilih	to choose
terbukti	to be proven	bukti	proof
terpaksa	to be forced	paksa	to force
terkesan	to be impressed	kesan	impression
terpisah	to be separated	pisah	to separate
terkena	to be hit	kena	to hit
terbatas	to be limited	batas	limit
tersedia	to be available	sedia	ready
terletak	to be located	letak	location
terasa	to be felt	rasa	feeling, taste
tergantung	to depend on	gantung	to hang
tersebar	to be spread	sebar	to spread
tersendiri	to be separated	sendiri	alone
terkenal	to be widely known	kenal	to know someone
tertulis	to be written	tulis	to write
tertutup	to be closed	tutup	to close
terancam	to be threatened	ancam	to threaten
terungkap	to be discovered	ungkap	to discover
tertarik	to be pulled	tarik	to pull

As we see, the translation of the verbs with *ter-* is either the passive of a verb in English or a verb that is unaccusative, whose subject is an entity undergoing a process, such as “to happen”.

The prefix *ter-* is not the only verbal prefix that produces passive structures, as it competes with a second prefix, *di-*. Let us briefly compare the two prefixes to get a clearer picture of the uses and the syntactic contribution of *ter-*.

In cases of competition, the difference between the two has two components, the first of which is aspectual. The verb *terbuka* in (63) is passive because it denotes the result state after an action is applied to the subject *pintu itu* “the door”. On the other hand, the verb *dibuka* in (64) is passive because it indicates that the subject endured an action that *saya* “I” did. In other words, (63) is a stative statement, while (64) is a dynamic statement, and the distinction can be described as a contrast between a passive state and a passive event.

(63) *buka* “open”, *terbuka* “opened”
Pintu itu terbuka.
door that ter-open
“The door is opened.”

(64) *buka* “open”, *terbuka* “opened”
Pintu itu dibuka oleh saya.
door that di-open by I
“The door was opened by me.”

There are also contrasts with respect to the involvement of the patient. An interpretation similar to the contrast in (63-64) can be applied to (65-66), that is *terpilih* in (65) is stative and *dipilih* in (66) is dynamic. However, in addition to that, in (65), the verb *terpilih* does not indicate that there is an agent that had the intention to choose the patient, or that the patient was willing to be chosen, and in contrast, in (66), *dipilih* indicates the intention of *teman-temannya* “her friends” to choose Maria.

(65) *Maria terpilih menjadi ketua kelas.*
Maria ter-choose to.be leader class
“Maria was chosen to be the class leader.”

(66) *Maria dipilih oleh teman-temannya menjadi ketua kelas.*
Maria di-choose by friend.redup.her/his to.be leader class
“Maria was chosen by her classmates to be the class leader.”

Notice that, in fact, *ter-* blocks the syntactic presence of the agent. In sentence (67), we try to express with a syntactic constituent the people who act as agents of the event, *teman-temannya* “her friends”, after the verb *terpilih*, as was done in (66). However, the presence of the agents makes sentence (67) ungrammatical.

- (67) **Maria terpilih oleh teman-temannya menjadi ketua kelas.*
Maria ter-choose by friend.redup.her/his to.be leader class

In the same way, sentence (68) is acceptable but sentence (69) is not acceptable because an announcement cannot be written without the volitional involvement of an agent.

- (68) *Pengumuman tertulis di papan tulis.*
announcement ter-write in board writing
“The announcement is written on the board.”

- (69) **Pengumuman tertulis oleh guru saya di papan tulis.*
announcement di-write by teacher I in board writing

The previous examples do not include an agent of the action. With *ter-*, in some cases, it is possible to include a prepositional phrase which includes the causer of the action, provided it is not the intentional agent. Even when the causer is included, the action must be unintentional. In (70), *tertabrak* depicts a car crash that happens unintentionally, that it is an accident, where the car causes the hit. In (71), *ditabrak* depicts a car crash that happens intentionally, meaning that there is a driver that actually wanted to crash the car.

- (70) *tabrak* “to hit, to crash”, *tertabrak* “to be hit, to be crashed”
Mobil kami tertabrak oleh mobil mereka.
car we ter-hit by car they
“Our car was hit by their car.”

- (71) *tabrak* “to hit, to crash”, *tertabrak* “to be hit, to be crashed”
Mobil kami ditabrak oleh mobil mereka.
car we ter-hit by car they
“Our car was hit by their car.”

The use of the verbal prefix *ter-*, in conclusion, revolves around an unintentional action and a subject who is not the agent of the action. Furthermore, it makes passive construction and when the agent is included in the sentence, the agent does not occupy the position of the subject and does not do the action on purpose.

4.2.3.2 Apparent counterexamples

The counterexamples for verbs with prefix *ter-* seem to show that the subject is an agent, such as *tertawa* and *tersenyum* in (72) and (73) respectively. It is only when the meanings of their base nouns are investigated, their seemingly contradictory usage can be explained.

In English, the action “to laugh” entails an agent to do the action. This is not the case in Indonesian. The noun *tawa* “a laugh” is an expression of good feelings (e.g. happy, pleased, amused) by producing certain sounds (<https://kbbi.kemdikbud.go.id>, 3 November 2020). Thus, it can be perceived that the subject of *tertawa* “to laugh” receives some good feelings and reacts to them, invalidating the subject as an agent.

- (72) *Mereka tertawa.*
they ter-laugh
“They are laughing.”

A similar interpretation is applicable to *tersenyum* “to smile”. In Indonesian, *senyum* “a smile” means a laugh without a sound (<https://kbbi.kemdikbud.go.id>, 3 November 2020). It is not an action that is done on purpose, but rather one that involuntarily shows some feeling. If “to smile” is done on purpose for instance as a form of courtesy, *meng-i* is used with *senyum* instead of *ter-* as in (74).

- (73) *Mereka selalu tersenyum kepada saya.*
they always ter-smile to I
“They cannot resist but to show a smile to me.”

- (74) *Mereka menyenyumi saya.*
they meng-smile-i I
“They always give me a smile”

Someone who does *tersenyum* or *tertawa* reacts to the good feelings that they receive from a situation. It is an indication that neither action is intentional. Therefore, other than not entailing an agent, *tersenyum* and *tertawa* are also unintentional. This is consistent with the common usage of the verbal prefix *ter-*.

The ensuing counterexamples to discuss are *terlambat* and *terlengah*. Each of them consists of the verbal prefix *ter-* and an adjective base. *Terlambat* “to be late”, as in (75), is a situation that cannot happen intentionally. If you want to be intentionally late, you need to add the word *sengaja* “intentional” as in (76).

- (75) *Saya terlambat masuk kelas.*
I ter-slow enter class
“I was late to join the class.”

- (76) *Saya sengaja terlambat masuk kelas.*
I intentional ter-slow enter class
“I was intentionally late to join the class.”

The other counterexample with an adjective base, *terlengah* “to be unwary”, is not something that can be possibly done on purpose. One cannot intentionally make losing their alertness to happen to themselves. Therefore, the subject for *terlengah*, such as *Ade* in (77), is not an agent.

- (77) *lengah* “unwary”, *terlengah* “to be unwary”
Ade terlengah dan tertabrak mobil.
Ade ter-unwary and crashed car
“Ade was unwary and crashed by a car.”

The last counterexample, *terjadi* “to happen”, has a verbal base *jadi* “to become”. As in (78), *terjadi* “to happen” is used to depict an occurrence that is, to some extent, out of control. If the event is something that one can orchestrate, different words will be used to describe it, such as *dibuat* “to be made” in (79).

- (78) *jadi* “to become”, *terjadi* “to happen”
Kecelakaan itu terjadi kemarin.
accident that ter-become yesterday
“The accident happened yesterday.”

- (79) *jadi* “to become”, *terjadi* “to happen”
Adegan kecelakaan di film itu dibuat kemarin.
scene accident in film that di-make yesterday
“The accident scene for the movie was made (filmed) yesterday.”

These examples show that the counterexamples are apparent because they still portray the subjects as unconscious or having no intention to do the action. In other words, they are not different from the common usage of the verbal prefix *ter-*. Based on what we have found so far, there is no real counterexample for the verbal prefix *ter-*.

4.2.4 *Meng-kan* and *meng-i*

The verbal confix *meng-kan* and the verbal confix *meng-i* are discussed under one single section because they are both ditransitive. Despite having the same number of arguments, the verbal confix *meng-kan* and the verbal confix *meng-i* have different usages. The first confix that will be covered is the verbal confix *meng-kan*, including its main usage and counterexamples, and then the verbal confix *meng-i* is presented with the same structure.

4.2.4.1 *Meng-kan*

As we said, let us start with the combination *meng-kan*, which produces ditransitive verbs with well-defined characteristics.

4.2.4.1.1 Main usage

The verbal confix *meng-kan* consists of the prefix *meng-* attached before the base and the prefix *-kan* attached after the base. It can be combined with several categories of bases: nouns (80), adjectives (81), and numerals (82). In the same way as the previous verbal affixes discussed, *meng-kan* can also be attached to a base that is only used as a verb (83). Other than that, being a verbal affix, attaching *meng-kan* to any of the mentioned bases results in a verb.

(80) *tingkat* “level”, *meningkatkan* “to increase, to level up”

Krisis ekonomi meningkatkan harga emas.

crisis economy meng-level-kan price gold

“The economy crisis increased the price of gold.”

(81) *dingin* “cold”, *mendinginkan* “to cool down”

Saya mendinginkan makanan untuk mereka.

I meng-cold-kan food for they

“I cooled down the food for them.”

(82) *satu* “one”, *menyatukan* “to unite, to merge”

Pemerintah kota menyatukan dua sekolah itu.

government city meng-one-kan two school that

“The city government merged the two schools.”

(83) *beri* “to give”, *memberikan* “to give something to someone”

Saya memberikan makanan kepada mereka.

I meng-give-kan food to they

“I gave food to them.”

The following table shows some of the most frequently used verbs with the verbal confix *meng-kan*.

Table 4. Some of the most frequently used verbs with prefix *meng-kan*

affixed word	gloss	base	gloss
mengatakan	to say A to B	kata	word
melakukan	to do A to/for B	laku	action
merupakan	to constitute	rupa	form
memberikan	to give A to B	beri	to give
menggunakan	to use	guna	benefit, function
mendapatkan	to obtain A from B	dapat	to get, able (adj)
menyatakan	to state, to declare	nyata	real
menjelaskan	to explain A to B	jelas	clear
menambahkan	to add A to B	tambah	to add
meningkatkan	to level up something	tingkat	level, grade
menunjukkan	to show A to B	tunjuk	to point
menegaskan	to confirm	tegas	firm
menyampaikan	to convey	sampai	to reach, until
mengungkapkan	to reveal, to say	ungkap	to reveal, to say
menyebutkan	to mention	sebut	to mention
memastikan	to guarantee A to B	pasti	certain
menemukan	to find	temu	(pre-categorial)
menjalankan	to make something walk	jalan	to walk, street (n)
membutuhkan	to need	butuh	need (noun)
melaksanakan	to execute	laksana	(pre-categorial)
melibatkan	to involve A into B	libat	(pre-categorial)
mengeluarkan	to take out, to eject	keluar	to go out
menyebabkan	to cause	sebab	cause
mengembangkan	to develop	kembang	flower
mengingatkan	to remind A of B	ingat	to remember
melaporkan	to report	lapor	to report
menyiapkan	to make something ready	siap	ready
memanfaatkan	to utilize, to benefit from	manfaat	benefit
memutuskan	to decide	putus	to be finished, to be cut

Based on the provided examples (80-83) and the tables, the drawable conclusion is that the verbs containing the verbal prefix *meng-kan* are ditransitives, meaning that they have two internal arguments (Adger, 2003: 63).

We see on the table above two of the prototypical ditransitive classes of verbs. A good number of the words in the tables involve verbs of saying, which involve a recipient of the message: *mengatakan* “to say”, *menegaskan* “to confirm”, *menyampaikan* “to convey”, *menyebutkan* “to mention”, *mengingatkan* “to remind”, *menunjukkan* “to show A to B”, among others.

The most common word from this group is *mengatakan* “to say A to B”. This verb is made up of the combination of the noun *kata* “word” and the verbal confix “*meng-kan*”. It is ditransitive

because it can be interpreted as “to transmit some information to someone”, or even “to give a word to someone”, even if the verb on the surface allows two arguments. In (84), the word given is *kebenaran* “the truth” and the person who receives it is *semua orang* “everyone”. The latter can also be only implied, not mentioned in the sentence, as in (85).

(84) *kata* “word”, *mengatakan* “to say A to B”
Anak-anak mengatakan kebenaran kepada semua orang.
 child.redup meng-word-kan truth to all people
 “Children say the truth to everyone.”

(85) *kata* “word”, *mengatakan* “to say A to B”
Anak-anak mengatakan kebenaran.
 child.redup meng-word-kan truth
 “Children say the truth.”

Note that the goal argument, the entity that receives the information, is marked with a preposition in (84): this will be a crucial contrast with the verbs involving *meng-i*, which express the transfer to a goal without needing to introduce the goal with a preposition. In our analysis we will treat this difference as meaning that *-i* and *-kan* differ on whether they can assign case to the goal argument.

Another example is *menegaskan* “to confirm A to B”. Similar with *mengatakan*, *menegaskan* has something to confirm about and someone to confirm to. In (86), the thing being confirmed is *kesiapan tim kami* “our team’s readiness” and the person being confirmed to is *panitia* “the committee”. When the later argument (*panitia* “the committee”) is removed, the sentence is still grammatical as in (87).

(86) *tegas* “firm”, *menegaskan* “to confirm A to B”
Pelatih menegaskan kesiapan tim kami kepada panitia.
 coach meng-firm-kan readiness team we to committee
 “The coach confirmed our team’s readiness to the committee.”

(87) *tegas* “firm”, *menegaskan* “to confirm A to B”
Pelatih menegaskan kesiapan tim kami.
 coach meng-firm-kan readiness team we
 “The coach confirmed our team’s readiness.”

Some other verbs which contain the confix *meng-kan* are verbs of transfer (giving A to B) or removal (removing A from B). Among them are *memberikan* “to give”, *menambahkan* “to add A to B”, *mengeluarkan* “to take A out of B”, and *mendapatkan* “to obtain A from B”.

When you use *menambahkan* “to add A to B”, two things are involved: the thing to add and the thing or person to add to. In (88), the first is *makanan* “food” and the latter is *piring mereka* “their plate”. In other words, *makanan* is the thing being transferred.

- (88) *tambah* “to add”, *menambahkan* “to add A to B”
Saya menambahkan makanan ke piring mereka.
I meng-add-kan food to plate they
“I added food to their plate.”

The verb *memberikan* “to give A to B” also indicates that there is something being transferred between two parties. In (89), *makanan* “food” is transferred between the subject *saya* “I” and the receiver *mereka* “them”.

- (89) *beri* “to give”, *memberikan* “to give A to B”
Saya memberikan makanan kepada mereka.
I meng-give-kan food to they
“I gave food to them.”

The next group of verbs with two arguments has benefactive meaning, that is, to do something for the benefit of someone or something else. Among the words in Table 4, the ones belong to this group are *melakukan* “to do A for B” and *menemukan* “to find A for B”. However, this meaning is the most intuitive meaning, based on my insight as a native speaker of Indonesian. When you add *meng-kan* to a random base word, the most salient meaning is benefactive, such as *membukakan* “to open A for B” and *membuangkan* “to throw A away for B”. As can be seen in the following examples, the verb *membuka* (without *-kan*) in (90) is monotransitive, and it does not imply anyone else benefitting from the action. However, the verb *membukakan* (with *-kan*) in (91) adds an additional participant. Even if *untuk mereka* “for them” in (91) is deleted, it is still implied that the action is done for someone else.

- (90) *buka* “to open”, *membuka* “to open”
Saya membuka pintu.
I meng-open door
“I opened the door.”
- (91) *buka* “to open”, *membukakan* “to open something for someone”
Saya membukakan pintu untuk mereka.
I meng-open-kan door for they
“I opened the door for them.”

Another example is the verb *melakukan* “to do A for/to B”, which consists of the nominal base *laku* “action” and the verbal confix *meng-kan*. The subject either does something for another

entity as in (92) or to another entity as in (93). Either meaning requires two arguments other than the subject.

(92) *laku* “act”, *melakukan* “to do A for B”
Mereka sedang melakukan penelitian untuk universitas.
they in.the.process.of meng-action-kan research for university
“They are doing a research for the university.”

(93) *laku* “act”, *melakukan* “to do A for B”
Kamu melakukan kesalahan kepada mereka.
you meng-action-kan to they
“You did a mistake to them.”

In (94), *menemukan* does not only mean finding something, but also involves the one benefitting from what is found, which in this case is *penelitiannya* “one’s research”. When the one benefitting from the action is not mentioned as in (95), it can be implied that the subject themselves is the beneficiary.

(94) *temu* “to meet, to find”, *menemukan* “to find A for B”
Mereka menemukan sesuatu untuk penelitiannya.
they meng-find-kan something for research.his/her
“They found something for their research.”

(95) *temu* “to meet, to find”, *menemukan* “to find A for B”
Mereka menemukan sesuatu.
they meng-find-kan something
“They found something.”

The last piece of evidence for the systematicity of this group of benefactive verbs is the intuitive meaning of the verbal confix *meng-kan*. When it is attached to a random word, the meaning that a native speaker would try to draw is benefactive. In (96) and (97), if *untuk mereka* “for them” is removed, the interpretation of a beneficiary remains.

(96) *membuka* “to open”, *membukakan* “to open A for B”
Saya membukakan pintu untuk mereka.
I meng-open door for they
“I opened the door for them.”

(97) *membuang* “to throw away”, *membuangkan* “to throw A away for B”
Saya membuangkan pintu untuk mereka.
I meng-throw door for they
“I threw the door away for them.”

To sum up, a verb with the verbal confix *meng-kan* is ditransitive, meaning it has two arguments other than the subject. The main usages include “to communicate A to B”, “to transfer A to/from B”, and “to do A for/to B”. The next subsection covers the counterexamples.

4.2.4.1.2 Apparent counterexamples

All counterexamples found for verbs with the verbal confix *meng-kan* are apparent. The first group of verbs with *meng-kan* which are monotransitive on the surface has nominal bases which can be interpreted as the object that is transferred or produced for the benefit of someone. The nominal base counts as one argument which is incorporated into the verb. Most of the meanings involved in this group are aligned with two of the main usages: “to transfer A to/from B” and “to do A for/to B”.

An example of this group with the meaning “to transfer A to/from B” is *meningkatkan* “to level up something”. The verb *meningkatkan* has the nominal base *tingkat* “level”. This base, *tingkat* “level”, is the thing that is transferred by the subject to the object. In (98), *krisis ekonomi* “the economy crisis” gives a (new) level to *harga emas* “the price of gold”.

- (98) *tingkat* “level”, *meningkat* “to go up”, *meningkatkan* “to level up something”
Krisis ekonomi meningkatkan harga emas.
 crisis economy meng-level-kan price gold
 “The economy crisis increased the price of gold.”

In (99), the apparent meaning is “to transfer A to/from B”. The verb *memanfaatkan* “to benefit from something/someone” has the nominal base *manfaat* “benefit” that is transferred from *orang lain* “other people” to the subject *mereka* “they”. Other than the subject, (99) has *manfaat* and *orang lain* as arguments, thus *memanfaatkan* is ditransitive from this perspective.

- (99) *manfaat* “benefit”, *memanfaatkan* “to benefit from something/someone”
Mereka sering memanfaatkan orang lain.
 they often meng-benefit-kan people other
 “They often take benefit from other people.”

The second group of apparent counterexamples comprises the causative structures built with *meng-kan*. The meaning carried by a causative, “to make A to do/be B”, is similar to the main usage in which there are two things the subject relates to, only that in such cases one of those things is a predicate of the first. In Table 4, *menyiapkan* “to make something ready” and *menjalankan* “to make something walk” are causatives.

In (100), the subject *mereka* “they” is trying to make something, that is *tugas* “the task”, *siap* “ready”. The possible situation is some people that are preparing a task until the task is ready to be assigned to other people.

- (100) *siap* “ready”, *menyiapkan* “to make something ready”
Mereka sedang menyiapkan tugas.
they in.the.process.of meng-ready-kan task
“They are preparing the task.”

In (101), the subject *mereka* “they” is trying to make something do something, that is *tugas* “the task” and *jalan* “to walk”. The possible situation is some people have a task assigned to them and they are trying to perform the task. It is figurative to draw the meaning of “to perform the task” from *menjalankan tugas* “to make the task walk”, but in this sense the verb is causative. When you perform a task, the task progresses, and this progress can be perceived as a walk.

- (101) *jalan* “to walk”, *menjalankan* “to make something walk”
Mereka sedang menjalankan tugas.
they in.the.process.of meng-walk-kan task
“They are performing the task.”

Other causative verbs in Table 4 also have lexicalized figurative meanings. They are *melaksanakan* “to execute”, *mengembangkan* “to develop”, and *memutuskan* “to decide”. The first one, *melaksanakan* “to execute”, is heavily lexicalized, considering that the base word *laksana* is a pre-categorial word, but its meaning is similar to the previous example. The second one, *mengembangkan* “to develop”, literally means “to make something to be a flower”, suggesting a metaphorical relation between the blooming of a flower with the developing of something (e.g. a business, an idea, a project, etc.). The last one, *memutuskan* “to decide”, literally means “to make something to be cut or concluded”, suggesting that a decision is made to cut or to conclude a discussion.

In Indonesian grammar books (Sneddon, 1996; Kridalaksana, 2010), there is also a group of meaning in the verbal confix *meng-kan* called “instrumental”. They actually belong to the causative group, because the subject makes the instrument do something: “to make A do B”. For example, in (102) the subject *orang itu* “that person” makes *kayu* “a piece of wood” to hit *tanah* “the ground” instead of doing *pukul* “to hit” by themselves. Other examples of instrumental words are *menikamkan* “to make A stab B” and *membidikkan* “to make A aim B”.

- (102) *memukul* “to hit”, *memukulkan* “to use something to hit”
Orang itu memukulkan kayu ke tanah.
 person that meng-hit-kan wood to ground
 “That person hit the ground with a piece of wood.”

The last counterexample for this category is also an apparent one, which is the verb *mendengarkan* “to listen to”. The online official Indonesian language dictionary (<https://kbbi.kemdikbud.go.id/entri/mendengarkan>, last access: 5 December 2020) defines the difference between *mendengar* “hear” and *mendengarkan* “listen” in the intentional involvement of the subject. Following this definition, the subject in (103) pays less attention to the music that they hear compared to the subject in (104).

- (103) *dengar* “to hear”, *mendengar* “to hear”
Saya mendengar musik di sana.
 I meng-hear music in there
 “I heard some music there.”
- (104) *dengar* “to hear”, *mendengarkan* “to listen”
Saya mendengarkan musik di sana.
 I meng-hear-kan music in there
 “I listened to some music there.”

Considering that verbs containing *meng-kan* typically have two internal arguments, the intentional meaning can be inferred from making oneself to do something. In other words, the subject *saya* “I” make themselves do the action of listening to some music. It shows that *mendengarkan* is an apparent counterexample which carry a ditransitive interpretation “to make A to do B”.

4.2.4.2 *Meng-i*

Let us now move to the second combination that produces ditransitive verbs, *meng-i*.

4.2.4.2.1 Main usage

The set of affixes described as the confix or circumfix *meng-i* is the combination of the prefix *meng-* attached before the base and the suffix *-i* attached after the base. This confix is compatible with nouns (105) and adjectives (106) as bases. Not different from *meng-kan*, *meng-*

i can also be attached to a base that is only used as a verb (107). In any case attaching *meng-i* to any of the mentioned bases results in a verb. A sample of each of the three types of bases is provided below.

(105) *fasilitas* “facility”, *memfasilitasi* “to facilitate”
Pemerintah memfasilitasi pembangunan desa.
 government meng-facility-i development village
 “The government facilitates the development of the villages.”

(106) *penuh* “full”, *memenuhi* “to fulfill”
Air memenuhi kolam.
 water meng-full-i pool
 “Water fills the pool.”

(107) *datang* “to come”, *mendatangi* “to come to”
Mereka mendatangi rumah kami.
 they meng-come-i house we
 “They came to our house.”

Here is a sample of verbs with this formative, taken from the corpus.

Table 5. Some of the most frequently used verbs with verbs with *meng-i*

affixed word	gloss	Base	gloss
melalui	to pass through	lalu	to pass
melayani	to serve	layan	(pre-categorial)
melebihi	to be more than	lebih	more
melengkapi	to complete	lengkap	complete
melewati	to pass through	lewat	to pass
melindungi	to protect	lindung	(pre-categorial)
melintasi	to cut across	lintas	across
meliputi	to encompass	liput	(pre-categorial)
memahami	to understand	paham	understanding
memasuki	to enter something	masuk	to enter
membatasi	to limit	batas	limit
membiyai	to fund	biaya	fee
memenangi	to win something	menang	to win
memengaruhi	to influence	pengaruh	influence
memenuhi	to fulfill	penuh	full
memfasilitasi	to facilitate	fasilitas	facilitate
memiliki	to own	milik	possession
mempelajari	to study something	belajar	to study
mempunyai	to have	punya	to have, belonging (n)
menandatangani	to give signature to	tanda tangan	signature
menangani	to handle	tangan	hand
menanggapi	to respond	tanggap	responsive
mencintai	to love	cinta	love
mencukupi	to suffice	cukup	enough

mendalami	to go deep into	dalam	depth
mendampingi	to accompany	damping	close (adjective)
mendatangi	to come to something	datang	to come
menduduki	to sit on something	duduk	to sit
menempati	to occupy	tempat	place
menemui	to meet	temu	(pre-categorial)

Like *meng-kan*, *meng-i* results in verbs with two internal arguments, but one of the internal arguments might require a preposition in order to be syntactically licensed or is typically incorporated into the verb. Verbs containing the verbal confix *meng-i* are syntactically monotransitives within certain well-defined groups of meanings, in all of which one can plausibly identify two internal arguments.

The first group is the one formed by verbs indicating movement, where the subject can be interpreted as an internal argument within an unaccusative verb, and the second internal argument is the constituent expressing the final location. From the table, the verbs *melalui* “to pass through”, *melintasi* “to cut across”, *melewati* “to pass through”, *memasuki* “to enter”, *mendatangi* “to come to”, *menduduki* “to sit on”, *menempati* “to occupy”, and *menemui* “to meet” belong to this group. These words require an argument to be the target of the movement.

For example, the subject *kita* “we” in (108) moved through something specified in the sentence. If the place where the movement happens was not described, the sentence could have been as simple as *Kita pergi* “we go”. With the place *jalan darat atau jalan laut* “land way or sea way” being pointed out, it is necessary to use *melalui*. Similar verbs displaying the same type of behaviour are *melintasi* “to cut across” and *melewati* “to pass through”.

- (108) *lalu* “to pass”, *melalui* “to pass through”
Kita dapat melalui jalan darat atau jalan laut.
we can meng-lalu-i way land or way sea
“We can go by land or by sea.”

Another typical situation with verbs of movement occurs with *memasuki* “to enter” in (109). If the place that the subject *mereka* “they” enters is not specified, the verb to use is *masuk* “to enter” instead of *memasuki*. The alternate sentence *Mereka masuk* “They entered” does not always imply a movement because it can also indicate a state—“They were present”—. In (110), the target of the movement is specified with the help of the preposition *ke* “to”. However, (109) and (110) are different. *Ruangan* “the room” in (109) is closer to the verb compared to *ruangan* in (110). It makes *ruangan* in (110) to be the direct target of the verb instead of an

additional information of where the verb is happening as in (110). Words similar with *memasuki* are *mendatangi* “to come to”, *menduduki* “to sit on”, *menempati* “to occupy”, and *menemui* “to meet”.

(109) *masuk* “to enter”, *memasuki* “to enter”
Mereka belum memasuki ruangan.
 they not.yet meng-enter-i room
 “They have not entered the room.”

(110) *masuk* “to enter”
Mereka belum masuk ke ruangan.
 they not.yet enter to room
 “They have not entered the room.”

The second group of the main usage are words built up from the verbal confix *meng-i* and an adjective, which involve a predicational structure where the adjective is predicated from an internal argument. The adjective is converted into a verb which takes one argument. For example, in (111) *lebih* means “more” and *melebihi* means “to be more than” or “to become more than”. As for (112), *lengkap* means “complete” and *melengkapi* means “to complete”. These interpretations can be paraphrased as “to be more ADJECTIVE than X”, “to be ADJECTIVE with or for something” or “to make something ADJECTIVE”, in the three cases involving predication structures that take their own arguments. Other words in the group are *memenuhi* “to fulfill”, *menanggapi* “to respond (to become responsive to)”, *mencukupi* “to be enough for”, and *mendampingi* “to accompany (to be close with)”.

(111) *lebih* “more”, *melebihi* “to be more than”
Untung penjualan melebihi perkiraan kami.
 profit sales meng-more-i prediction we
 “The sales profit exceeded (=became bigger than) our expectation.”

(112) *lengkap* “complete”, *melengkapi* “to complete”
Mereka melengkapi laporan.
 they meng-complete-i report
 “They are completing the report.”

This frequent use of the verbal confix *meng-i* with adjectival bases may explain the counterexamples previously discussed about the combination of the verbal prefix *meng-* and adjectival bases (see 4.2.1.3). In short, the verbal prefix *meng-* mainly forms a syntactically monotransitive verb when it is attached to a base, but we saw that it forms an intransitive verb when it is attached to an adjectival base. Given that a verb containing the confix *meng-ADJECTIVE-i* is typically ditransitive with one of the two arguments being the subject itself, it

is reasonable to consider that *meng-ADJECTIVE* is actually monotransitive because it also has the subject as an internal argument.

The third group denotes the state of mind that the subject has towards the object, where the state of mind is one argument that can be seen as incorporated into the verb and the object towards which the emotion is directed is the second internal argument. This group involves psychological verbs such as *mencintai* “to love” in (113) where the subject *mereka* “they” has the feeling of *cinta* “love”, a noun, in their mind for the object *kami* “we/us”. The same explanation works for *menyukai* “to like” in (114) although in this case the base is a verb (*suka* “to like”) instead of a noun.

(113) *cinta* “love”, *mencintai* “to love”
Mereka mencintai kami.
they meng-love-i we
“They love us.”

(114) *suka* “to like”, *menyukai* “to like”
Mereka menyukai kami.
they meng-like-i we
“They like us.”

Note that the *-i* suffix sometimes might not be immediately visible in the surface. On the surface, *membenci* “to hate”, from the the noun *benci* “hate”, could seem to be a case of prefixation with *meng-*. However, the base ends with the vowel /i/, which is the same as the suffix *-i* in the *meng-i* circumfix. Thus, it is plausible to think that *membenci* actually consists of *meng-i* and *benci* instead of *meng-* and *benci*, with the two /i/ conflating into only one segment. Using this interpretation, *membenci* “to hate” belongs to the same group as *mencintai* “to love” and *menyukai* “to like”.

(115) *benci* “hate”, *membenci* “to hate”
Mereka membenci kami.
they meng-hate-i we
“They hate us.”

An example of a state of mind verb that is not a feeling is *memahami* “to understand” which is derived from the nominal base *paham* “understanding”. In (116), the subject *mereka* “they” has a specific state of mind towards the object *keinginan kami* “our wish”, that is an understanding.

- (116) *paham* “understanding”, *memahami* “to understand”
Mereka memahami keinginan kami.
 they meng-understanding-i wish we
 “They understand our wish.”

To conclude this section, verbs containing the verbal confix *meng-i* is ditransitive, just like *meng-kan*. However, verbs with *meng-i* have different meanings from verbs with *meng-kan*. While the typical meanings for the latter are “to communicate A to B”, “to transfer A to/from B”, and “to do A for/to B”, verbs with *meng-i* usually indicate a movement, to acquire or to exhibit a property, and a state of mind. The next section covers the apparent counterexamples.

4.2.4.2.2 Apparent counterexamples

The apparent counterexamples for this category can be grouped into three types. The first type includes verbs with a nominal base, thus *meng-NOUN-i*. In the second group, the base ends in /i/, making it unclear whether the verb should be segmented *meng-BASE* or *meng-BASE-i*. Lastly, some verbs containing *meng-i* seem to carry repetitive meaning.

Some nominal bases can be combined with the verbal circumfix *meng-i*, such as the noun *batas* “limit” in *membatasi* “to limit” in (117), producing what, at first sight, looks like a monotransitive verb. However, if we consider the nominal base as an internal argument, just like what we have seen with *meng-NOUN* (see 4.2.1.2), it can be argued that *membatasi* has two internal arguments: *batas* “limit” and *jumlah tamu* “the number of guests”. With this interpretation, *membatasi* has the meaning “to put/give a limit to someone/something” or “to give A to B”, which is a typical ditransitive meaning. The same interpretation can be applied to *membayai* “to fund” which is derived from *biaya* “fee”.

- (117) *batas* “limit”, *membatasi* “to limit”
Kita harus membatasi jumlah tamu.
 we must meng-limit-i quantity guest
 “We must limit the number of guests.”

The second group of apparent counterexamples consists of the verbs which look like *meng-BASE* but where the base has the segment /i/ at the end, leaving the possibility that the verb may actually be decomposed into *meng-BASE-i*. An example is *menilai* “to grade” in (118). Its base word is the noun *nilai* “grade” which ends with /i/. In Indonesian phonology, a sequence of two adjacent /i/ segments is simplified, leaving only one /i/ segment at the end. If *menilai* is

seen as containing the verbal circumfix *meng-i*, it fits with the meaning “to give A to B” because the subject *guru-guru* “the teachers” is giving grades to *ujian* “exams”. Other words which potentially belong to this group, where the phonology of the base is compatible both with *meng-* or *meng-i* but the meaning suggests that they should be classified as *meng-i* verbs, are *memberi* “to give” and *menjadi* “to be”.

- (118) *nilai* “grade”, *menilai* “to grade”
Guru-guru sedang menilai ujian.
 teacher.redup in.the.process.of meng-grade exam
 “Teachers are grading exams.”

About the third group of apparent counterexamples, the reason for including them here is that it is generally mentioned in grammar books (Sneddon, 1996; Kridalaksana, 2010; Moeliono, 2017) that verbs with the circumfix *meng-i* have repetitive meaning. For example, *pukul* “hit” as in (119) becomes repetitive when *meng-i* is attached to it—*memukul* “to hit repeatedly at” as in (120). However, it is more plausible that the repetitive interpretation comes as an effect of the base word, which has a contact meaning, not as a result of the circumfix itself.

- (119) *pukul* “hit”, *memukul* “to hit”
Saya memukul samsak.
 I meng-hit punching bag
 “I hit the punching bag.”
- (120) *memukul* “to hit”, *memukuli* “to hit repeatedly at”
Saya memukuli samsak.
 I meng-hit-i punching bag
 “I hit the punching bag repeatedly.”

The repetitive meaning happens typically with bases that express blows, hits, and sudden contact between two objects. My proposal is that with these bases, the repetitive meaning is, like in English, necessary in the interpretation of the present of such verbs, which belong to the class that Dowty (1979) calls “semelfactive verbs”. These verbs are interpreted as atelic in the present, through repetition of the event.

One argument in favour of this view, where the repetitive meaning is not caused by the verbal affix, is that Indonesian marks repetition through reduplication, and the presence of the affix does not block the use of reduplication to assign a repetitive meaning to the verb. It is reflected in (121) where *memukul-mukuli* “to hit something repeatedly” is grammatical.

- (121) *memukul* “to hit”, *memukul-mukuli* “to hit something repeatedly”
Saya memukul-mukuli samsak.
 I meng-hit.redup-i punching bag
 “I hit the punching bag repeatedly.”

When the base word does not have a contact meaning, such as *lempar* “to throw”, the verbal confix *meng-i* assigns a contact meaning, which is again a manifestation of ditransitivity to the extent that causing contact presupposes the existence of two internal arguments in addition to the agentive subject. In (122), *melempar* “to throw” only has one argument that is *batu* “the stone” which is thrown by the subject. In (123), *melempari* “to throw something at” has a different argument succeeding it, *pohon* “the tree”, which acts as the one receiving the contact.

- (122) *lempar* “to throw”, *melempar* “to throw”
Saya melempar batu.
 I meng-throw stone
 “I throw a stone.”

- (123) *melempar* “to throw”, *melempari* “to throw something at”
Saya melempari pohon dengan batu.
 I meng-throw-i tree with stone
 “I throw stones at the tree.”

Again, reduplication can be involved to add a repetitive meaning as in *melempar-lempari* “to throw something repeatedly at” (124).

- (124) *melempar* “to throw”, *melempar-lempari* “to throw something repeatedly at”
Saya melempar-lempari pohon dengan batu.
 I meng-throw.redup-i tree with stone
 “I throw stones repeatedly at the tree.”

4.2.5 Summary

The main generalisations identified for the verbal affixes *meng-*, *ter-*, *meng-kan*, *meng-i*, and *ber-* are presented below. The generalisations include the kinds of bases they attach to, their argument structure, and the main meanings of the resulting verbs.

Table 6. Generalisations of verbal affixes

	<i>meng-</i>	<i>ter-</i>	<i>meng-kan</i>	<i>meng-i</i>	<i>ber-</i>
N bases	yes	yes	yes	yes	yes
A bases	yes	yes	yes	yes	no
Other bases	interjection, pronoun, numeral	none	numeral	none	numeral
Argument structure	monotransitive	intransitive passive	ditransitive	ditransitive	intransitive agentive
Main meanings	"to do/make/obtain/be Base"	passive and unintentional	communication, transfer, benefactive	transfer, movement, property acquisition, state of mind, contact	"to do/have Base"

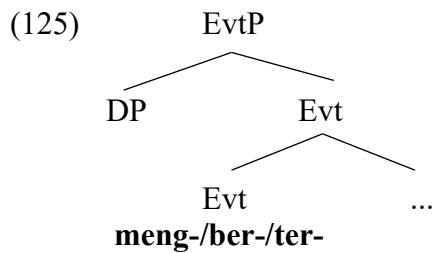
4.3 Analysis

This section presents my analysis of the verbal patterns that have just been described. In a nutshell, I analyse the prefix as involving different manifestations of EvtP, the head presented in §2.2.4. The suffixes used in the verb are then analysed, as manifestations of an Applicative head, with some complications and differences between *-i* and *-kan* that we will discuss as we propose the structures for the different verb types.

4.3.1 The nature of the verbal prefixes

Let us start by presenting our analysis of the Indonesian verbal prefixes, which we will argue in this section should be viewed as heads that spell out the Evt head described in section §2.2 above.

Indonesian verbal prefixes and verbal suffixes have, in my analysis, a different nature and thus are projected in different areas of the verb phrase. The prefixes *meng-*, *ber-*, and *ter-* are projected in the EvtP, not in the eventuality descriptive heads that are dominated by Evt. As seen in (125), the prefixes are treated as manifestations of Evt.



In Ramchand (2018), syntactic elements placed in the EvtP are the heads that tag the eventuality with time and world parameters. As such, they are necessary to be able to combine the verbal predicate with tenses, aspects, and moods—they do not interfere with the description of the eventuality, but rather they define the temporal and worldly properties of the eventuality.

Let us present first our evidence for this and then explain how the three prefixes are distinguished in my analysis. Since Indonesian does not have obligatory tense and aspect markers, we need to look for the evidence that the prefixes are responsible for adding these parameters so that tense, aspect, and mood can combine. As already mentioned in §4.1, the prefixes disappear in the affirmative imperative clause. In the example below (126), a teacher is asking students to open their books to page 10.

(126) *Buka halaman 10!*
 open page 10
 “Open page 10!”

- (127) a. **Membuka halaman 10!*
 b. **Berbuka halaman 10!*
 c. **Terbuka halaman 10!*

Sentence (128) is imperative, and the crucial property is that there is no prefix for the verb. In contrast, suffixes are preserved in imperatives. If any prefix is attached to the base, as in (129), the sentence is not grammatical. In the case of the prefix *ter-*, which we saw above that produces passive-like readings of the verb, this incompatibility might have a semantic reason, that is one cannot order things to someone that is not an agent. However, there are no semantic reasons to force the absence of the other two prefixes, which are related to agentive readings.

To understand what is happening in these cases, let us compare with the imperatives in English.

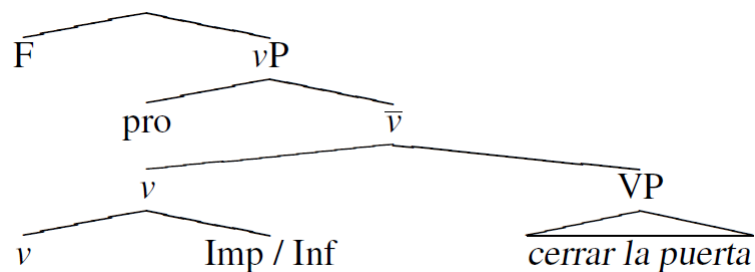
(128) Open page 10!

- (129) *Be opening page 10!
 *Opened page 10!

Imperatives in English have one significant property: they lack a subject, even though English normally requires overt subjects in any clause. This fact, combined with the fact that imperatives do not inflect for tense, nor aspect, across languages as shown in (129), have been interpreted in several works as meaning that imperatives have an impoverished sentential structure where the functional heads for Tense, Mood or Aspect are missing or radically impoverished. On the assumption that subjects are defined at the TP level, the absence of a subject in (128) correlates with the absence of temporal marking in (129), both pointing out to the absence of T in imperatives; the absence of aspectual mobility is also interpreted as Asp being missing from these clauses.

Based on this evidence, Biezma (2008, p. 4-7) proposes that the consequence is that an imperative clause has a reduced sentential functional structure: the verb combines directly with the area that defines the imperative force of the clause (call it CP), without the intermediation of tense, mood or aspect. In the representation below, Biezma (2008, p. 4) placed the Spanish imperative clause *cerrar la puerta* “open the door” as a manifestation of a lexical verb, directly dominated by F which corresponds to Force, in this case interpreted as an “order”.

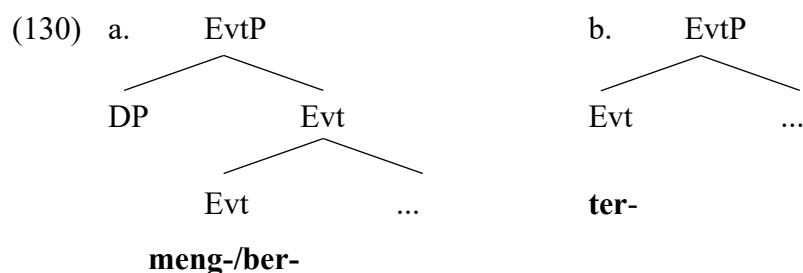
Figure 2. Biezma’s (2008, p. 4) syntactic projection of imperatives



I propose that this means, for the framework that I am adopting (Ramchand, 2018), that imperative verbs do not have EvtP. The reason is that the role of EvtP is to allow the verb to combine with tense and aspect, which is unnecessary in the imperative because these heads are missing, and to introduce the external argument, which again is absent in imperative clauses. As EvtP is where the tense and world information are placed, and these clauses contain neither tense, aspect, nor mood information, we claim that EvtP is absent from imperative structures.

The fact that Indonesian verbal prefixes disappear in imperatives, then, is explained if the verbal prefixes are projected in EvtP instead of in any of the descriptive heads Init, Proc or Res, that should be unaffected by the absence of temporal properties in the imperative.

Now that we have established that Indonesian verbal prefixes are projected in EvtP, we need to define how to syntactically differentiate each of the verbal prefixes. As discussed in §4.2, the verbal prefixes *meng-* and *ber-* produce verbal active construals and the verbal prefix *ter-* makes passive construals. We propose that this means that the latter should be seen as a manifestation of an EventP that is passive because it does not introduce an initiator, while the two other prefixes are manifestations of active EventP structures.



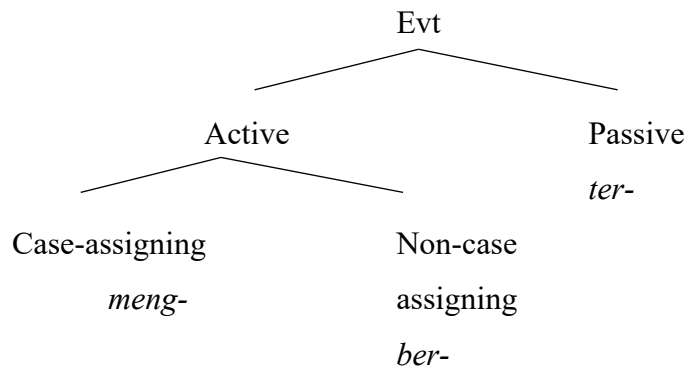
For this proposal we take advantage of the fact, discussed in §2.2.4 above, that EvtP in Ramchand (2018) is treated as a head that corresponds to voice. In the diagram above we represent the passive Evt that manifests as *ter-* as not introducing an external argument; alternatively, we could propose that it introduces an undergoer external argument because its complement is Proc, not Init. We remain neutral about this, as this is orthogonal to our purposes.

Now let us discuss how we differentiate between the two manifestations of the active Evt head. Remember above that generally *meng-* creates monotransitive verbs, while *ber-* creates intransitive agentive verbs. We propose that the difference between the agentive verbal prefixes *meng-* and *ber-* lies on whether they can assign (accusative) case to the associated complement of the event or not. We propose, then, that Evt is also the locus that assigns accusative case to the complement.

The active head Evt that assigns accusative case to its internal argument corresponds to the verbal prefix *meng-*. Otherwise, if the active Evt head cannot assign accusative case, the prefix *ber-* spells out Evt, resulting into an agentive predicate that is intransitive.

Based on these differences between the verbal prefixes *meng-*, *ber-*, and *ter-*, we propose that Evt has different versions reflecting different voice values, which in Indonesian are the following ones.

Figure 3. Versions of Evt in Indonesian



Let us now move to a more detailed discussion of how the verb classes are built.

4.3.2 Verbs with *meng-*

In §4.2.1, we have concluded that verbs with the prefix *meng-* are monotransitive in two ways: overtly or covertly. The overtly transitive verbs have an external argument interpreted as an initiator and an internal argument that gets case assigned by EvtP. The covertly transitive verbs only have an external argument because their object, we propose, is incorporated into the verbal base.

Regardless of the realisation of the object, either overt or covert, the external argument verbs with the prefix *meng-* is an initiator. This is because the subject is always someone or something that triggers the process reflected in the predicate as agent, causer, instrument or generally through its internal properties. The initiator is located in the specifier of the EvtP materialised as *meng-*, whose complement is InitP.

An initiator can project under InitP when there is no syntactic element above the eventuality. It results in clauses where temporal and worldly properties are not defined such as⁴ the sentence (131) below, leaving speakers to assume which one of the following possible interpretations applies.

⁴ See also sentence (8) in §2.1.1.

- (131) *Saya makan nasi.*
 I eat rice
 a. “I am eating rice.”
 b. “I ate rice.”
 c. “I have eaten rice.”
 d. “I will eat rice.”

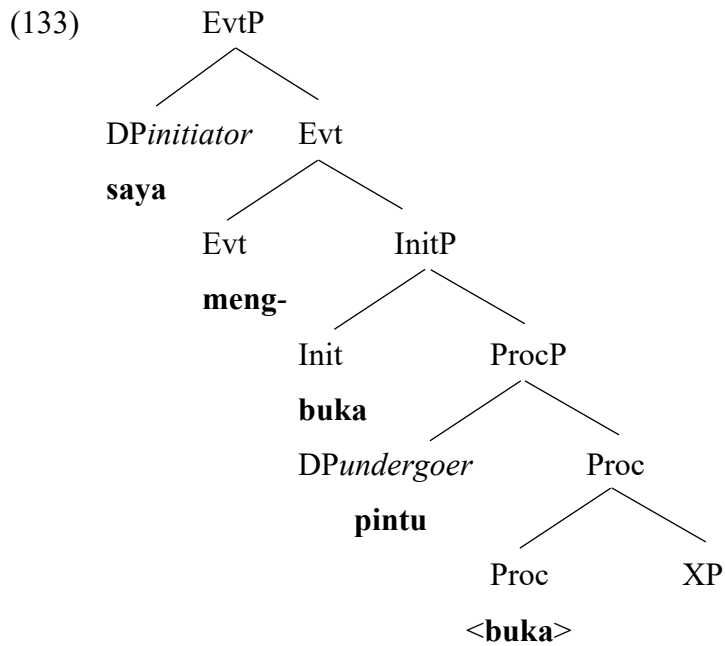
The projection of a verbal prefix indicates the existence of some information about the time or world in which that event happens. As this information completes the predicate and involves voice information, the external argument, therefore, is placed in EvtP, and gets interpreted as initiator because the complement of Evt is InitP, without a specifier of its own.

Let us now examine the rest of the verbal structure and the object argument. As we said in section §4.2.1.2 above, there are two subclasses of *meng-* verbs: those that are overtly monotransitive and transparently show an object that acts as an independent constituent in the predicate and those that are seemingly intransitive, in the sense that there seems to be no object. In the second case we will propose that there is an object, but the object is incorporated into the verbal structure. Let us, however, start with the cases where the object is an independent constituent.

In Ramchand (2008), an object licensed by the Proc head can be projected as an undergoer in spec, ProcP or a path which codefines the process, which is a complement of Proc. The object is an undergoer when it is a participant which experiences the process expressed in the predicate, and a path when it is taken in some sense as defining a scale that measures the process of the eventuality.

Sentence (132) is a typical clause with a verb containing the prefix *meng-* and an overt object. (133) is the syntactic representation that I propose for (132). The subject *saya* “I” is the external argument projected in EvtP as an initiator that sets in motion the change of state called “open”. The verbal prefix *meng-* spells out EvtP in an active voice and is responsible for assigning accusative case to the undergoer, which is the object *pintu* “door”, projected as the undergoer that experiences the change in ProcP. The verbal base *buka* “to open” starts as the complement of ProcP because it is the process that is experienced, and then it incorporates to Init.

- (132) *Saya membuka pintu.*
 I meng-open door
 “I open the door.”



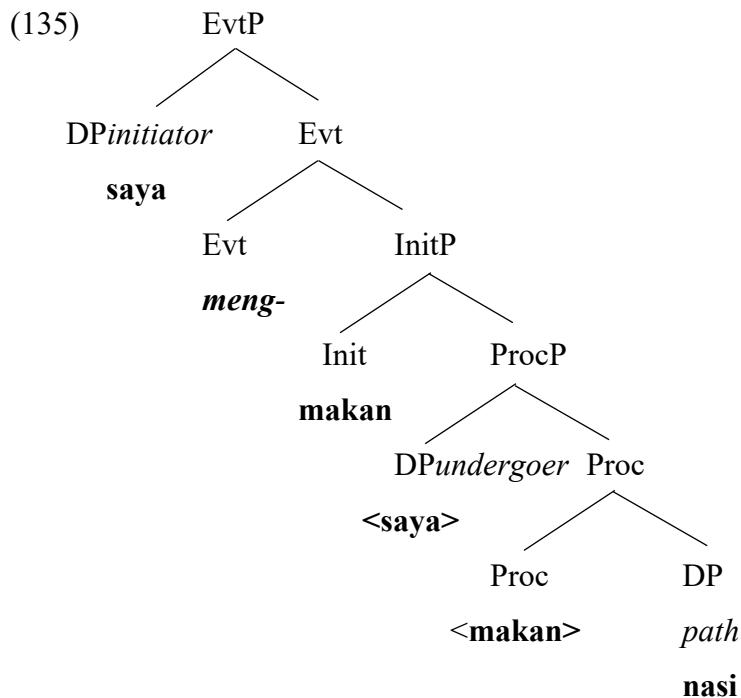
In this representation, we remain neutral about the structure below Proc (XP), which is orthogonal to our purposes, although we assume that it contains the representation of the scale that determines whether something is open or close, and possibly a result state of being opened, where *pintu* would be the resultee as well. In this case, the external argument is an initiator without any undergoer entailment.

Note also that in our representation we are assuming with Ramchand (2008: 97) that the morpheme <buka> spells out a sequence of adjacent heads, in this case Init-Proc and possibly some material contained in XP, such as the Result head if it is present. That is, we are not assuming head movement of the morpheme to a higher position to obtain the linear order of morphemes, but rather that the morpheme spells out a chunk of structure consisting of an uninterrupted sequence of adjacent heads. The reason for this will be clear later, when we discuss cases where the object is spelled out as part of the verbal base but an optional object can be present. We also must say that we do not reject the option of head movement completely, and that in fact we will argue later, in our analysis of *-kan* or *-i* verbs, that the morpheme order in such cases is obtained through movement, because spelling out the sequence of adjacent heads would not give the right results in terms of the linear ordering of heads.

Let us see a second example that emphasises that in this class of verbs the object is an undergoer. The object *nasi* “rice” in (134) does not experience the process *memakan* “to eat”. Instead, the subject *saya* “I” both initiates and experiences the process, and the object measures the process

of eating, imposing an atelic reading because “rice” is an unbounded mass noun. Based on this, the representation (135) has *saya* as the specifier of ProcP and *nasi* as the complement of ProcP.

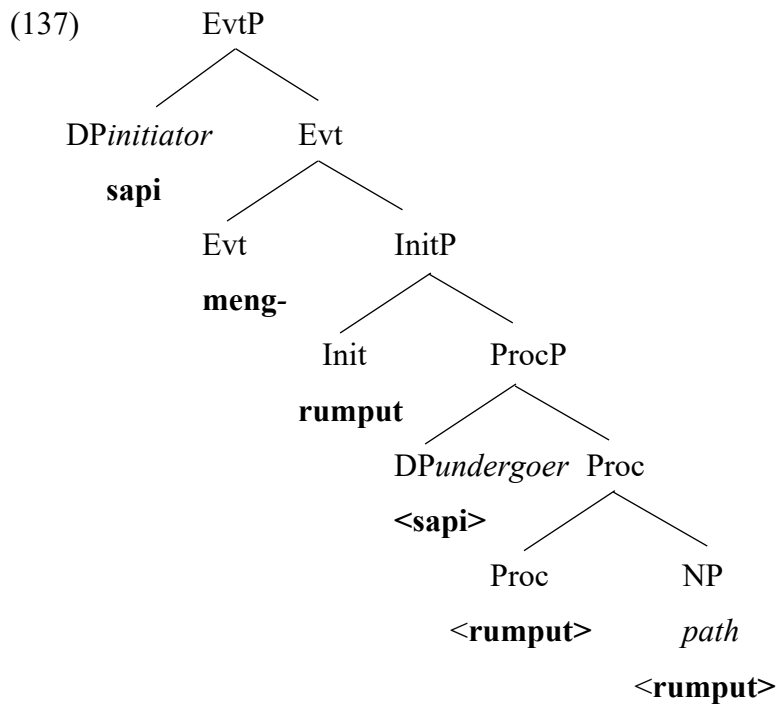
- (134) *Saya memakan nasi.*
 I meng-eat rice
 “I am eating rice.”



In both cases we assume that EvtP, being transitive, assigns case to the undergoer or the path object.

In contrast, the monotransitive clauses with the verbal prefix *meng-* where there is no overt object are instances where the object is incorporated into the verb. The reason is the object is placed in the complement of the Proc position, where it is always interpreted as a path, and gets spelled out as part of the verbal structure. Therefore, object *rumput* in (136) is incorporated into the verb to produce the verb *merumput* “to graze”. Like (134-135), the subject is an initiator-undergoer and the object is a path. However, the path is incorporated into the process head and is realized as part of the verbal base before it is merged with the verbal prefix *meng-* in Evt.

- (136) *Sapi merumput.*
 cow meng-grass
 “The cow is grazing.”



The same applies to the other cases mentioned in §4.2.1.2, which can be interpreted as the action of doing some process that is defined by an object, and where we propose the same type of analysis:

- (138) a. *menikah* “to marry, to do a marriage” < *nikah* “marriage”
 b. *meningkat* “to level up, to move into a level” < *tingkat* “level”
 c. *menjawab* “to answer, to make an answer” < *jawab* “answer”
 d. *mengaduh* “to say ouch” < *aduh* “ouch”

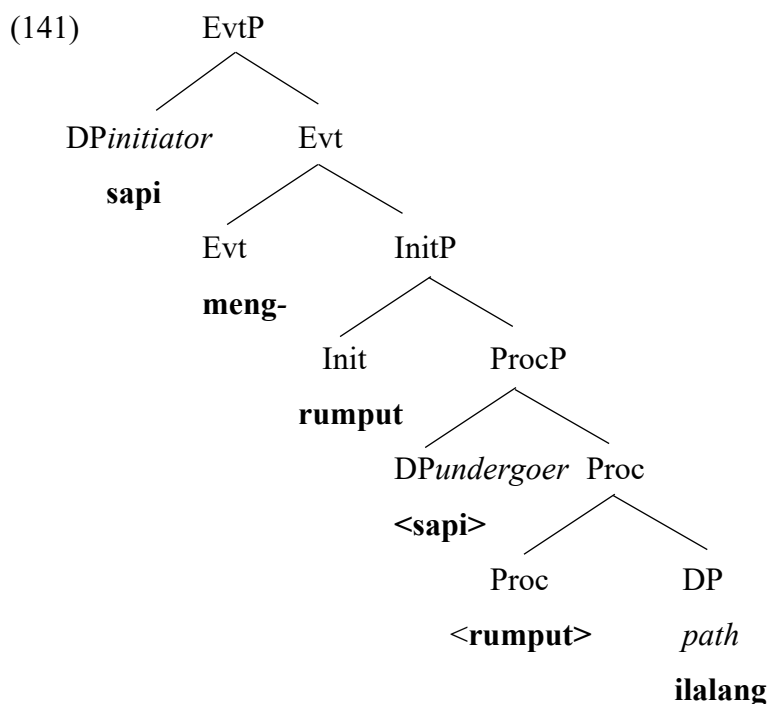
Remember also that some of these verbs can get an optional object, as in the example (139), where the verb that can be used as surface intransitive can appear with an object that specifies the type of grass in particular.

- (139) *Sapi merumput ilalang.*
 cow grazes thatches

In order to analyse these cases, we propose to follow Ramchand's (2008: 91-99) analysis of conflation verbs like those in (138) for English: the idea is that the morpheme *dance* can materialise both the N and the Proc-Init heads, as *rumput* does in (137), producing (140a), but it can also spell out only part of the sequence, such as the verbal heads without the N head, as in (140b).

- (140) a. John danced.
 b. John danced a tango.

For the examples of the type of (136), we propose the same: the morpheme “rumput” spells out Proc-Init but leaves the N head free so that a different noun can be introduced there. Ramchand (2008: 98) defines these case as “underassociation”, where a morpheme spells out less material than it could, and as a result the morpheme that spells out the material that was left out by the underassociated morpheme must semantically integrate with it.



Finally, we identified a small class of *meng-* verbs that we called real counterexamples because they express changes of state where the base denotes the property that the undergoer acquires. Let us be clear why we consider these real counterexamples: the reason is that these verbs involve a predication structure below Proc (see §4.2.1), and as we will see in our analysis of *-i*, the verbs that introduce a predication structure in this position normally take *-i* as a suffix, which is not the case for these cases.

- (142) a. *membatu* “to become like a stone” < *batu* “stone”
 b. *membeku* “to become frozen” < *beku* “frozen”
 c. *memburuk* “to become worse” < *buruk* “bad”
 d. *melawan* “to become an opponent” < *lawan* “opponent”

As we will see in section §4.3.5, these changes of state verbs have a more complex structure that we will analyse as being spelled out by *-i*. The fact that these verbs have the same interpretation as those *-i* verbs but contain no morpheme is problematic for our analysis. One could, however –and as we will discuss in that section– propose that in these cases maybe the base is spelling out the Predication head that normally corresponds to *-i*, or alternatively that this head is spelled out as zero in these cases. However, these cases are still problematic. We will leave them aside for the time being, until we arrive to that section.

To sum up, verbs with the prefix *meng-* have an external argument and an object. The subject is an initiator and, depending on the lexical meaning of the verb, also an undergoer. When the object is a path it can be incorporated to Proc, giving the surface impression that the verb is intransitive.

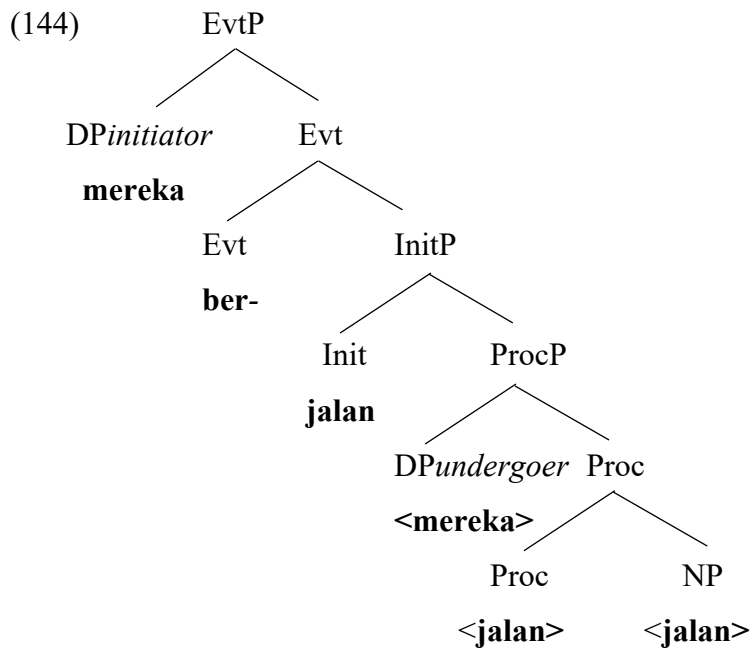
Let us now move to verbs with *ber-*.

4.3.3 Verbs with *ber-*

There are two things that we have concluded about verbs with the prefix *ber-*: one is that they introduce agents –so they have active voice–, and the other is that they do not assign case to any argument. The consequence of the former is that the subject introduced in EvtP is an initiator. The consequence of the latter is that verbs with the prefix *ber-*, unlike verbs with *meng-*, do not take obligatory or optional objects. In our analysis, all *ber-* verbs are verbs where the object must be spelled out together with the base, because the absence of case assigning properties makes these objects unable to act as independent syntactic constituents.

An example of a typical clause made of verbs with the prefix *ber-* is *Mereka berjalan* (143). In its structure (144), the nominal base *jalan* “walk, road” starts as a path in NP. Like other conflation verbs (see the case of *merumput* “to graze” in 136-137 above), the exponent that corresponds to N spells out by spanning also Proc and Init, realized as a part of the verbal base. Then, the whole is merged with the verbal prefix *ber-* as the spell out of Evt.

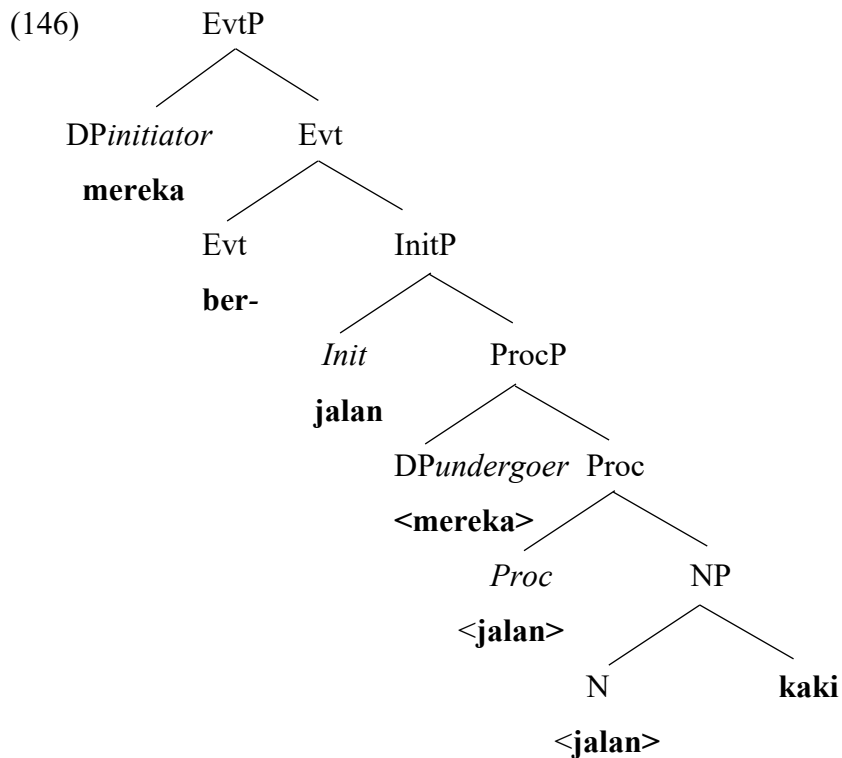
- (143) *Mereka berjalan.*
 They ber-walk
 “They are walking.” (lit. “they make-a walk”)



As seen in the representation (144), the subject *mereka* “they” occupies both initiator, the subject of EvtP, and undergoer, the subject of ProcP. It is because the process of walking is both initiated and experienced by the subject.

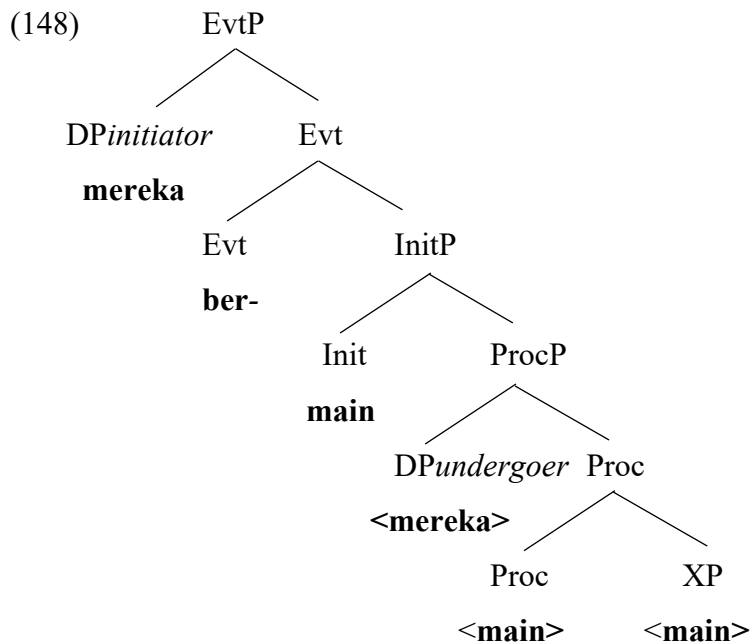
What makes *ber-* verbs special is that they cannot project the path argument as an independent syntactic argument because the Evt that is realised as *ber-* lacks any capacity to assign case to it. In fact, when the verb with *ber-* is followed by something that looks like an extension of the object, as in *berjalan kaki* “to walk on foot” in (145), the additional constituent is a modifier of the N and not an argument. Our analysis is that the path in this case is the complex noun phrase *jalan kaki* “a walk on foot”, where the second element is a modifier, and which is later combined with the verbal prefix *ber-*. Therefore, *kaki* “foot” is not a participant of the verb with *ber-*. Instead, *kaki* “foot” denotes a property of the path.

- (145) *Mereka berjalan kaki.*
 They ber-walk foot
 “They are walking on foot.”



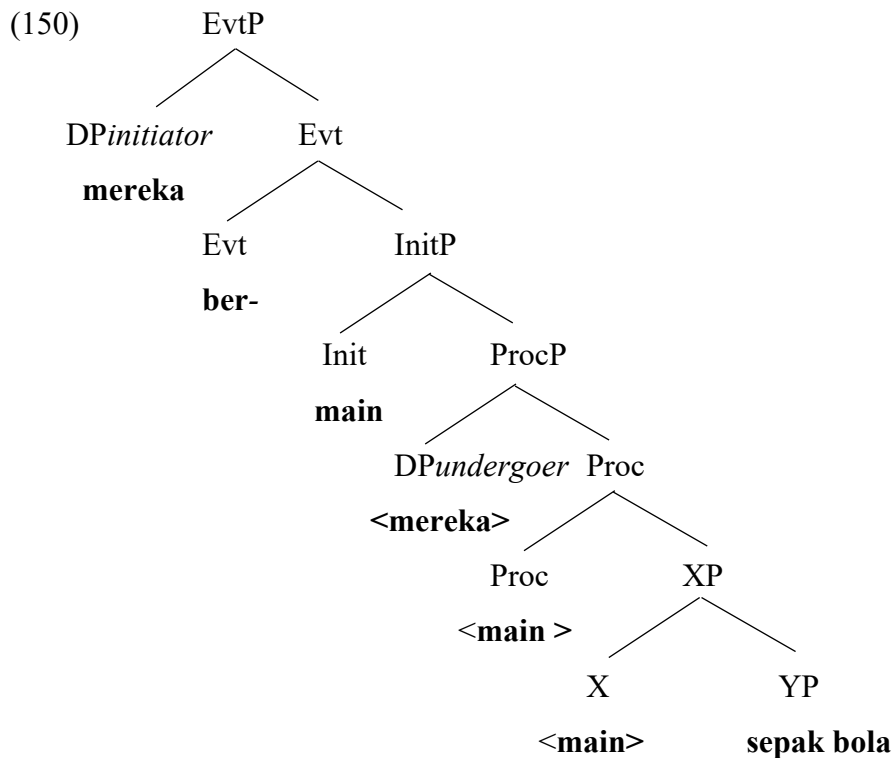
Similarly, the base *main* “to play” in *Mereka bermain* (147) starts as a path which is incorporated to the head of the process. Unlike the previous example, where the base could be used as a noun, *main* is not used as a nominal category independently. We assume that it spells out path structure defining the type of change that Proc expresses, and remain neutral about the syntactic label of that phrase, which we represent as XP because it is orthogonal to our purposes.

- (147) *Mereka bermain.*
 they ber-play
 “They are playing.”



The sentence *Mereka bermain* “they are playing” (147) can be expanded into *Mereka bermain sepak bola* “they are playing soccer” (149). In this case, the parallelism with English could be taken as an argument that “soccer” is an object in parallel with the *dance*-example above, for “soccer” is a type of game. However, the base is not a noun, which means that this cannot be taken as a conflation verb, and that from an Indonesian-internal perspective this additional constituent should not receive the same analysis as the *dance*-verbs. Pending further investigation, we propose preliminarily that “soccer” should be viewed also as a modifier that delimits the class of games that are played within the predicate, not as an argument that substitutes an N, as in the *merumput* example in (139) above.

- (149) *Mereka bermain sepak bola.*
 they ber-play soccer
 “They are playing soccer.”



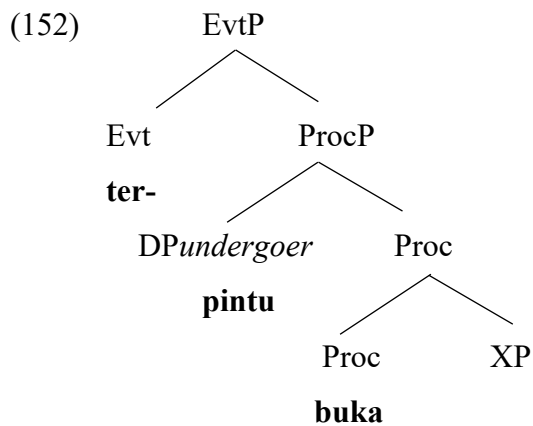
In short, verbs with the prefix *ber-* make an intransitive clause with an initiator and a path that is always incorporated to the verb. The next prefix to analyse is *ter-*.

4.3.4 Verbs with *ter-*

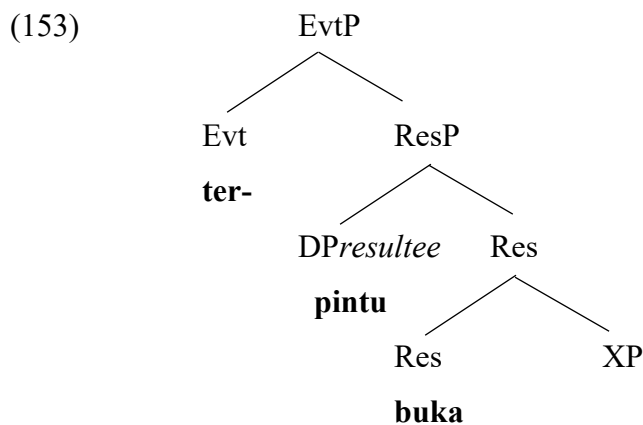
Clauses made of verbs with *ter-* are not only intransitive but also passive. Being intransitive, like verbs with *ber-*, no case is assigned by the Evt head. Being passive, unlike verbs with *ber-*, this results in the lack of an initiator. We propose that the subject can, therefore, be interpreted as an undergoer or a resultee, and remain neutral with respect to whether this argument is moved from Proc / Res to spec, EvtP or not. In our tree representations, we treat EvtP as lacking a specifier, but we have no argument to block the alternative representation where the undergoer or resultee move to that position in the absence of Init.

The sentence *Pintu terbuka* (151) can have two interpretations: the eventive “the door opens” or the stative “the door is open”. The two interpretations are passive, but differ in the heads that appear below EvtP, and therefore in where the argument that ends being the subject *pintu* “door” is projected. In the eventive version (152), we can see that *pintu* is the specifier of ProcP and therefore an undergoer. Being an undergoer signifies that *pintu* is experiencing the process *buka* “to open”.

- (151) *Pintu terbuka.*
 door ter-open
 “The door opens. / The door is open.”

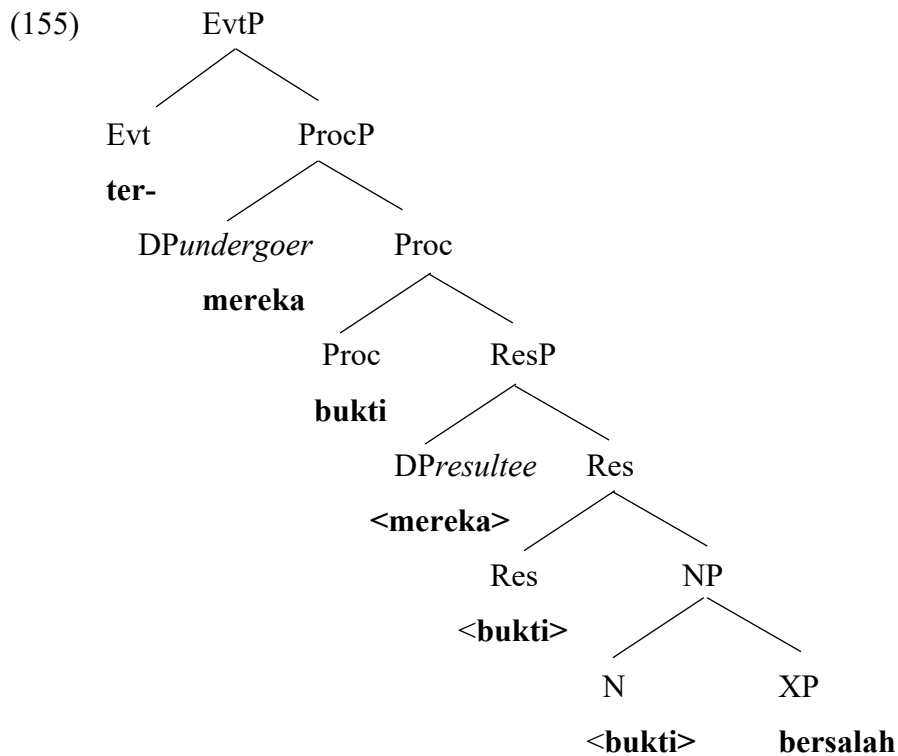


On the other hand, in the stative version (153) *pintu* is the specifier of ResP and therefore a resultee. This applies for the second interpretation where the eventuality does not contain any dynamic part. In this case, the verb *terbuka* only points out the state that the door is already opened.



Let us see another example. The verb *terbukti* in (154) has the head of the nominal phrase *bukti* (*bersalah*) “proof (of being guilty)” incorporated to it. Following the analysis for conflation verbs used in the previous sections, we also see that in (155) the nominal base is the complement of the verbal head, which spells the Res head and later is realised in Proc.

- (154) *Mereka terbukti bersalah.*
 they ter-proof guilty
 “They are proven guilty.”



In the tree above, we are treating *bersalah* “of being guilty” as the complement of the noun, not the verb, and we assume it has a complex internal structure with some element that satisfies its case, which then does not need to be satisfied by the verb. We remain neutral with respect to the internal structure of this constituent.

Alternatively, *terbukti bersalah* “to be proven guilty” can also have a stative interpretation. In this case, the subject *mereka* “they” is not experiencing the process and is only possessing the state; ProcP is not present, but the representation is identical to (155) above, only with ResP and the lower structure projected.

To conclude, verbs with the prefix *ter-* make intransitive passive construals. This means that they lack Init, and therefore the specifier of the EvtP is not an initiator argument. The subject in these cases can be interpreted either as an undergoer, a resultee, or both.

The remaining verbal affixes, the suffixes *-kan* and *-i*, will be discussed together in the next section.

4.3.5 The nature of the suffixes: *-kan* and *-i*

The verbal confixes *meng-kan* and *meng-i* are both ditransitive, meaning that they require two internal arguments on top of an external argument. The differences lie on their meanings and whether the lower head that we will associate to the suffixes assigns case to its specifier.

Remember from §4.2.3.1 above that for *meng-kan*, there are three typical meanings of ditransitive predicates added to events. Respective to the examples below, the typical meanings are verbs of communication (156), verbs of transfer (157), and benefactive (158).

- (156) *kata* “word”, *mengatakan* “to say A to B”
Saya mengatakan kebenaran kepada mereka.
I meng-word-kan truth to they
“I say the truth to them.”
- (157) *tambah* “to add”, *menambahkan* “to add A to B”
Saya menambahkan makanan ke piring.
I meng-add-kan food to plate
“I added food to the plate.”
- (158) *membuka* “to open”, *membukakan* “to open A for B”
Saya membukakan pintu untuk mereka.
I meng-open door for they
“I opened the door for them.”

Meanwhile, *meng-i* can also express transfer, but otherwise is specialised in different meanings from those that *meng-kan* expresses: the meanings of verbs of movement (159), verbs that express “to have a property” or acquiring a property (160), verbs denoting states of mind or psychological state (161), and verbs involving contact between two objects (162).

- (159) *masuk* “to enter”, *memasuki* “to enter”
Mereka memasuki ruangan.
they meng-enter-i room
“They are entering the room.”
- (160) *lengkap* “complete”, *melengkapi* “to complete”
Saya melengkapi berkas.
I meng-complete-i file
“I am completing the files.”
- (161) *cinta* “love”, *mencintai* “to love”
Saya mencintai mereka.
I meng-love-i they
“I love them.”

- (162) *melempar* “to throw”, *melempari* “to throw something at”
Saya melempari pohon dengan batu.
 I meng-throw-i tree with stone
 “I throw at the tree with stones.”

Beyond these semantic specialisations, the two suffixes contrast in the case possibilities of the goal argument. When the verb contains *meng-kan*, a preposition is needed to introduce the indirect object. However, *meng-i* does not require a preposition. Let us see this difference through a minimal pair.

- (163) *Saya memberikan hadiah kepada mereka.*
 I meng-give-kan gift to they
 “I’m giving a gift to them.”
- (164) *Saya memberi mereka hadiah.*
 I meng-give-kan they gift
 “I’m giving them gifts.”

The sentences (163-164) are minimal pairs consisting of two similar clauses with the subject *saya* “I”, the direct object *hadiah* “gift”, and the indirect object *mereka* “they/them”. The verbal base *beri* “to give” is combined with the *meng-* and *-kan* in (163) into *memberikan*. When the same base is combined with *-i*, we assume that the second /i/ is eliminated because Indonesian phonology does not allow duplicate vowels in one syllable, therefore *memberi* has a suffix *-i*.

In (163), the interpretable meaning from the verb *memberikan* “to give” is the transfer of the direct object to the indirect object. Considering that the direct object is the participant being transferred, it is a Theme. On the other hand, the indirect object is the destination of the transfer, thus it is a Goal. Note that the goal requires a preposition, *kepada* in (163).

The example in (164) has the same meaning, but the verb now contains *-i* and there is no preposition to introduce the goal argument.

The order of the objects is different in (163-164) based on the suffix used. When the suffix used is *-kan*, the goal is a prepositional phrase placed after the theme, as evidenced by *kepada mereka* “to them” in (163). When the suffix used is *-i*, preposition is not used and the goal precedes the theme, as shown in (164). A side-by-side comparison is provided in the table below.

Table 7. Structure comparison between *meng-kan* and *meng-i*

Subject	Verb (<i>meng-kan</i>)	Theme	Goal (PP)
Subject	Verb (<i>meng-i</i>)	Goal	Theme

The order of the objects and the use of preposition are consistent with how the suffix *-kan* and *-i* are used in imperative clauses. The clause structures in (165-166) are comparable with Table 7: the verb with the suffix *-kan* is followed by the theme and then the goal with a preposition, while the verb with the suffix *-i* is followed by the goal and then the theme without any preposition.

(165) *Berikan hadiah kepada mereka!*
 give-kan gift to they
 “Give gifts to them!”

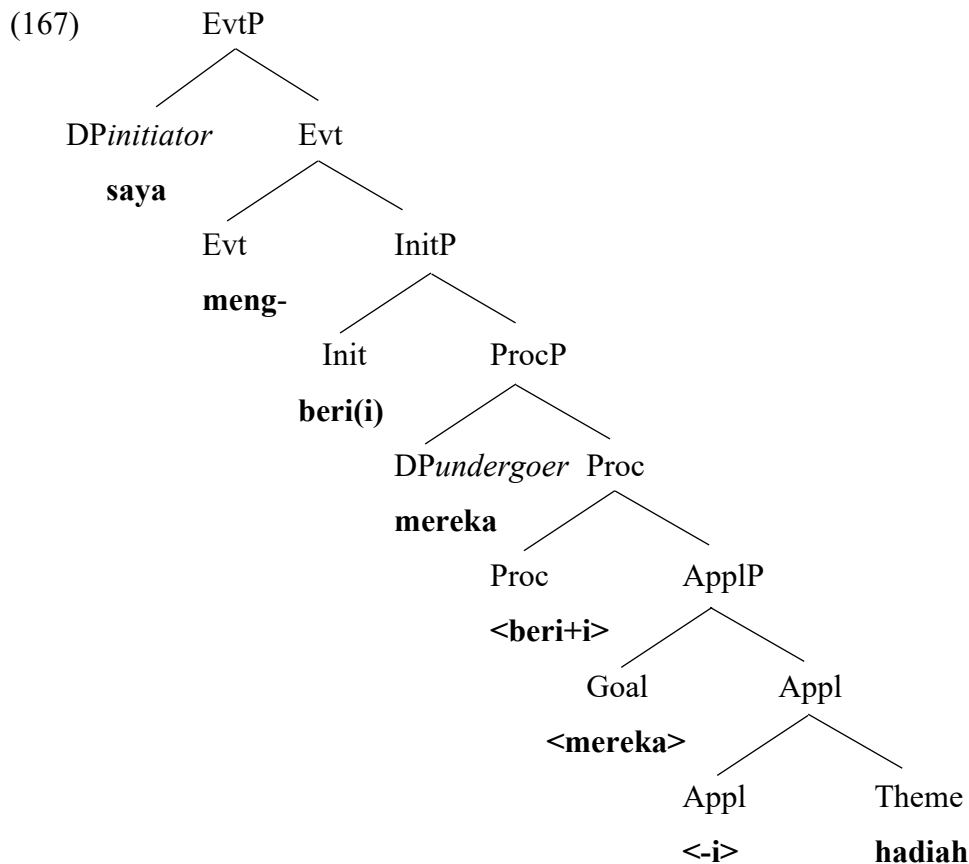
(166) *Beri mereka hadiah!*
 give-i they gift
 “Give them gifts!”

We have concluded in §4.3.2 that the subject or the external argument of verbs with the verbal prefix *meng-* is an initiator. That is also the case with the external argument of either *meng-kan* and *meng-i*. Assuming then that the prefix introduces an initiator and assigns case to the theme argument, as in the other cases, let us concentrate in the trees below on the structure introduced by the suffix. Let us start with the verbs that carry the suffix *-i*. Here we will make two claims:

a) The main role of this suffix is to introduce an Applicative head, which as an exponent *-i* has to incorporate via head movement to the exponent introduced in Proc.

b) The applicative structure, involving possession or transfer depending on whether the verb is stative or eventive, should be extended also to verbs that are not obviously denoting transfer, but state of mind or acquiring a property.

The first structure that we will analyse is that of verbs of transfer. Structure (167) is the representation of sentence (164) in which the process *memberi* “to give” has the suffix *-i*. The external argument, *saya* “I”, is an initiator. As presented in §4.3.2, the verbal prefix *meng-* spells out EvtP in an active voice and is responsible for assigning accusative case to the undergoer *hadiah* “gift”. The main difference with verbs that do not contain *-i* is that we propose that the suffix is the spell out of an Applicative head (remember §2.2.3).



As an applicative, ApplP introduces the goal in its specifier and assigns case to it –*mereka* “they”–. The result of this case assignment is that the indirect object is materialised without the help of a preposition. The complement of the Appl head is the theme, in this case *hadiah*, “the gifts”.

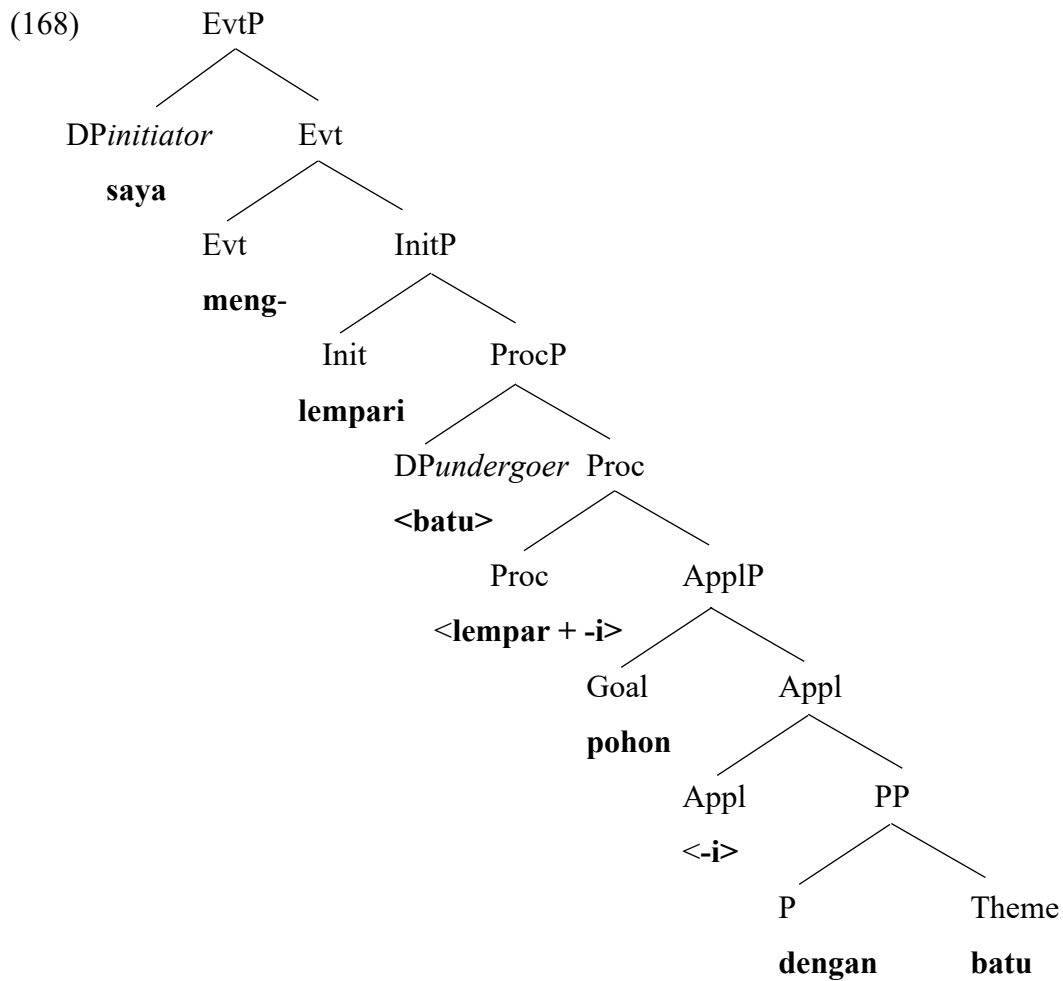
Ramchand (2008: 103, tree 74) does not make it explicit which one of the two arguments –the theme or the goal– is moved to the undergoer position in the case of double object structures. In this analysis, although it is orthogonal to our purposes, we propose that the goal is the undergoer that experiences the transfer. In other words, we propose that the structure should be read as follows: the subject initiates a process experienced by a goal, and that process makes a theme be in the possession of the goal argument. We want to emphasise, however, that we see that another reasonable option would be to move the theme to the undergoer position, meaning then that the theme experiences the transfer to the goal. Nevertheless, this is independent of the property we want to analyse here and of the proposal we make, which is that *-i* corresponds to an Appl head in these cases.

A comment is in order about the linearisation of the suffix *-i*. As explained in §2.4, we are assuming in this thesis the spanning procedure, that has allowed us to analyse conflation verbs

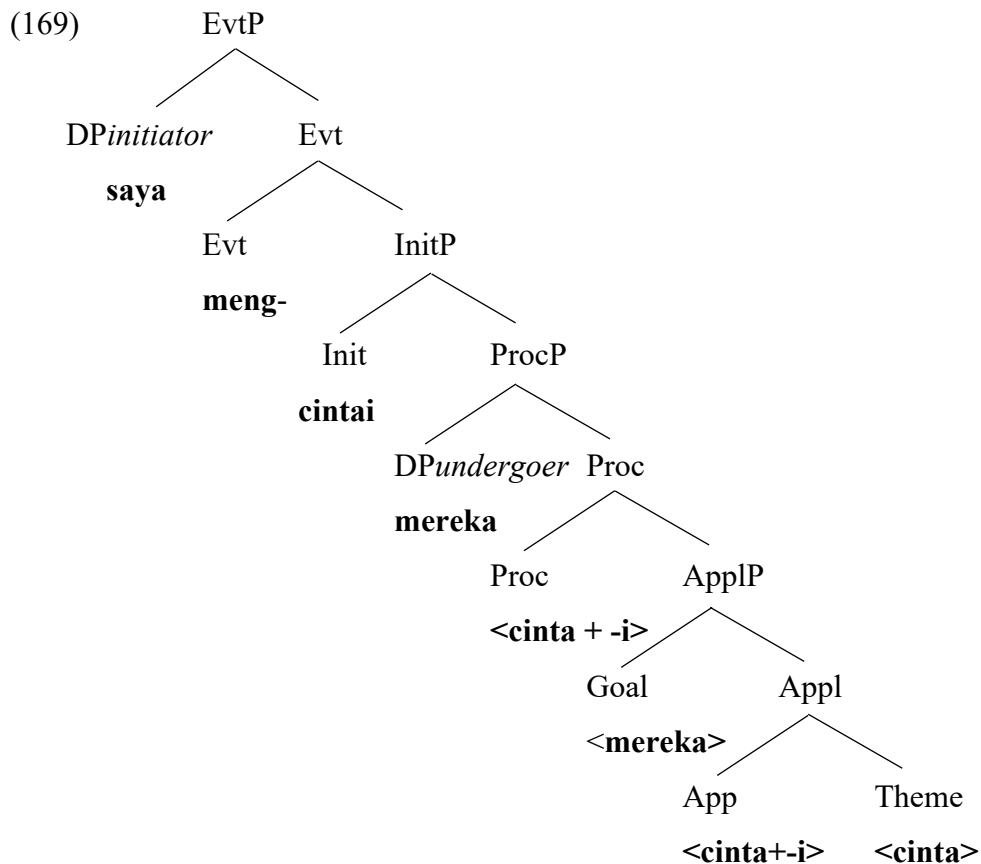
as involving a single exponent that materialises the heads Proc and Init in addition to some non-verbal material, as in the example *Sapi merumput* (136). However, in the case of the suffixes *-i* and *-kan*, this procedure will not be enough to capture their linear ordering. In (167), the suffix *-i* is interrupted by the goal specifier; in this particular case, if one assumes that the goal becomes the undergoer, there is no linearisation problem, but if the theme was the undergoer or in cases where the goal stays in situ, leaving *-i* as Appl would separate the suffix from the verb (**meng-beri GOAL-i*).

We need to avoid such situations. Our proposal is that the suffix *-i* has to incorporate via head movement to the higher verbal head, in this case Proc, in terms of Baker's (1988) mechanism of incorporation. This guarantees that the suffix is materialised as part of the verb and cannot be separated from it by any other constituent. Unfortunately, we cannot just assume spanning as the only operation that takes place in spell out. We also have to admit that there is head movement in addition to it in order to capture the position of the verbal suffix *-i*, and as we will see, also *-kan*.

Let us now move to the verbs of contact between two objects, such as *melempari* "to throw something at" in sentence (162). We propose that such verbs have a similar structure to the one for verbs of transfer: they also involve making two entities end up in the same space, and as in the case of *melempari*, there is an initiator that makes one of the two elements move. The only difference is that in these cases, the theme is marked by a preposition *dengan* "with", but we still propose that the ApplP assigns case to the goal.



We propose that in Indonesian the verbs denoting states of mind, like *mencintai* “to love” from sentence (161), also involve a transfer structure (roughly “to give love” or “to show love” to someone or something). The difference in such cases is only that the theme exponent also spells out the rest of the structure, as in conflation verbs above.



In the tree above, the subject is an initiator that sets in motion the process that makes the undergoer receive love. Only one object is overt, that is *mereka* “they”. The other object, *cinta* “love”, is incorporated from the complement of ApplP to Init. Once incorporated to Appl, it now forms a sequence of heads with Proc and Init; *cinta* is then combined with the suffix *-i* which also moves up from App to Proc.

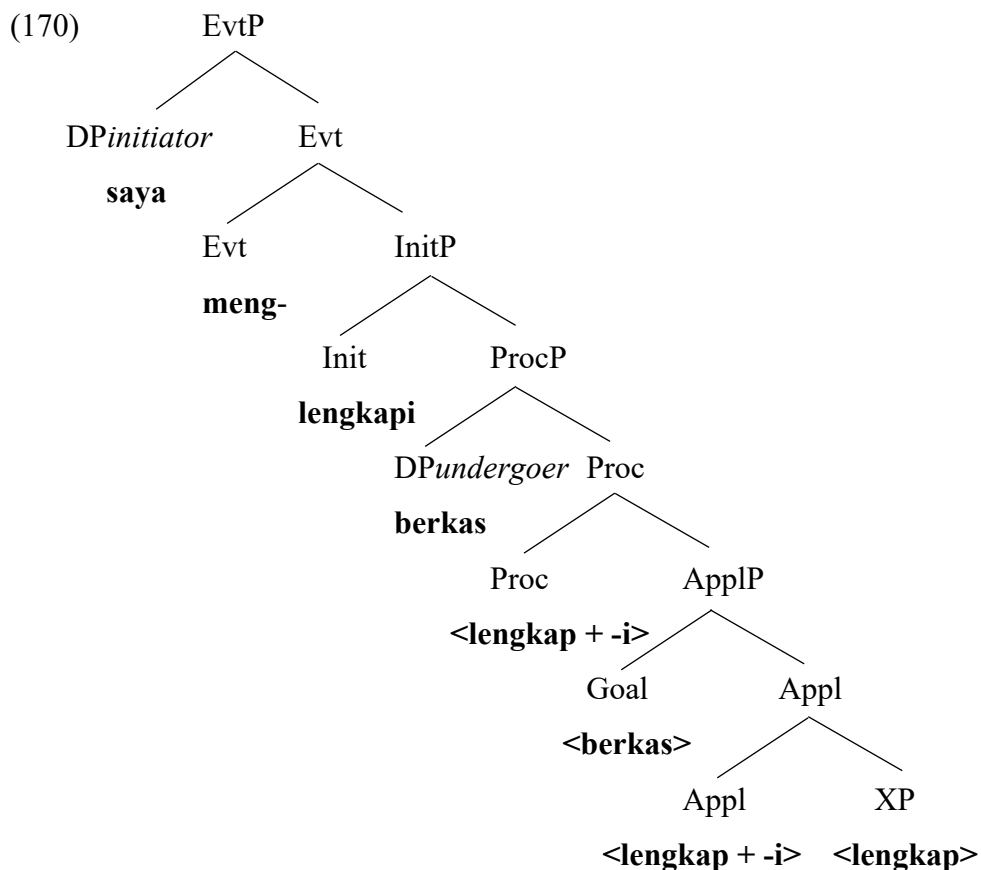
In terms of spell out, we assume that first the theme incorporates to the Appl head, because otherwise it would not be in a linear relation with the heads Proc and Init which it also spells out by spanning (remember §2.4). Once this movement has taken place, the verb spells out like any other conflation verb, and now the theme materialises also Proc and Init.

In the three classes of verbs above we have proposed Appl as the manifestation of the suffix. Let us move now to verbs denoting “to have a property” or “to cause something to have a property”. For this case, one could argue that Appl is not involved, but we will propose that Appl is involved like in the other cases. The reason is the following: remember from section §2.1.3 that Indonesian is described as a language that does not have a grammatically distinct class of adjectives. We propose that the property is, then, expressed like any other theme: a constituent that, in the case of a change of state verb, is transferred to an entity that acts as its

goal. In this sense, we propose that the change of state verbs is grammaticalised in Indonesian as “to give something a property”.

In the case of the stative verbs of property, where the paraphrase is “to have a property”, we will propose that the property should also be seen as a theme that is placed on the entity that ends up being the subject. The minimal difference between the stative “to have a property” and the eventive “to give a property” is the absence or presence of the projection ProcP.

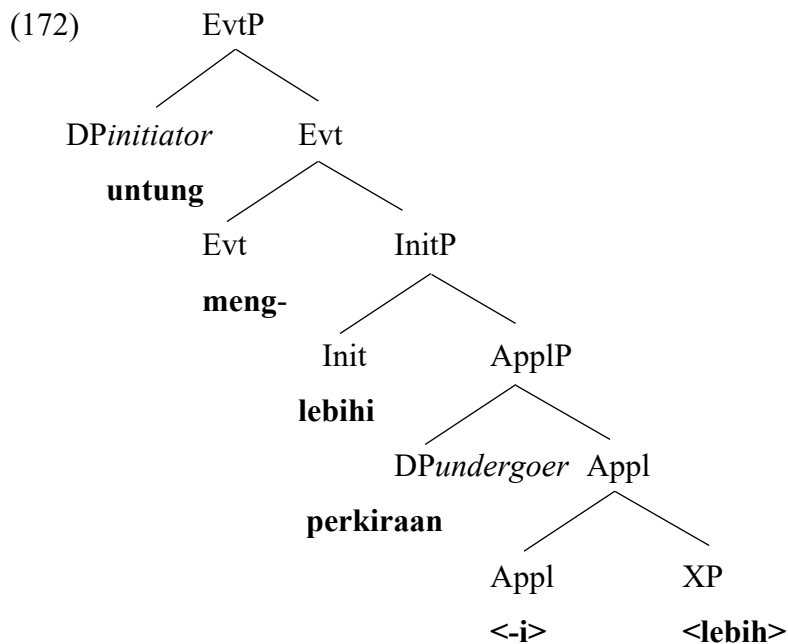
Let us start representing an eventive change of state. In the representation (166), the verb indicates a change of state expressed as *melengkapi* “to make complete”, from sentence (156), where *lengkap* “complete” is the theme expressing a property. The initiator sets the transference of that theme in motion, and that transfer affects the undergoer, which is the entity that acts as the goal of that motion. The suffix *-i* spells out ApplP as in the previous cases.



For the case of the stative “to have a property”, we analyse sentence (171), with the verb *melebihi* “to exceed, to be more than”. For such cases, we propose that ProcP is missing, and therefore the initiator is the entity that exhibits the theme: the internal properties of the subject

is what make the state possible, and the state is that the quality of “more than” is found in the subject.

- (171) *lebih* “more”, *melebihi* “to be more than”
Untung melebihi perkiraan.
 profit meng-more-i prediction
 “The profit exceeded (=became bigger than) the prediction.”

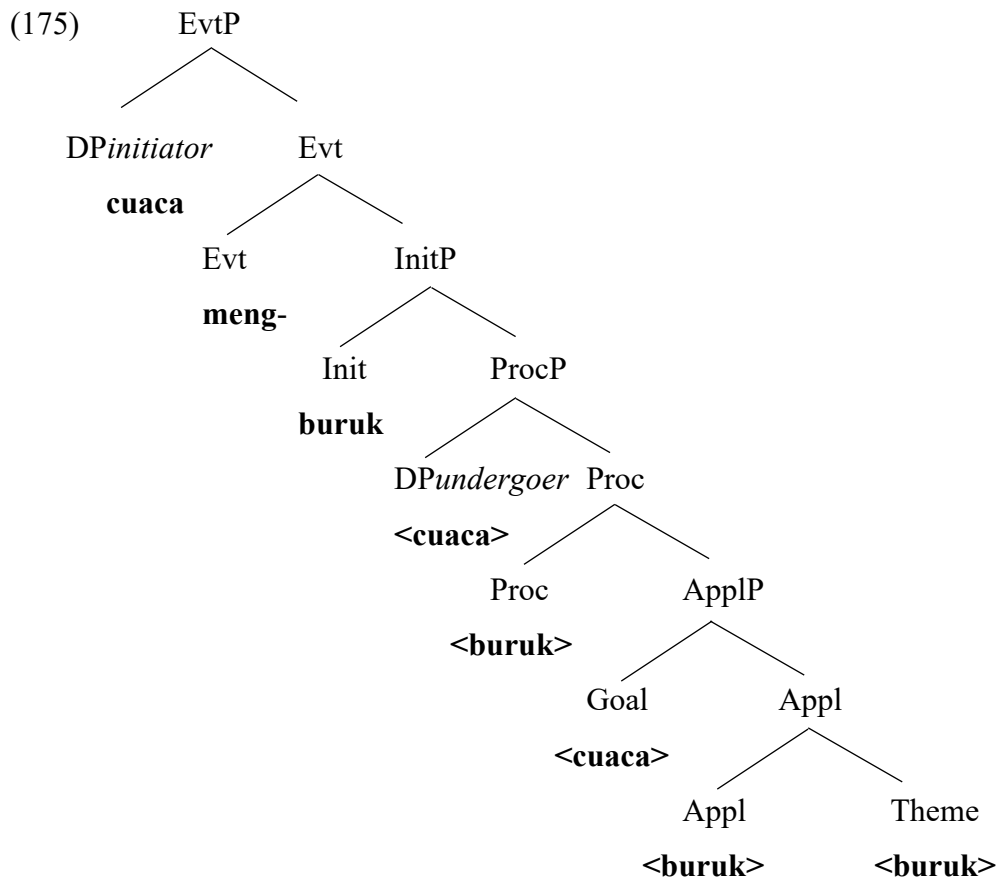


Remember that in §4.3.2 we mentioned that the counterexamples of *meng-* that do not contain *-i* (cf. 173) below might be treated as instances of *-i* covertly, where the complement of Appl spells out through spanning also the Appl head.

- (173) a. *membatu* “to become like a stone” < *batu* “stone”
 b. *membeku* “to become frozen” < *beku* “frozen”
 c. *memburuk* “to become worse” < *buruk* “bad”
 d. *melawan* “to become an opponent” < *lawan* “opponent”

Pending further research, our proposal is that these verbs have the same structure as (170) above, but the exponent that spells out the theme in this case also spells out Appl, making incorporation unnecessary. In (174), the property of *buruk* “bad” is acquired by *cuaca* “weather”. In its representation, that is (175), *buruk* “bad” occupies both the complement and the specifier of Appl before it moves all the way to Init. As a complement, *buruk* “bad” is a result state.

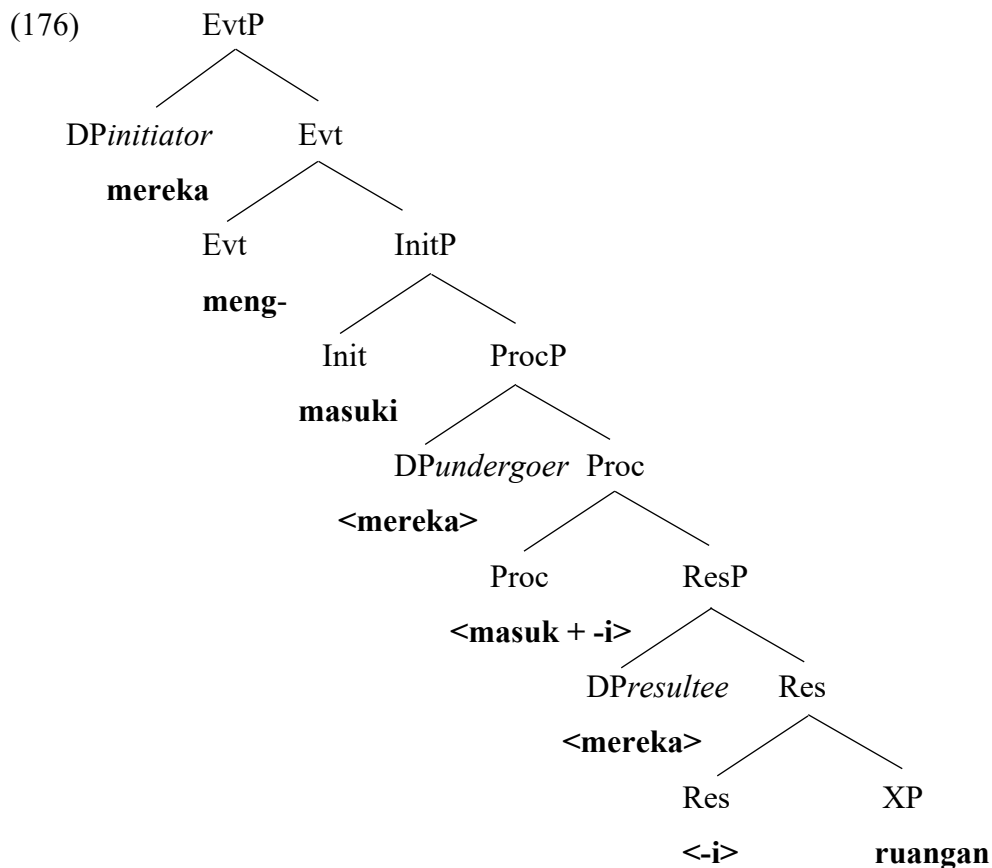
- (174) *buruk* “bad”, *memburuk* “to get worse”
Cuaca memburuk.
 weather meng-bad
 “The weather gets worse.”



So far, it seems that we can associate *-i* to only one head, Appl, for all classes of verbs. Unfortunately, the applicative analysis is more difficult to extend to the class of verbs of movement. For verbs of movement, like *memasuki* “to enter” from sentence (159), we cannot find any evidence that the applicative semantics is present, because the verb does not imply that the result location is transferred to a goal, but rather –more simply– that the argument ends up in that location. This seems to require a standard Result Phrase, as Ramchand (2008: 76) proposes for the equivalent verb in English. Attaching the suffix *-i* to a movement verb in this case involves, in our proposal, to introduce a Result head.

In (176), we assume that the external argument *mereka* “they” is at the same time the initiator, the undergoer and the resultee of the event. In this sense, the external argument causes, experiences, and holds the result of the movement expressed by *memasuki* “to enter”. The

internal argument, *ruangan* “room”, expresses the result location where the external argument ends up. Note that it does not need a preposition, as expected if *meng-* can assign case to it.



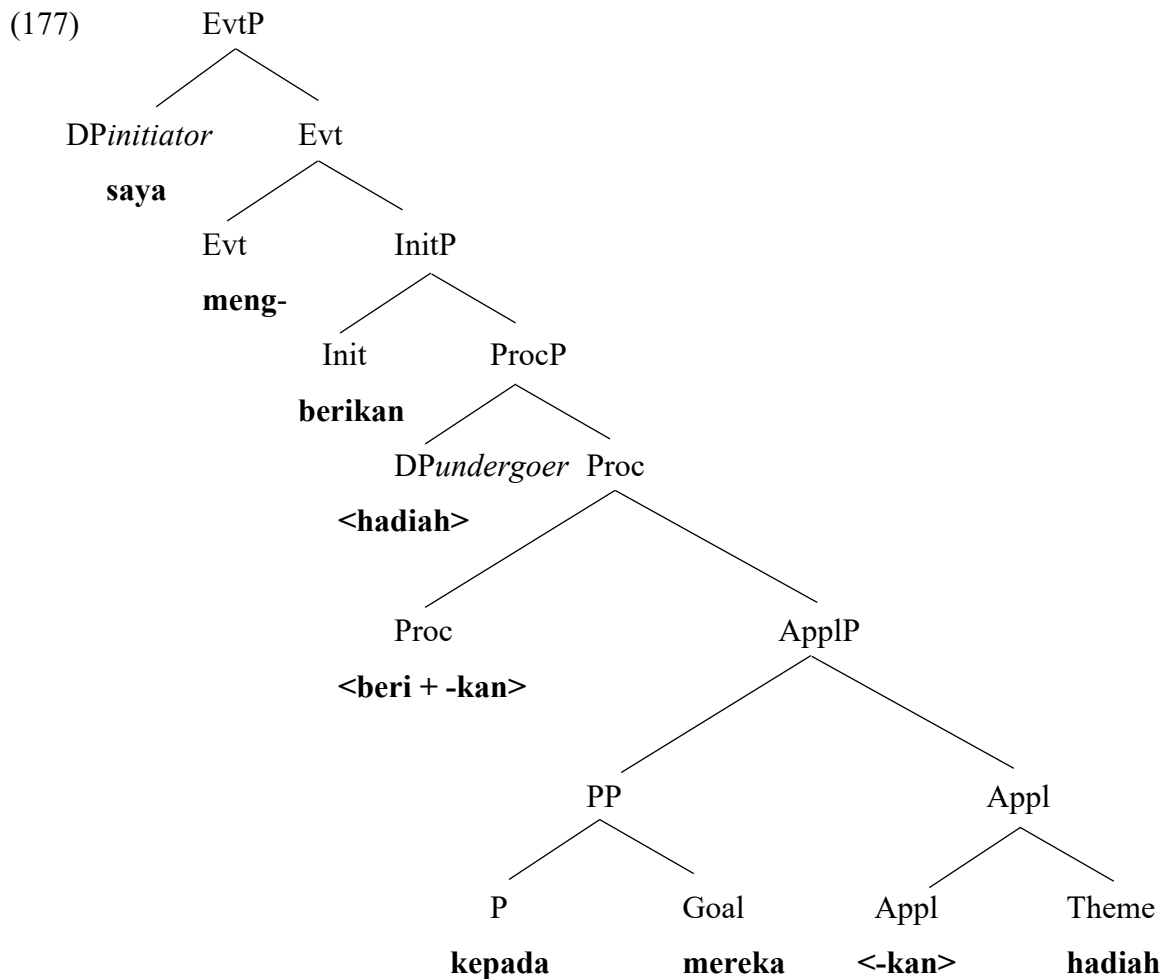
Based on the different meanings identified of verbs with the confix *meng-i*, it can be said that the suffix *-i* materialises an applicative head in almost all cases. However, the analysis is not as clean as one would have wished for two reasons. The first one has just been presented, and it is that for movement verbs it seems unmotivated to us to propose that ApplP is also involved in the semantics. In such cases, it seems that Res is the head that *-i* spells out. The second one will be presented in the next pages, and it is that in the proposal that we make here *-kan* also materialises Appl, only that a type of Appl that cannot license the case of the goal.

Before we move on to the *-kan* cases, we would like to make two comments. Firstly, if *-i* is not always Appl and at least in one class of verbs it has to be related to ResP, can we generalise and say that *-i* in fact is used to express result states? We believe that this could be one line of research to explore in the future: in the transfer verbs that we have analysed, involving Proc, the Appl head is located always in the complement position, where one could argue that it receives the reading of a result state. For instance, in *memberikan buku kepada seseorang* “to

give a book to someone”, one could interpret “to move a book so that it ends in the possession of someone”, where “to have the book” corresponds to the result state. However, this extension is not so straightforward. The conflation verbs show that the theme should be in the complement position. Treating the applicative structure as a result phrase would involve that the book should be a resultee that ends in the possession of the goal; the goal would then be in the complement position. The evidence coming from conflation verbs like *mencintai* “to love”, showing that the theme is the one argument that can incorporate, and not the goal, complicate this analysis because the analysis would predict that the goal would be the one able to conflate with the verb in such cases.

Let us now move to the analysis of the *-kan* cases. For them we will propose that *-kan* only expresses an applicative head, in all situations. The tendency that we have seen above with the verbal suffix *-i*, that the theme is the complement of ApplP, also occurs with the verbal suffix *-kan*. The difference is that, while the suffix *-i* assigns case to the goal specifier, the suffix *-kan* does not. Consequently, the suffix *-i* does not require a preposition for the goal, but the suffix *-kan* requires the goal to have a preposition, as represented in Table 7. The structure (177) below is the one of sentence (163, repeated here for convenience) where the specifier of ApplP is a prepositional phrase *kepada mereka* “to them”.

- (163) *Saya memberikan hadiah kepada mereka.*
I meng-give-kan gift to they
“I’m giving a gift to them.”



Notice that the representation above, having the PP as the specifier of ApplP, should have surfaced as (178a) instead of (178b and 163). Both word orders are, in fact, grammatical. However, it is true that the unmarked order in Indonesian is rather the order in (178b), where the goal introduced with a preposition follows the theme, that is not marked. The addition of the preposition to the goal makes it flexible in positioning itself against the theme *hadiah* “gift”, even if the order in (173b) is preferred in a neutral context.

- (178) a. *Saya memberikan kepada mereka hadiah.*
 b. *Saya memberikan hadiah kepada mereka.*

We want to admit very explicitly that our analysis cannot explain why (178b) is preferred. Assuming, as we did in the other cases, that the theme does not move, the order that we would expect is (178a) once the suffix *-kan* incorporates to the verbal heads.

The proposal that the PP is the specifier of ApplP comes mainly from the comparison with the goal in the *meng-i* construal, which also occupies the specifier of ApplP. The evidence we have

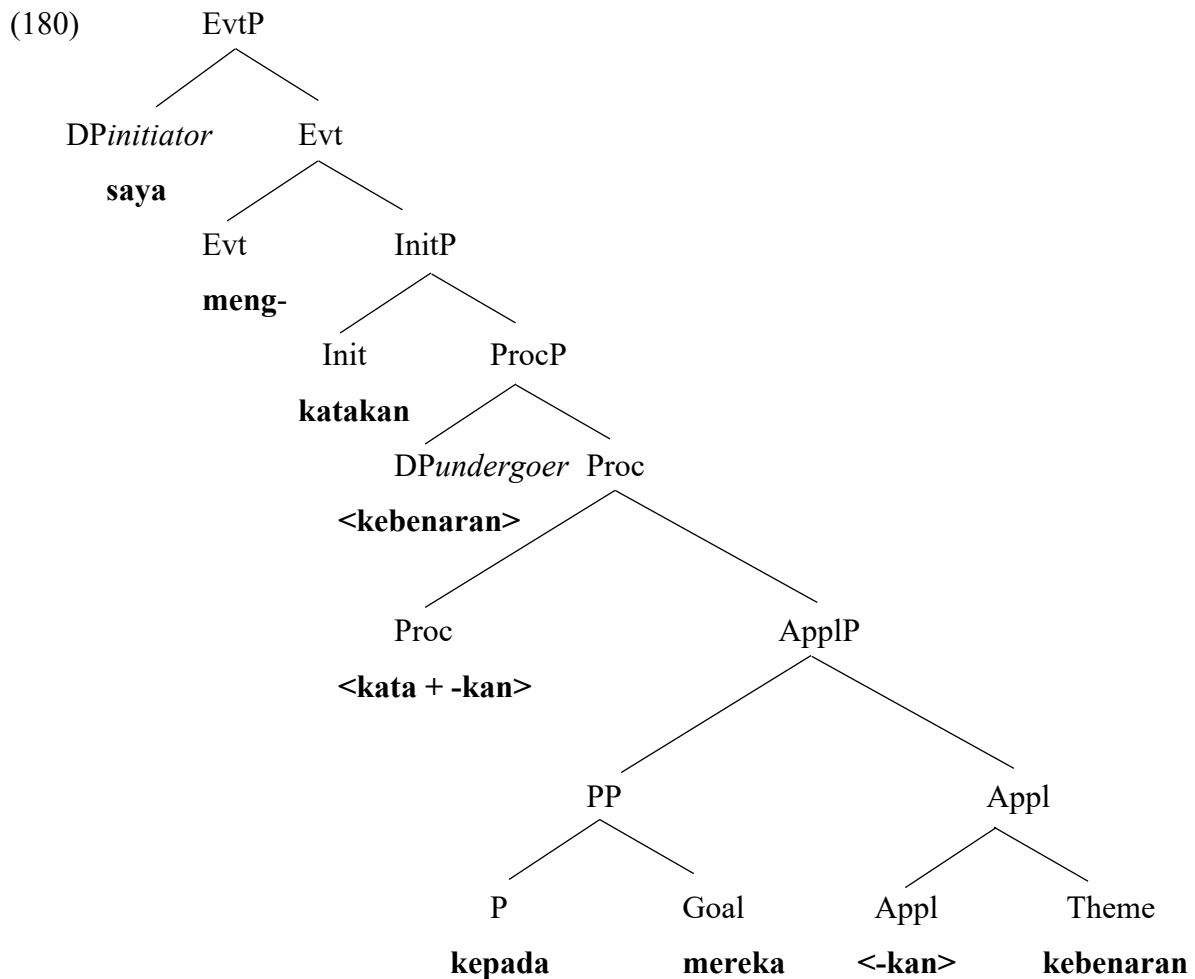
so far to keep the theme in the complement position is that only the theme can be incorporated into the verb also for *-kan* cases. To illustrate this, sentence (179) shows how the noun *hadiah* “gift” can be incorporated to the verbal structure to make the verb *menghadiahkan* “to give something as a gift to someone”. Meanwhile, it is not possible to incorporate *mereka* “they/them” into a verb construction (**meng-mereka-kan*).

- (179) *Saya menghadiahkan mobil kepada mereka.*
I meng-gift-kan car to they
I gifted a car to them.

This, we believe, is a strong evidence that also with *-kan* we should keep the same configuration as with *-i*, with the difference that the applicative head does not assign case to the goal specifier in this case. About the preference for the ordering (173b), we could preliminarily propose that it is due to the prepositional status of the goal in this case. Adger (2013: 93) proposes as a generalisation that in noun phrases prepositional elements are always peripheral to adjectives; it might be that the same applies in Indonesian for verbal prepositional phrases, and that (173b) is obtained not through the syntactic constituency, but rather through some other operation whose nature should be determined in future research.

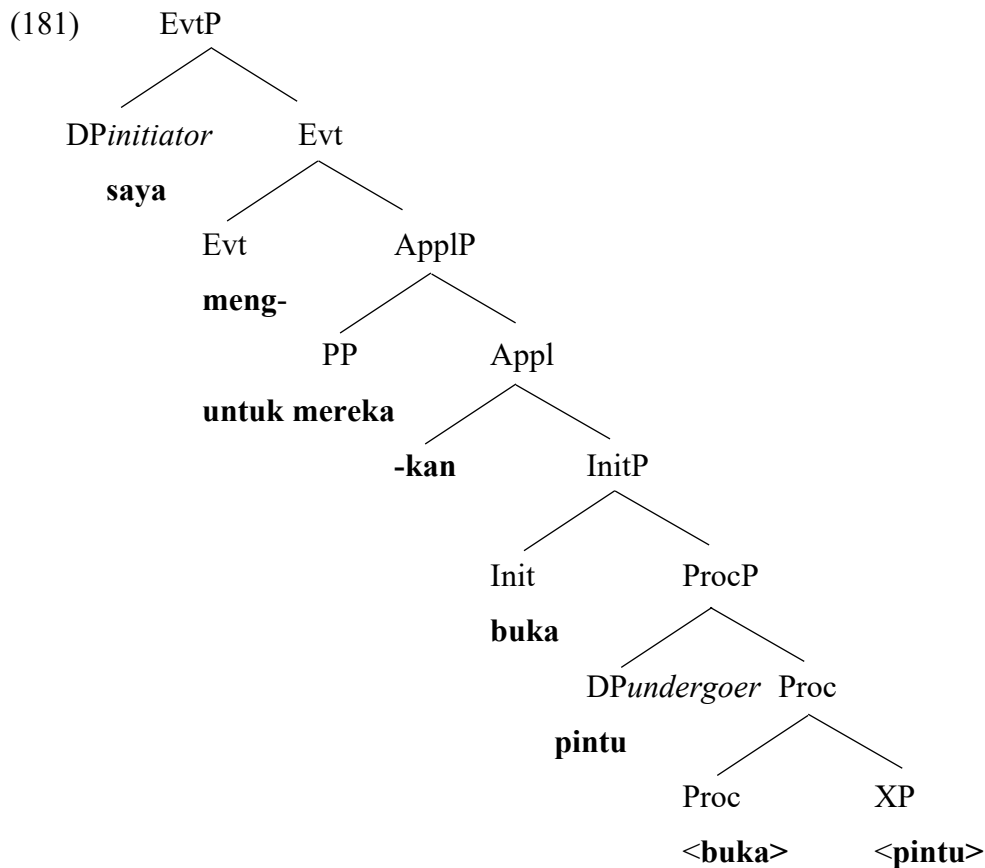
An example of a verb of communication provided in sentence (156) is *mengatakan* “to say something to someone”. Its representation, illustrated in (180), has a similar construction to (177), in that the direct object *kebenaran* “truth” is the theme and the indirect object *kepada mereka* “to them” is the goal.

- (156) *kata* “word”, *mengatakan* “to say A to B”
Saya mengatakan kebenaran kepada mereka.
I meng-word-kan truth to they
“I say the truth to them.”



Lastly, let us move to the structure for a benefactive verb, here illustrated with *membukakan* “to open something for someone” from sentence (158). The structure is different from the two constructions of *meng-kan* presented above, even if it also involves an applicative head. In (181), the representation of (158), the ApplP is projected above InitP, only dominated by EvtP. The resulting structure means the complement *buka pintu* “to open the door” is the event that is done for the benefit of the entity placed in the specifier, *untuk mereka* “for them”. Given that the complement of the applicative phrase is not a theme, but the event description, the benefactive semantics emerges. In this sense, we simply follow Pylkkänen (2008, p. 12-14), where she discusses benefactives.

- (158) *membuka* “to open”, *membukakan* “to open A for B”
Saya membukakan pintu untuk mereka.
 I meng-open door for they
 “I opened the door for them.”



Note that we will also have to assume that one of the morphemes –in this case, the one corresponding to the verbal heads Init and Proc– incorporates to the other, in this case *-kan*, in order to obtain the right morpheme order. Like in the other cases with *-kan*, we have to assume that the positionally marked specifier of Appl moves to the periphery, for reasons that we do not know yet.

In conclusion, we have proposed two manifestations for the Applicative in Indonesian. Interestingly, the differences could involve two factors:

a) With *-i* the goal receives case, and with *-kan* it must be marked by a preposition, which somehow triggers its different ordering.

b) We have not found cases of Applicatives in *-i* that are merged above Init or Proc: it seems that *-kan* is the only manifestation of the high applicative above Proc/Init, while in the cases below Proc both *-i* and *-kan* may be used.

Having now presented our proposal for the analysis of the verbal affixes in Indonesian, let us now move to their nominalisations.

Chapter 5

Deverbal nominalisations in Indonesian

In the previous chapter, we have seen how verbal affixes, sometimes called “confixes”, form verbs in Indonesian. As was noted, such process, in which verbs are derived from other word classes, is called verbalisation (Fábregas and Scalise, 2012, p. 92).

In Indonesian, as in other languages, the result of a verbalisation process can be further derived into a noun by attaching a nominal affix to it. For instance, *melawan* “to oppose” can be combined with the nominal confix *per-an* to make a derived noun *perlawanan* “opposition, resistance”. The process where a noun is derived from other word classes is called nominalisation (Fábregas and Scalise, 2012, p. 90). The goal of this chapter is to provide a description of how deverbal nominalisations are built in Indonesian.

The chapter is structured as follows: in §5.1 we present an empirical overview of the general properties of Indonesian nominalisations, and in the subsequent sections (§5.2-§5.6) we present the main facts about nominalisations coming from each one of the verbal classes discussed in the previous chapter (*meng-*, *meng-kan*, *meng-i*, *ber-*, and *ter-*). Section §5.7 is devoted to a preliminary analysis of the main issues about these nominalisations, where we will concentrate only on some of their properties; in contrast to the previous chapter, where we tried to provide an analysis that was as detailed as possible, in this chapter –due to space restrictions– we have chosen to discuss only the main challenges and puzzles that nominalisations present, from an analytical perspective, to our proposal about verbalisations.

5.1 Overview of the general properties of Indonesian nominalisations

As was explained in Chapter 2 (§2.3), within deverbal nominalisations the main distinction is between event nominalisations, which have verbal layer, and result or participant nominalisations, which lack verbal layer (Grimshaw, 1990). Event nominalisations are further divided into complex and simple nominalisations which differ in how they project an event: a

complex event nominal illustrates a process, a simple event nominal does not (Grimshaw, 1990).

Indonesian is different from English and other languages in that it differentiates both types of nominalisation morphologically. When the derived noun denotes an event, usually the affix is a confix, meaning that the nominalisation process includes both a prefix and a suffix. For instance, in (1) *pembayaran* “payment” is built from the verb *membayar* “to pay”, and involves the prefix *peng-*, and the suffix *-an*. The combination of the prefix and the suffix makes descriptively a complex that traditionally is called confix *peng-an*.

- (1) *membayar* “to pay”, *pembayaran* “payment”
Harap selesaikan pembayaran.
please complete peng-pay-an
“Please complete the payment.”

On the surface the nominalisation seems to involve cancelling the verbal prefix *meng-* and substituting it with *peng-*. As we proceed, we will provide arguments that this is not the right description, and that *peng-* should be viewed as the verbal prefix *meng-* with a subsegmental morpheme that turns the /m/ into a /p/, corresponding to part of the nominalisation structure.

The prefix *peng-* can also be attached to a verb without any suffix, and this produces result or participant nominalisations that, instead of denoting the event expressed by the verb, denotes one of its participants. The result in the case of the verb that we are using as an example is an agentive derived noun, such as *pembayar* “payer” in (2), which is thus also derived from *membayar* “to pay”.

- (2) *membayar* “to pay”, *pembayar* “payer”
Pembayar pajak adalah orang pribadi atau badan.
peng-pay tax is person private or entity
“Taxpayers are individuals or entities.”

Consequently, the minimal distinction between event and participant nominalisations in Indonesian is the presence or absence of *-an*, establishing a distinction between both types. It is therefore relevant to revise here other uses of the suffix, outside nominalisations, where it can appear without a prefix.

This distinction extends to the other verbal classes. With *ber-* verbs, using the nominaliser prefix *per-* without *-an* also gives a participant reading, involving the agent in the general case (*berlari* “to run” > *pelari* “runner”).

5.1.1 The suffix *-an*

The suffix *-an* without any prefix can be used, to begin with, in nominalisations from verbs that lack a prefix, to denote participants. In the following instance (3), the noun *bayaran* “pay”, derived from the verb *bayar* “to pay” and the suffix *-an*, does not denote an event.

- (3) *bayar* “to pay”, *bayaran* “pay, fee, compensation”
Cristiano Ronaldo adalah pesepak bola dengan bayaran tertinggi di dunia.
Cristiano Ronaldo is footballer with pay highest in world
“Cristiano Ronaldo is the highest-paid soccer player in the world.”

The suffix *-an* is always related to nouns, in the sense that the forms produced by this suffix are always nouns, irrespective of the category of the base. When it comes to the types of bases that it takes, several subclasses can be distinguished.

When the suffix *-an* is added to a nominal base, the result is also nominal. In such cases, *-an* takes a noun denoting a type of quality or a dimension and builds from it a noun that relates that quality to an event in different ways. There are two main types of this. In (4), both *syukur* “gratitude” and *syukuran* “a celebration that shows gratitude” are nouns. The addition of the suffix *-an* gives the meaning “an event that has the property of BASE”.

- (4) *syukur* “gratitude”, *syukuran* “a celebration that shows gratitude”
Keluarga itu mengadakan syukuran atas kelahiran anak mereka.
family that arrange gratitude-an above birth child they
“The family arranged a celebration of gratitude for the birth of their child.”

Similarly, both *meter* “meter (unit)” and *meteran* “a tool to measure in meter” in (5) are nouns. The addition of the suffix *-an* gives the meaning “an object that can be used to perform an action related to BASE”.

- (5) *meter* “meter (unit)”, *meteran* “a tool to measure in meter”
Gunakan meteran itu untuk mengukur dimensi barang.
use meter-an that to measure dimension item
“Use the tape measure to measure the dimension of items.”

With bases that can be viewed as semantic adjectives expressing qualities, the suffix also produces nouns. In this case, we produce abstract quality nouns or objects that are typically characterised by the quality. In (6), *besar* “big” is an adjective and *besaran* is a noun that means “amount” or “the measurement that has the property of big”. In (7), *lapang* “spacious” is derived into *lapangan* “field, court” which means “a place that is spacious”.

- (6) *besar* “big”, *besaran* “magnitude, amount”
Mereka belum belajar menghitung besaran tegangan listrik.
 they not.yet learn count big-an voltage electricity
 “They have not yet learned how to count the magnitude of electricity voltage.”
- (7) *lapang* “spacious”, *lapangan* “field, court”
Mereka bermain sepak bola di lapangan.
 they play soccer in field
 “They are playing soccer in the field.”

Remember in this sense that, as we explained in §2.1.3, Indonesian is viewed as a language where adjectives can be differentiated semantically but not categorially. Adjectives in Indonesian are not defined by a distinct set of grammatical properties that differentiate them from verbs or nouns (Stassen, 1997, p. 47). For this reason, one can also see what seems to be adjectival uses of *-an*, even though they are still nominal because adjectives and nouns are not distinguished. There are, as expected if *-an* produces nouns and adjectives are defined as nouns in Indonesian, words that have both semantic uses, to denote an entity or a quality. For example, the same word *bulanan*, built from *bulan* “month” and the suffix *-an*, is used as a noun in (8) and as an adjective in (9).

- (8) *bulan* “month”, *bulanan* “monthly routine”
Bulanan sekolah ini satu juta rupiah.
 month-an school this one million rupiah
 “The monthly fee of this school is one million rupiah.”
- (9) *bulan* “month”, *bulanan* “monthly”
Rapat bulanan akan diadakan besok.
 meeting month-an will be.held tomorrow
 “The monthly meeting will be held tomorrow.”

5.1.2 Overview of the morphological patterns with each verb class

Before investigating the argument properties of each class of deverbal nominalisation closely, we shall have an overview of how each one of the verb classes morphologically look when they are nominalised. We have three main situations: the nominal confix *peng-an*, the nominal confix *per-an* and the nominal confix *ke-an*. In all cases it is the type of verb that determines which pattern is used.

It has been shown above, in (1), how a verb that has a verbal affix *meng-* can be derived into a noun by adding a nominal confix *peng-an*, that is *pembayaran* “payment”. As another example, (10) shows that the monotransitive verb *membuat* “to make”, the derivation of *buat* “to make”

and the verbal prefix *meng-*, can have the nominal confix *peng-an* attached to it to make the eventive noun *pembuatan* “the making of”.

- (10) *buat* “to make”, *membuat* “to make”, *pembuatan* “the making of”
Pembuatan satu meja perlu waktu dua jam.
peng-make-an one table require time two hour
“The making of one table takes two hours.”

The same nominal confix, *peng-an*, also nominalises verbs which have the verbal confix *meng-**kan*. In other words, the suffix *-kan* disappears from the nominalisation. As can be seen in (11), *penjelasan* “explanation” is derived from *menjelaskan* “to explain”. Although *menjelaskan*⁵ is made of the base *jelas* and the confix *meng-kan*, not all parts of the confix is visible on the derived noun.

- (11) *jelas* “clear”, *menjelaskan* “to explain”, *penjelasan* “explanation”
Kami mencari penjelasan yang lebih terperinci.
we look.for peng-explain-an which more detail.passive
“We are looking for a more detailed explanation.”

The suffix *-i* is also removed in the nominalisation. In (12) below, the verb *membatasi*⁶ “to limit”, which is built from the nominal base *batas* and the verbal confix *meng-i*, is derived into *pembatasan* “limitation”.

- (12) *batas* “limit”, *membatasi* “to limit”, *pembatasan* “limitation, restriction”
Pemerintah memberlakukan pembatasan kegiatan masyarakat.
government impose peng-limit-an activity people
“The government imposes restrictions on people’s activities.”

The examples (10-12) described above show that there is no morphological difference between the nominalisation of monotransitive verbs carrying the verbal prefix *meng-* and that of ditransitive verbs bearing the verbal confixes *meng-kan* or *meng-i*.

Let us now see how nominalisations from verbs in *ber-* behave. Remember that we have treated these verbs as being pure intransitive ones, without an internal argument but with a subject that can be interpreted as agentive. The nominal confix *per-an* is attached to verbs with the prefix *ber-*, but also to a verbal base. In (13), the verbal confix *per-an* is attached to *berbeda* “to have differences” which has the verbal prefix *ber-*, producing *perbedaan* “difference”. As in the case

⁵ The verb *menjelas* (without the suffix *-kan*) is not used in Indonesian.

⁶ The verb *membatas* (without the suffix *-i*) is not used in Indonesian.

of *meng-/peng-*, we will argue here that *per-* is not replacing *ber-*, but the result of altering its first consonant /b/ due to a subsegmental morpheme that changes the first consonant.

- (13) *beda* “to be different”, *berbeda* “to have differences”, *perbedaan* “difference”
Perbedaan pendapat tidak dapat dihindari.
per-to.have.differences-an not can avoid.passive
“Difference of opinion is inevitable.”

There is a second way of nominalising verbs in *ber-*. The nominal confix *ke-an* can also be attached to a verb with the verbal prefix *ber-*, without replacing the initial consonant of the prefix or substituting it. It is shown in (14) that *berangkat* “to depart”, which has the verbal prefix *ber-*, can be combined with the nominal confix *ke-an* into *keberangkatan* “departure”.

- (14) *berangkat* “to depart”, *keberangkatan* “departure”
Keberangkatan pesawat kita ditunda.
ke-depart-an plane we delay.passive
“Our flight departure is delayed.”

Thus, nominalisations with *ber-* can use either *per-an* or the sequence *ke-ber-an*. As for the verbal affix *ter-*, only *ke-an* is available as a device to nominalise. As seen in (15), *terbatas* “limited” has the verbal prefix *ter-* and can be derived into *keterbatasan* “limitedness” by adding the nominal confix *ke-an* to it.

- (15) *terbatas* “limited”, *keterbatasan* “limitedness”
Rumah sakit di desa memiliki keterbatasan tenaga medis.
house sick in village has ke-limited-an staff medical
“Hospitals in the countryside has limited medical personnel.”

Lastly, the nominal confix *ke-an* can be attached to a verbal base that even in Standard Indonesian does not require a prefix or a confix to verbalise. These affixes are the default ones used in such cases to make a derived noun, given that the base verb lacks prefixes or suffixes of its own: see *kemunduran* “setback”, which is derived from *mundur* “to step back”, without verbal affixes, in (16).

- (16) *mundur* “to step back”, *kemunduran* “setback”
Perusahaan itu mengalami kemunduran.
company that endure setback
“The company endured a setback.”

One final remark on the alternation between affixes like *peng-* and *ke-* in Indonesian is that the nominaliser *ke-* is no longer used in producing nouns with participant reading in the absence of *-an*. There are only a few agentive nouns which contain the nominal prefix *ke-* and there are no

participant nominalisations of the shape *ke-ber-* or *ke-ter-*. We have no clear explanation for this fact, as with respect to any other property *ke-* seems to behave as an allomorph of the same nominalising affix that produces participant readings, as we will argue later. One might think that the *ke-* allomorph is not chosen without the head spelled out as *-an*, which we will treat as a nominal layer immediately dominating the nominaliser that can be spelled out as *ke-*, but we will not expand on this aspect in our analysis.

5.2 Nominalisations from *meng-*

Verbs containing the prefix *meng-* are nominalised with the confix *peng-an*, as shown in *membayar* > *pembayaran* (1) and *membuat* > *pembuatan* (10).

As expected from derivational processes, not each single verb has a nominalised form. Some verbs from Table 1 in §4.2.1 that do not have a nominalisation built from the verb are *meminta* “to ask, to request”, *menunggu* “to wait”, *mengajak* “to invite”, and *mengingat* “to remember”. With this we mean that there is no established nominalisations from these verbs. However, it is grammatically possible to attach the nominal confix *peng-an* to any one of them. The resulting derived nouns will be intuitively understood by the speakers (*meminta* > *pemintaan*, *menunggu* > *penungguan*, *mengajak* > *pengajakan*, *mengingat* > *pengingatan*), but they are not broadly used or licensed by normative grammars, so they are not to be found in the official dictionaries (<https://kbbi.kemdikbud.go.id>, last access: 20 January 2021). In what follows, we will only use the nominalised forms that are well-established in their use.

5.2.1 Complex event nouns with internal argument

Remember that, as discussed in §4.2.1, a verb with the verbal prefix *meng-* is typically monotransitive, meaning it has one object. Being monotransitive, however, does not mean a verb only has one argument—the object. A subject is also an argument. The following discussion will revolve around the presentation of arguments with deverbal nouns.

When a deverbal noun with the nominal confix *peng-an* is used in a sentence, usually its internal argument is present or must be necessarily interpreted within context in generic cases, as it is

also the case in English. For example, *pemilihan* “election” is followed by its internal argument, *presiden* “president”, in (17).

- (17) *memilih* “to choose”, *pemilihan* “selection, election”
Pemilihan presiden berlangsung dengan damai.
peng-choose-an president take.place with peace
“The electing of the president took place peacefully.”

As with complex event nominalisations in English, the sentence is grammatical without the internal argument being overtly expressed only provided it is interpreted generically or the internal argument has already been mentioned in the previous discourse. In (18), it is not mentioned what is being elected, but it is implied that something or someone is being elected: discourse context, that has mentioned the internal argument already, is needed.

- (18) #*Pemilihan berlangsung dengan damai.*
peng-choose-an take.place with peace
#“The electing took place peacefully.”

The addition of an external argument into the sentence requires a preposition *oleh* “by” as illustrated in (19), and again in parallel with English complex event nouns this external argument can be unexpressed without the need of previous mention in the discourse.

- (19) *Pemilihan presiden oleh rakyat berlangsung dengan damai.*
peng-choose-an president by people take.place with peace
“The electing of the president by the people took place peacefully.”

Sentence (19) has the predicate *berlangsung dengan damai* “to take place peacefully”, which selects eventive subjects. To further evidence that *pemilihan* is a complex event noun, another temporal modifier *selama dua hari* “for two days” is inserted in (20) between the internal argument *presiden* “president” and the external argument *oleh rakyat* “by people”.

- (20) *Pemilihan presiden selama dua hari oleh rakyat berlangsung dengan damai.*
peng-choose-an president for two days by people take.place with peace
“The electing of the president (which lasted) for two days by the people took place peacefully.”

It is worth mentioning that *selama dua hari* “for two hours” in Indonesian could be placed before or after the prepositional phrase that introduces the external argument; we are illustrating with the ordering “Noun + for two days + by the people” to guarantee that the aspectual modifier belongs to the noun phrase and not to the verbal phrase.

The situation that we describe is the general one for these nominalisations: to give another example, *pembangunan* “construction” has an internal argument and an external argument. Both arguments are shown in (21): the internal one is *gedung* “building” and the external one is *25 pekerja* “25 workers” with the help of a preposition *oleh* “by”.

- (21) *membangun* “to build”, *pembangunan* “construction, development”
Pembangunan gedung oleh 25 pekerja itu akan berlangsung lima bulan.
 peng-build-an building by 25 worker that will last five month
 “The construction of the building by 25 workers will last for five months.”

5.2.2 Nominalisation construal with possessive: simple event nouns

Some derived nouns with the confix *peng-an* can have dual interpretation: one as the complex event nominal construal that we have just described and the other is a structure using a possessive construction which we will argue here is a simple event nominal. The derived noun is a complex event nominal when it is followed by the internal argument. However, when followed by just the external argument without a preposition, the same word is a simple event nominal, crucially also with the suffix *-an*.

As we saw above, the deverbal noun *penyebutan* “the mentioning of” in (22) is a complex event nominal, indicated by its being grammatical with both arguments, and it being able to combine with the modifier *selama lima menit* “for five minutes”.

- (22) *Penyebutan peserta lomba selama lima menit oleh guru berlangsung di auditorium*
 peng-mention-an participant contest for five minute by teacher take.place in auditorium
 “The mentioning of contestants for five minutes by the teacher took place in the auditorium.”

If the internal argument *peserta lomba* “contestant” is removed, only the external argument appears, and no preposition is used for them. The nominalisation has now a different status; the *guru* “teacher” in (23) can only be interpreted as an internal argument. Unlike complex event nouns, this construal does not project the internal argument. In this structure, it is impossible to modify with a temporal modifier like *selama lima menit* “for five minutes”.

- (23) **Penyebutan guru selama lima menit berlangsung di auditorium.*
 peng-mention-an teacher for five minute took.place in auditorium

However, it is still denoting an event: note above that the predicate can be “take place”, and note below in (24) that *penyebutan* “the mentioning” is still able to combine with a predicate like *berlangsung selama lima menit* “to last for five minutes”.

- (24) *Penyebutan guru berlangsung selama lima menit.*
peng-mention-an teacher last for five minute
“The mentioning by the teachers lasted for five minutes.”

5.3 Nominalisations from *meng-kan* and *meng-i*

Like verbs containing the prefix *meng-*, verbs with the verbal confix *meng-kan* and the verbal confix *meng-i* are also nominalised with the confix *peng-an*. Both the verbal confix *meng-kan* and the verbal confix *meng-i* are used when the predicate is ditransitive. It is said in §4.2.4.1.1 that a ditransitive verb has two internal arguments. We will call the second internal argument as the *goal*.

5.3.1 Complex event nouns derived from verbs with *meng-kan*

The difference between a deverbal noun with *peng-an* derived from a verb with *meng-* and a deverbal noun with *peng-an* derived from a verb with *meng-kan* is the presence of the goal (the second internal argument) in the sentence. As shown in (25), *kepada direktur* “to the director” is a prepositional phrase which contains the goal *direktur* “director”. As in the case of monotransitive verbs, the external argument needs to be introduced as a prepositional phrase in the nominalisation, as *oleh manajer* “by the manager”.

- (25) *menyampaikan* “to convey”, *penyampaian* “delivery”
Penyampaian laporan oleh manajer kepada direktur berlangsung selama satu jam.
peng-convey-an report by manager to director last for one hour
“The report delivery by the manager to the director lasted for one hour.”

This is almost the same type of syntactic construal that we see in the verbal version with the confix *meng-kan*, with the only difference being how the external argument is expressed. In the verbal version, as was seen in Chapter 4, the goal argument also must be introduced with the preposition *kepada* “to”, and the internal argument must be introduced without any preposition. The difference is, of course, that the external argument in the verbal construal is introduced without any preposition as in sentence (26).

- (26) *Manajer menyampaikan laporan kepada direktur.*
manager meng-convey-kan report to director
“The manager delivered the report to the director.”

Therefore, the only argument that is kept without the need of prepositions in the nominalisation is the internal argument *laporan* “report”, which then has the closest syntactic relationship with the deverbal noun. As in the case of *meng-* nominalisations, both the goal and the external argument can be removed with either a generic interpretation of the argument or previous mentions, but the internal argument must stay.

Let us use the nominalisation as the subject of *berlangsung selama satu jam* “to last for one hour” to test its status. The predicate is compatible with this nominalisation, showing that it denotes an event (27).

- (27) *penyampaian laporan berlangsung selama satu jam*
peng-convey-an report last for one hour
“The report delivery lasted for one hour.”

We can show that this nominalisation is also a complex event nominalisation because, as in the case of the previous class, the noun can be modified by a temporal or aspectual constituent. In (28), *selama satu jam* “for one hour” is a temporal constituent that modifies the noun phrase.

- (28) *penyampaian laporan selama satu jam oleh manajer dilakukan di dalam rapat*
peng-convey-an report for one hour by manager do.passive in inside meeting
“The report delivery for one hour by the manager was done in the meeting.”

As mentioned in 4.2.3.1.2., there were apparent counterexamples of verbs with *meng-kan* which has one argument inside the verb. An example of such verbs is *mengembangkan* “to develop” which is built of the noun *kembang* “flower” and the verbal confix *meng-kan*. In such case, illustrated by (29), the goal “(to be like) a flower” is integrated in the deverbal noun *pengembangan* “development” and the internal argument *roti* “bread” follows the deverbal noun. Meanwhile, the external argument *proses fermentasi* “the fermentation process” needs a preposition *oleh* “by”.

- (29) *mengembangkan* “to develop”, *pengembangan* “development, expansion”
Pengembangan roti selama tiga jam oleh proses fermentasi terjadi di dalam kulkas.
peng-develop-an bread for three hours by process fermentation happen in inside refrigerator
“The expansion of bread for three hours by the fermentation process happens in the refrigerator.”

5.3.2 Simple event nouns derived from verbs with *meng-kan*

We have seen in §5.2.2. the dual interpretation of some derived nouns with the confix *peng-an*: complex event nominal and simple event nominal. Similar constructions apply to some nouns derived from verbs with the confix *meng-kan*.

Sentence (30) has a verb with the confix *meng-kan* that is *menjelaskan* “to explain”. This verb is chosen because **menjelas* (without *-kan*) does not exist. The arguments which accompany the verb are an internal argument *matematika* “math”, a goal *murid* “student”, and an external argument *guru* “teacher”.

- (30) *jelas* “clear”, *menjelaskan* “to explain”
Guru menjelaskan matematika kepada murid selama satu jam.
teacher meng-clear-kan math to student for one hour
“The teacher explained math to the students for one hour.”

The derived noun of *menjelaskan* “to explain” is *penjelasan* “explanation”, using the confix *peng-an*. All the arguments can follow the deverbal noun, providing the external argument has the preposition *oleh* “by” and the goal has the preposition *kepada* “to”. The deverbal noun itself still denotes an event as it can take the predicate *berlangsung selama satu jam* “to last for one hour”.

- (31) *menjelaskan* “to explain”, *penjelasan* “explanation”
Penjelasan matematika oleh guru kepada murid berlangsung selama satu jam.
peng-explain-an math by teacher to student last for one hour
“The explanation of math by the teacher to the students lasted for one hour.”

Without the internal argument, with or without the goal, the deverbal noun can be interpreted as a simple event construal. In (32), *penjelasan guru* “the teacher’s explanation” does not overtly express the existence of the internal argument and the goal. However, both the internal argument and the goal are implicit, taken semantically as something and someone that would normally interact with the overt external argument *guru* “teacher” in this type of event. The deverbal noun *penjelasan* is also a simple event construal when the goal *murid* “student” is retained, along with its preposition *kepada* “to”, as in (33).

- (32) *Penjelasan guru berlangsung selama satu jam.*
peng-explain-an teacher last for one hour
“The teacher’s explanation lasted for one hour.”

- (33) *Penjelasan guru kepada murid berlangsung selama satu jam.*
 peng-explain-an teacher to student last for one hour
 “The teacher’s explanation to the students lasted for one hour.”

Thus, we can see that the presence of the goal introduced by its own preposition does not prevent the construal where the nominalisation expresses a simple event noun: provided the internal argument is not syntactically projected, the nominalisation can act as a simple event noun that introduces the agent without any preposition.

When the verb with the confix *meng-kan* from which the noun derived is an apparent counterexample, there is only one overt internal argument because the other internal argument is embedded in the deverbal noun. As shown in sentence (34), a simple event noun construal for *penggunaan* “usage” has the external argument *anak* “child” following the deverbal noun directly and the internal argument *aplikasi ini* “this application” requiring the preposition *terhadap* “of”.

- (34) *menggunakan* “to use”, *penggunaan* “usage”
Penggunaan anak terhadap aplikasi ini di sekolah berlangsung di bawah pengawasan guru.
 peng-use-an child to application this at school last in below supervision teacher
 “The children’s usage of this application at school was done under the teacher’s supervision.”

5.3.3 Complex event nouns derived from verbs with *meng-i*

Most words that can be combined with the verbal confix *meng-i* can also be combined with the verbal confix *meng-kan* or the verbal prefix *meng-*. For example, *mendatangi* “to come to” results from the combination of the verbal base *datang* “to come” and the verbal confix *meng-i*. The same base *datang* “to come” can have only the prefix *meng-* attached to it, *mendatang* “to come in the future”, and can be combined with the verbal confix *meng-kan* into *mendatangkan* “to make someone/something come”. Since neither the suffix *-kan* nor *-i* is retained in the deverbal noun form, there is no evidence that shows which one between *mendatang*, *mendatangi*, and *mendatangkan* the deverbal noun *pendatangan* “the coming of” is derived from.

A lot of verbs with *meng-i* which have contending forms as explained above have two overt internal arguments. The verbs with *meng-i* which do not have contending forms are the ones with one internal argument incorporated to the verb.

The verb *menangani* “to handle” in (35) is used as an example because *menangan* and *menangankan* do not exist. The sentence has an external argument *polisi* “police” and an internal argument *kasus itu* “the case”. Another internal argument, *tangan* “hand” is incorporated to the verb.

- (35) *tangan* “hand”, *menangani* “to handle”
Polisi menangani kasus itu selama sebulan.
 police meng-hand-i case that for a.month
 “The police handled the case for a month.”

The verb *menangani* “to handle” is derived into *penanganan* “the handling of” in (36). The deverbal noun *penanganan* denotes an event because it can have the predicate *berlangsung selama sebulan* “to take place for a month”. The internal argument *kasus itu* “the case” follows the derived noun. The external argument *polisi* “police” needs a preposition *oleh* “by”.

- (36) *menangani* “to handle”, *penanganan* “the handling of”
Penanganan kasus itu oleh polisi berlangsung selama sebulan.
 peng-handle-an case that by police take.place for a.month
 “The handling of the case by the police took place for a month.”

As a further evidence that *penanganan* is a complex event noun in (37), the noun phrase can have the temporal modifier *selama sebulan* “for a month”. It is possible to remove the external argument *polisi* “police” and it will be generically interpreted that there is someone who does the deverbal noun *penanganan* “the handling of” as in (38).

- (37) *menangani* “to handle”, *penanganan* “the handling of”
Penanganan kasus itu selama sebulan oleh polisi berlangsung sesuai rencana.
 peng-handle-an case that for a.month by police last according plan
 “The handling of the case for a month by the police went according to plan.”
- (38) *Penanganan kasus itu selama sebulan berlangsung sesuai rencana.*
 peng-handle-an case that for a.month last according plan
 “The handling of the case for a month went according to plan.”

In the examples above we have not given information about how the goal is projected in the nominalisation when the internal argument is present. The last example for this category features a noun derived from a verb with the confix *meng-i* which denotes a transfer. In (39), *pelemparan* “the throwing of” is derived from *melempari* “to throw” (as seen in Chapter 4, example 117). The goal *pejalan kaki* “passer-by” must be accompanied by a preposition *ke* “to” and the external argument *pelajar* “student” has the preposition *oleh* “by”.

- (39) *melempar* “to throw”, *melempari* “to throw something at”
Pelemparan batu selama satu jam kepada pejalan kaki oleh pelajar terjadi di jalan ini kemarin.
 peng-throw-an stone for one hour to people feet by student happen in street this yesterday
 “The throwing of stones for one hour to the passers-by by the students happened in this street yesterday.”

This contrasts with the verbal construal involving *-i*, where the goal can be introduced without the help of any preposition.

5.3.4 Simple event nouns derived from verbs with *meng-i*

The behavior of a noun which is derived from a verb with the confix *meng-i* does not show any difference to that of a noun with the confix *peng-an* which is derived from a verb with the prefix *meng-*. The verb in sentence (40) is *menandatangani* “to give signature to” which comprises the base noun *tanda tangan* “signature” and the verbal confix *meng-i*. The sentence has an external argument *direktur* “director” and an internal argument *surat-surat* “letters”. None of them needs a preposition. There is another internal argument in (40), that is *tanda tangan* “signature”, but it is not overtly expressed since it is incorporated into the verb.

- (40) *tanda tangan* “signature”, *menandatangani* “to give signature to”
Direktur menandatangani surat-surat selama satu jam di kantor.
 director meng-signature-i letter.redup for one hour in office
 “The director signed the contracts for one hour in the office.”

The deverbal noun of *menandatangani* “to give signature to” is *penandatanganan* “the signing of”. With a predicate modifier, as *selama satu jam* “for one hour” in (41), the deverbal noun can be interpreted as a complex event noun. When the external argument *direktur* “director” follows the deverbal noun directly without a preposition, the deverbal noun can be interpreted as a simple event nominal noun as in (42).

- (41) *menandatangani* “to give signature to”, *penandatanganan* “the signing of”
Penandatanganan surat-surat selama satu jam oleh direktur berlangsung di kantor.
 peng-give.signature.to-an letter.redup for one hour by director take.place in office
 “The signing of contracts for one hour by the director took place in the office.”
- (42) *Penandatanganan direktur berlangsung di kantor.*
 peng-give.signature.to-an director take.place in office
 “The director’s signing took place in the office.”

5.4 Nominalisations from *ber-*

There are two confixes which nominalise verbs with the prefix *ber-* into nouns: *per-an* and *ke-an*. They will be covered separately.

5.4.1 *Per-an*

Three interpretations are possible for deverbal noun with the confix *per-an*: complex event noun and simple event noun. However, it does not mean that one word can be interpreted as all three of them.

The nominal confix *per-an* accommodates the verb with the prefix *ber-* to be an event. An example of a complex event noun is *pertemuan* “meeting” which is derived from the verb *bertemu* “to meet”. As seen in (43), this deverbal noun can take a temporal modifier *selama tiga jam* “for three hours” to form a noun phrase and can take *berlangsung di kantor* “to take place in the office” as its predicate.

- (43) *bertemu* “to meet”, *pertemuan* “a meeting”
Pertemuan mereka selama tiga jam berlangsung di kantor.
per-meet-an they for three hour take.place in office
“Their 3-hour meeting took place in the office.”

The following example, *perkembangan* “development” (44), is derived from the verb *berkembang* “to develop”. The deverbal noun *perkembangan* is chosen because there is a deverbal noun similar to it with a different derivation, that is *pengembangan* “development” (see sentence 29) which is derived from the verb *mengembangkan* “to develop”. The difference between *berkembang* and *mengembangkan* lies in their transitivity. The verbal confix *meng-* is ditransitive, meaning it has an external argument and two internal arguments. Meanwhile, the verbal prefix *ber-* is intransitive, thus *berkembang* only has one argument, that is an external argument.

While *pengembangan* is a complex event noun as diagnosed by its arguments, *perkembangan* has only one argument and therefore it is difficult to differentiate it from the simple event noun. However, its aspectual properties allow us to diagnose it as a complex event noun: it can be the subject of an event-taking predicate (44) and it can take a noun-internal aspectual modifier (45).

- (44) *berkembang* “to develop”, *perkembangan* “development”
Perkembangan mereka berlangsung selama dua bulan.
 per-develop-an they take.place for two month
 “Their development took place for two months.”
- (45) *Perkembangan roti selama tiga jam terjadi di dalam kulkas.*
 per-develop-an bread for three hours happen in inside refrigerator

The last type to exemplify is the deverbal noun with the confix *per-an* that is a noun expressing the property associated to the result or another state of the verb. From now on, and because of the reasons given in §2.3, we will call these nominalisations, which cannot be found with *peng-an*, property or state nominalisations. As we will see with other examples, these nominalisations also act as complex event nouns in that they can combine with internal aspectual modifiers, but unlike the prototypical complex event nouns, they do not denote dynamic eventualities, but states. In (46), the deverbal noun *perbedaan* “difference” is derived from the verb *berbeda* “to be different”. It is not possible to interpret *perbedaan* as an event because this deverbal noun cannot have a temporal predicate *berlangsung* “to take place”.

- (46) *berbeda* “to be different”, *perbedaan* “difference”
Mereka mempunyai banyak perbedaan.
 they have many per-different-an
 “They have many differences.”

5.4.2 *Ke-an*

When a verb with the prefix *ber-* is combined with a nominal confix *ke-an*, the derived deverbal noun is a noun denoting the state related to the verb or the properties related to that result. For instance, the noun *keberhasilan* “success” in (47) is derived from the verb *berhasil* “to succeed”. The deverbal noun *keberhasilan* cannot have an eventive interpretation, as in (48).

- (47) *berhasil* “to succeed”, *keberhasilan* “success”
Keberhasilan tim kami tidak terduga.
 ke-succeed-an team we not expect.passive
 “The success of our team was not expected.”
- (48) **Keberhasilan tim kami berlangsung selama dua hari.*
 ke-succeed-an team we take.place for two day

In the event that *berlangsung* “to take place” is used, it is only to point out an exact time, not a period of time. As shown in (49), *keberangkatan* “departure” can have a specified time of when

it takes place. However, as illustrated in (50), it is not grammatical to describe how long *keberangkatan* takes place.

- (49) *berangkat* “to depart”, *keberangkatan* “departure”
Keberangkatan kami akan berlangsung pada hari ini.
 ke-depart-an we will take.place on day this
 “Our departure will take place today.”
- (50) **Keberangkatan kami akan berlangsung selama dua hari.*
 ke-depart-an we will take.place for two day

5.5 Nominalisations from *ter-*

The nouns derived from verbs with the prefix *ter-* have the confix *ke-an*. The nouns derived of this nominalisation are either a complex event noun, a simple event noun or a property-state noun, specifically one that talks about a property related to the eventive base. The first example is *ketersediaan* “availability” in (51) is a complex event noun, as it takes the predicate *berlangsung selama dua tahun* “to take place for two years” and internal temporo-aspectual modifiers. The external argument *air bersih* “clean water” follows the deverbal noun. If the external argument is removed, the deverbal noun relies on the assumption that something has the quality indicated in the deverbal noun for a certain period of time.

- (51) *tersedia* “to be available”, *ketersediaan* “availability”
Ketersediaan air bersih berlangsung selama dua tahun.
 ke-be.available-an water clean take.place for two year
 “The availability of clean water lasted for two years.”
- (52) *Ketersediaan air bersih selama dua tahun sangat bermanfaat bagi penduduk.*
 ke-be.available-an water clean for two year very beneficial for population
 “The availability of clean water for two years was very beneficial for the population.”

Notice that (52) expresses the state associated to the verb and has the internal properties of complex events. An example of a property-state noun derived from a verb with the prefix *ter-* is *keterpaksaan* “coercion” which is derived from *terpaksa* “to be forced”. In (53), an external argument *mereka* “they” is provided. However, *keterpaksaan* is usually used without any argument, such as illustrated in sentence (54).

- (53) *terpaksa* “to be forced”, *keterpaksaan* “coercion”
Keterpaksaan mereka dapat kami rasakan.
 ke-be.forced-an they can we feel
 “Their being forced can be felt by us.”

- (54) *Anak-anak ini belajar karena keterpaksaan.*
 child.redup this study because ke-be.forced-an
 “These children are studying because of coercion.”

5.6 Summary

In this chapter, we have shown the nominalisation of the verbs containing affixes described in Chapter 4. To summarize, verbs with the verbal prefix *meng-*, the confix *meng-i*, and the confix *meng-kan* employ the nominal confix *peng-an* to make complex event nouns and simple event nouns. On the other hand, verbs with the verbal prefix *ber-* uses two sets of confixes. The first is *per-an* to make a complex event noun (CEN), a simple event noun (SEN), or a property-state noun (PSN). The second is the confix *ke-an* that is used only to make result nouns. Lastly, verbs with the prefix *ter-* is combined with the confix *ke-an* to nominalise into simple event nouns and result nouns. The generalisations about the morphological make-up and the types of nominalisations are presented in the table below. Note that the PSN reading is not possible with transitive or ditransitive agentive verbs, in general, while it is possible with the other types of verbs, even if it can appear with different morphological manifestations. With the exception of *ke-ber-an*, which seems to be correlated with only one type of nominalisation, all the other patterns can receive different types of interpretation.

Table 8. Generalisations of nominal affixes

Verbal affixes	Nominal affixes	Event types
<i>meng-</i>	<i>peng-an</i>	CEN, SEN
<i>meng-i</i>		
<i>meng-kan</i>		
<i>ber-</i>	<i>per-an</i>	CEN, SEN, PSN
	<i>ke-ber-an</i>	PSN
<i>ter-</i>	<i>ke-ter-an</i>	CEN, SEN, PSN

5.7 Preliminary analysis

This section contains the preliminary analysis of the nominalisations described in the previous sections. Due to space restrictions, we will focus on some of the properties, specifically only those that are most relevant for the proposals that we made about the verbal structure in the

previous chapter. We will, therefore, leave aside the PSN nominalisations and concentrate only on complex and simple event nominals.

The analysis starts with the spell out of the nominal prefixes, relating them to the verbal prefixes, and discussing the relation between the two of them, which we will treat as allomorphs. Afterwards, we will explain how we come to the assumption that the suffix *-an* is an eventive nominaliser and that the agent or external argument is not under the EvtP.

The rest of the section discusses the argument structure in nominalisations, where we point out the arguments that are preserved in the nominalisations, and then we will bring up the unsolved puzzles that for the time being constitute challenges to a syntactic analysis of these structures, which are the disappearance of the verbal suffixes related to applicative structures and the apparent lack of internal arguments in the simple event construal.

5.7.1 The prefixes

Before we discuss the nominalisation from the syntactic point of view, we would like to point out two properties of the nominalisations that in our analysis occur rather on the phonological side of the verbal and nominal prefixes covered in this paper.

As can be seen in Table 8 in §5.6, there are three prefixes used in verbalisation (*meng-*, *ber-*, *ter-*) and three prefixes used in nominalisation (*peng-*, *per-*, *ke-*). The connections between them are shown again in (55) below for clarity, and as can be seen it is phonologically conditioned and phonologically systematic.

- (55) *meng-* [məŋ] → *peng-* [pəŋ]
ber- [bər] → *per-* [pər], *keber-* [kəbər]
ter- [tər] → *keter-* [kətər]

Both [məŋ] and [bər] have voiced bilabial sounds [m] and [b] on the onset, while [pəŋ] and [pər] have voiceless bilabial [p] on the onset. Considering that the two pairs have the same nucleus and coda [əŋ] and [ər], we assume that one of the possible manifestations of the nominalising morpheme that is adjacent to the nominal prefix is [-Voice]. That is, we propose that the spell out of the nominaliser can consist of a subsegmental unit, just a feature, which changes the voiced bilabial [m] and [b] into the voiceless bilabial [p].

In the example (56) below, the verbal prefix *meng-* [məŋ] in *menghentikan* is nominalised into *penghentian* by losing its [Voice] feature from [m] to [p], changing [məŋ] into [pəŋ]. The same process applies to the verbal prefix *ber-* [bər] in *berhenti* which lose its [Voice] feature so that the nominal form has the voiceless bilabial [p] that is *per-* [pər] in *perhentian*.

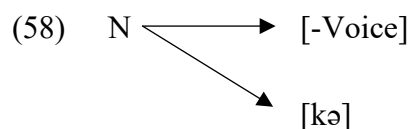
- (56) *henti* “a motionless situation”
menghentikan “to stop something” → *penghentian* “the process of stopping”
berhenti “to stop oneself” → *perhentian* “the place for stopping”

The other nominal prefix is *ke-* [kə]. It is likely that the surface form [kə] has the underlying morpheme [+Velar] and the insertion schwa [ə] when it interacts with a consonant.

In example (57) below, the nominal prefix *ke-* [kə] precedes the verbal prefixes *ber-* [bər] and *ter-* [tər]. Both verbal prefixes retain their surface form despite the interaction with the nominal prefix, that is, the presence of *ke-* does not alter the phonology of the base.

- (57) *bersama* “to be together” → *kebersamaan* “togetherness”
teratur “to be orderly” → *keteraturan* “orderliness”

We propose that this is the second allomorphic manifestation of the same nominaliser that can be materialised as [-Voice], so that we have the two allomorphs in (58).



The surface form [kə] is distributed partially given the phonological shape of the prefix in the verb. Firstly, [kə] precedes [bər] and [tər], resulting in [kəbər] and [kətər]. In the case of the second prefix, *ter-* we can argue that [tər] does not combine with [-Voice] because the initial consonant is already a voiceless onset [t]. Second, verbs in *ber-* take either of the two allomorphs, depending on the lexical content of the base, without clear changes in meaning.

It is true, however, that this is a preliminary analysis and a more detailed examination might in fact conclude that the two exponents that we treat as allomorphs of the same head are in fact partially different. An argument for this is that the prefix *ke-* [kə] mainly gives PSN readings, and also SEN reading, which is different from the prefix [-Voice] that surfaces as [p] and is able to give rise to all readings in combination with *-an*.

Now that we have briefly discussed the nominal prefixes, we will follow it with a discussion about the nominal suffix *-an*.

5.7.2 The suffix *-an*

As we have explained in §5.1.1, the suffix *-an* is also part of the nominalising structure that turns a verb into a noun, and it is compulsory in addition to the prefix if the nominalisation behaves as eventive –otherwise, *peng-/per-/ke-* alone produces an agentive reading–.

One important fact for the analysis is that *-an* can be used to create eventive readings of different types of bases. In the examples in (59) below, *ujian* “exam” is derived from a prefix-less verb through the suffix *-an*.

(59) *uji* “to test” → *ujian* “test, exam”

It can be shown that the eventive meaning is somehow related to *-an* as a nominalising suffix. While in a deverbal nominalisation the base already contains an event, in other cases the eventive reading emerges by adding the suffix. The suffix *-an* can also nominalise bases denoting qualities and properties, which semantically could be considered “adjectives” although remember that in §2.1.3 we explained that Indonesian adjectives are not grammatically distinct from nouns or verbs. The examples in (60) below are nouns with the suffix *-an* derived from bases which are traditionally categorised as adjectives.

(60) *syukur* “gratitude-quality” → *syukuran* “celebration that shows gratitude”

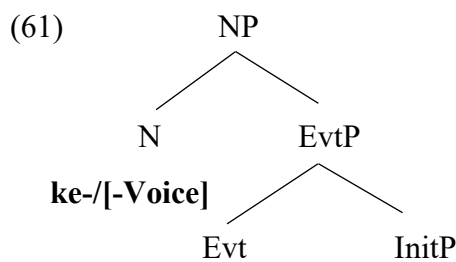
These event nouns show that the suffix *-an* has an eventive reading, although in the absence of a verbal base the nominalisation is not a complex event one.

The lack of the complex event reading of the suffix *-an*, we assume, comes from the fact that the suffix *-an* does not produce an agentive reading or introduces argument structure. Only when the base itself contains argument structure can the complex event reading emerge by combining the argument structure of the verb with the eventive nominalisation meaning of the suffix *-an*. The nominal prefixes *ke-* and *peng-* are the ones involved in agent nominalisations, so when *-an* combines with a nominalisation that contains them, the complex event reading can be possible.

Let us locate these observations in a tree. We need to differentiate between three cases:

- a) nominalisations with the prefix but without *-an*, that produce an agent participant reading,
- b) nominalisations with *-an* only, which produce an event noun which lacks argument structure,
- c) nominalisations with both the prefix and *-an*, which can produce a complex event noun.

Let us start with the first case. Our proposal is that here there is only one layer in the nominalising structure, the one corresponding to *ke-/-Voice*. This N head must select immediately EvtP, because [-Voice] has a direct effect on the first consonant of the prefix, so they have to be immediately adjacent. Considering that the agent or initiator is introduced in EvtP, another reason to locate [-Voice] in this position is that the nominaliser picks the agent participant reading, so the N must directly combine with EvtP.

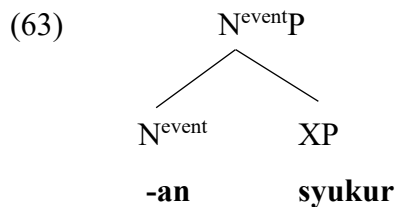


In examples (61), both *kekasih* “lover” and *pemakan* “eater” are agentive nouns; the former has the allomorph *ke-* and the latter has the allomorph [-Voice]. *Kekasih* is the agent of the stative process of *mengasih* “to love”. *Pemakan* is the agent of the dynamic process of *memakan* “to eat”.

- (62) *kasih* “love” → *mengasih* “to love” → *kekasih* “lover”
makan “to eat” → *memakan* “to eat” → *pemakan* “eater”

With respect to the structure in (61), we do not have a full explanation of how exactly the agent reading emerges, but here is our hypothesis: the N corresponding to the prefix is restricted in its denotation to individuals, and cannot express events. This forces it to get interpreted as one of the participants in the event; as it combines with EvtP, which hosts the agent participant, this is the interpretation that it receives. This, in turn, blocks EvtP from introducing a second agent participant in its specifier.

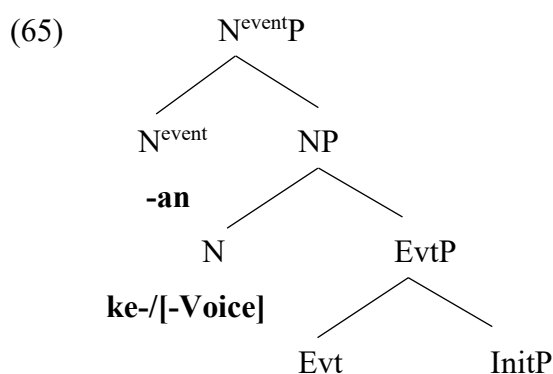
Let us now move to the situation in (b). We propose that *-an* corresponds to a second layer in the nominalising domain, one which in contrast to [-Voice] or *ke-* can denote events and not participants. This layer, combined with a base that carries no argument structure, produces an event reading, as represented in (63).



As for the last situation, it involves that the two layers are present. To get an eventive reading in nominalisations, we need to combine the nominal prefix *ke-* or [-Voice] and the nominal suffix *-an*. Having both the nominal prefix and suffix allows for the derived noun to have a complex eventive reading. In (64), the complex eventive reading is the result of attaching both the prefix [-Voice] and the suffix *-an* to the base word *uji* “test”.

(64) *uji* “test”, *penguji* “tester”, *ujian* “test, exam”, *pengujian* “a testing process”

Since an eventive noun is a more specific kind of noun, the eventive noun phrase or $N^{\text{event}}P$ is projected above NP as represented in (65). Remember that we have already diagnosed that the non-eventive nominaliser must be immediately adjacent to EvtP for both phonological and syntactic reasons.



In this construction, then, the argument structure is provided by the structure below the first nominaliser. Meanwhile, the eventive reading in the nominal domain is licensed by the presence of *-an*, which can have event readings and is not restricted, unlike *ke-/[-Voice]*, to denoting participants.

In this preliminary analysis, which we consider necessary to develop in further research, we make the prediction that in complex event nominalisations the agent argument is not introduced as part of the argument structure of the verbal base, because –as in the case of nominalisations without *-an-*– we must assume that the presence of the low nominaliser [-Voice] / *ke-* blocks its insertion in spec, EvtP.

This forces us to assume that the prepositional phrase corresponding to the agent that can be introduced in the nominalisation should be viewed as an adjunct that is probably introduced in the nominal domain, not in the verbal domain. This is what we will assume in the analysis about argument structure that will be developed in the following section.

5.7.3 The argument structure in nominalisations

Again, for reasons of space, the analysis that we present in this section is preliminary. We will concentrate on three central properties of the argument structure of nominalisations that constitute challenges from the perspective of the analysis of verbs that we developed in the previous chapter:

- a) the syntax of the argument structure in the complex event nominalisations,
- b) the disappearance of the morphemes that we have related to Applicatives, *-i* and *-kan*, inside the nominalisation,
- c) the nature of the simple event reading, where the internal argument is also suppressed.

Let us start with the problem (a).

5.7.3.1 Arguments that are preserved in the complex event nominalisation

As we presented in §2.3, the existing theories about deverbal nominalisations assume that complex event nominals have arguments that come inherited from their verbal base. This part discusses to what extent and how the arguments are preserved in the nominal forms, concentrating on external and internal arguments.

Remember that there are different kinds of arguments in the verb phrase. The first is the external argument that is an initiator projected in EvtP, outside of the verb phrase (InitP < ProcP < ResP).

The internal argument is introduced as the specifier of ProcP or ResP, or the complement of Proc; thus it is inside of the verb phrase and within the event descriptive area –we leave aside in this section the double internal argument structure involving Applicative heads–. In (66), the external argument is *dia* “he/she” and the internal argument is *jendela* “window”.

- (66) *Dia membuka jendela.*
he/she meng-open window
“He/she opened the window.”

When a verb is derived into a complex event noun, the argument kept is only the internal argument; more precisely, the argument that is kept is the one corresponding to the direct object (67). As we have repeatedly seen in §5.2-§5.6 above, like in English and conforming to Grimshaw's (1990) observations, the external argument *dia* can be optionally included in the noun phrase as a prepositional phrase *oleh dia* “by him/her”, but is easily removed without affecting the grammaticality of the construction. The same thing goes to the goal argument *kami*, although it is also a PP before the nominalisation: *untuk kami* “for us”, but we will discuss this later.

- (67) *Pembukaan jendela (oleh dia) (untuk kami)*
peng-open-an window by he/she for we
“The opening of the window by him/her for us.”

Note, moreover, that –even if the internal argument is preserved– we assume that the case that it receives is different from the verbal construal. As explained in §2.1, Indonesian does not mark with an overt morpheme accusative case, or genitive case. (68) is an example of a possessive construction, which reminds the reader that genitive case is also zero marked in this language.

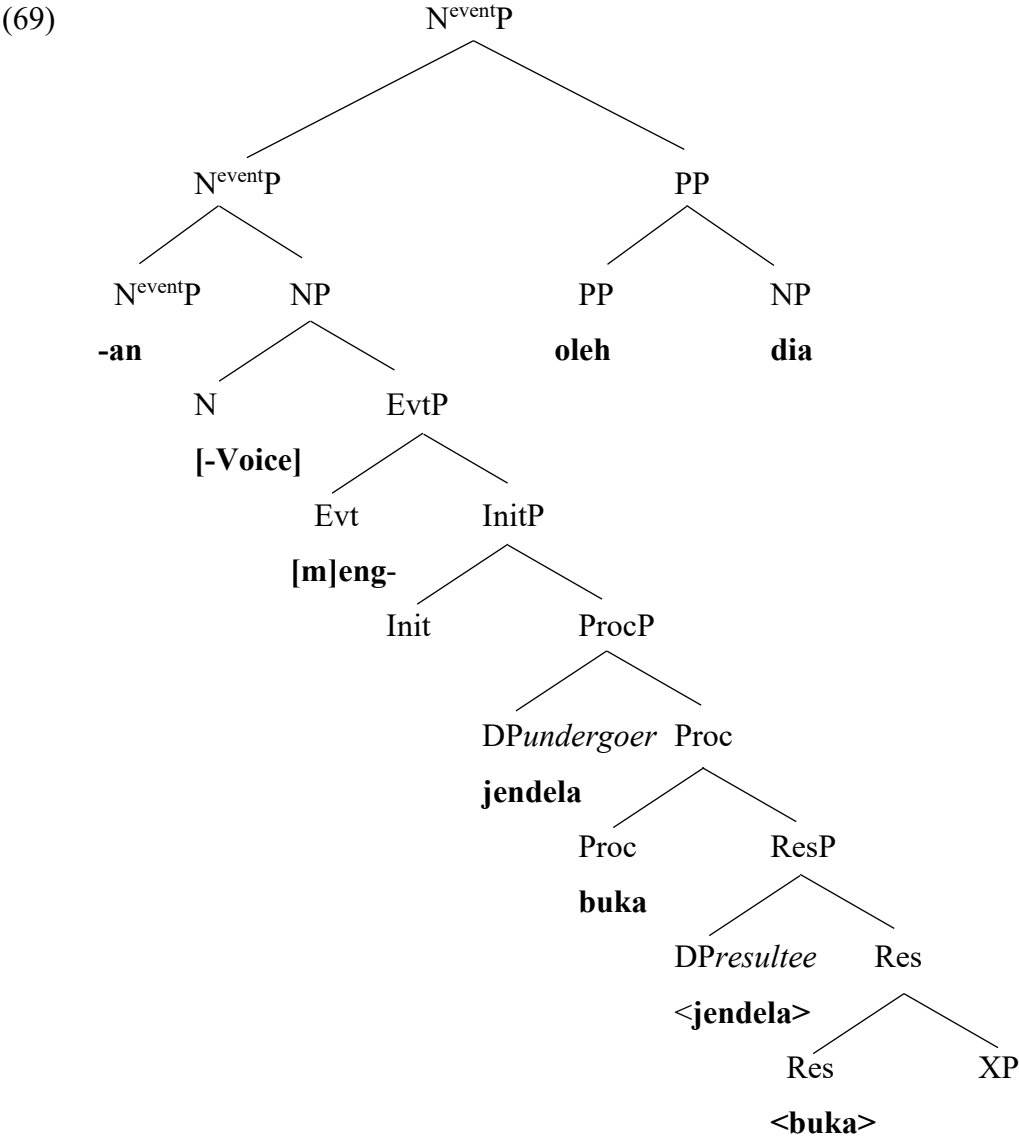
- (68) *Kucing saya*
cat I
“My cat”

By hypothesis, and pending further investigation, we assume that the internal argument in (66) also receives genitive case and that the nominalisation has a possessor construal that is forced by the nominal structure that is projected above EvtP, even if the internal argument is introduced within the verbal domain.

Based on our proposal about agent nominalisations in Indonesian presented in the previous section, we propose that the external argument is not introduced in EvtP. In contrast, the internal

argument is introduced in Proc or Res, that is, the event descriptive heads below EvtP –of course, in different positions depending on the type of meaning of the verb–.

The external argument is, therefore, introduced when the nominalisation is completed. For the time being, because it can be removed without affecting the structure, we assume that it is an adjunct projected above N^{eventP}. This structure is represented in (69) for the nominalisation in (67).



We can speculate about what this structure, if correct, tells us about some general properties of nominalisations. When it comes to why accusative case cannot be assigned in complex event nominalisations, perhaps this should be viewed as an effect of EvtP not introducing an external

argument (in a sense, following the so-called Burzio's Generalisation, cf. Burzio, 1986). Without an initiator under N^{eventP} , maybe the EvtP loses its case assigning possibilities, and because of that the case assigned to the preserved argument, the direct object, cannot be an accusative case. In this construal, a nominal phrase which contains an argument, the case assigned to the argument is a genitive case. The interpretation that comes from the NP *Pembukaan jendela* is, therefore, that the opening or *pembukaan* belongs to the window or *jendela*.

Secondly, if the structure is correct, it would show a contrast between arguments introduced in the event descriptive heads Init, Proc and Res and the argument introduced in EvtP: the first can be preserved in the nominalisation, while the second is removed. Perhaps this would be the confirmation about the different status of the two areas, and the special situation of EvtP in the verbal domain. However, the generalisation is complicated by the behaviour of applicatives, which we revise in the next section.

5.7.3.2 Disappearance of *-kan* and *-i*

The verbal suffixes *-kan* or *-i* are used when there is more than one internal argument in one verb phrase, resulting in a ditransitive verb phrase, as we argued in the previous chapter. The construction of a ditransitive verb phrase employs ApplP to allow the introduction of two internal arguments. Under ApplP, one argument is a goal and the other is a theme. In (69), ApplP is added to facilitate two internal arguments: the theme *jendela* “window” and the goal *untuk kami* “for us”.

- (70) *Dia membukakan jendela untuk kami.*
 he/she meng-open-kan window for we
 “He/she opened the window for us.”

Neither verbal suffix *-kan* nor *-i*, however, is preserved in the nominalised forms. The verb *membukakan* “to open A for B” in (70) contains the suffix *-kan*. If the verb *membukakan* is nominalised, we have *pembukaan*, instead of **pembukakan*. Similarly, the suffix *-i* disappears: when the verb *melempari* “to throw A with B” is nominalised, it becomes *pelemparan* instead of **pelemparian*.

- (71) a. *pembukaan* “the opening of”
 b. **pembukaan*
 c. *pelemparan* “the throwing of”
 d. **pelemparian*

In this section we are going to explore the possible explanations of why the suffix *-kan* and *-i* disappears in deverbal nominalisation. We must directly admit that we do not have any explanation for this phenomenon, so we will simply present some possibilities, including some logical options that should be discarded due to other facts.

Let us start with the first explanation, that we will discard. The first possibility is that the verbal suffixes disappear when the nominal suffix *-an* is used for some morphophonological restriction that allows the nominalisation to have maximally one suffix, or alternatively some morphophonological operation. We could even propose that **pembukakan* and **pelemparian* undergo some phonological processes that remove /kan/ from *pembuka(kan)an* and /i/ from *pelempar(i)an*, because the event nominalisation suffix triggers that change.

However, the explanation cannot be correct, because the applicative suffixes disappear from nominalisations even without the extra suffix. The suffix *-an* is not the only nominal affix that makes a nominalisation; a nominalisation (denoting an agent) can be made with only the nominal prefix *peng-* or [-Voice]. We can see in (72) that the nominalisations with the prefix [-Voice] also exclude the suffixes *-kan* and *-i*, as evidenced by the ungrammaticality of **pembukakan* and **pelempari*. Therefore, the proposal that the nominal suffix *-an* removes the verbal suffixes is very unlikely.

- (72) a. *pembuka* “opener”
 b. **pembukakan*
 c. *pelempar* “thrower”
 d. **pelempari*

A second possibility is that Appl is entirely absent from the nominalisation: we can try to argue that a deverbal nominalisation in Indonesian does not keep ApplP, for reasons to be determined. This standing is supported by one fact: in nominalisations, the goal always has to be introduced by a PP, even in those nominalisations related to the suffix *-i*, where the Appl should assign case to the goal and no preposition is necessary. This is expected if within the nominalisation Appl is not present, and then the goal or benefactive argument is introduced as an adjunct.

However, if Appl was absent from the nominalisation we would make other predictions, specifically that the goal or benefactive, while it can be present in nominalisations as an adjunct (73-74), should be able to be removed from nominal structures easier than in the corresponding verbs. The reason is, in the verbs, the goal or benefactive would be an argument licensed by the applicative, not an adjunct.

(73) *Pembukaan jendela **untuk kami***
 peng-open-an window for we
 “the opening of the window for us”

(74) *Pelemparan batu **ke pohon***
 peng-throw-an stone at tree
 “the throwing of the stone at the tree”

The evidence is not conclusive in this respect, but there are some signs that this proposal might be on the right track. In the case of verbs containing the suffix *-i*, one can see the expected prediction when one compares the verb and its nominalisation. In (75), we see that the verb phrase does not easily accept that the goal argument is not syntactically present and phonologically overt. In contrast, the goal argument of (74) could be removed and the speakers involved in the conversation would just assume that there is a benefactive implicit that they could recover from context or whose mention is not relevant.

(75) a. *Dia melempari **pohon** dengan batu.*
he/she meng-throw-i tree with stone
 “He/she throws at the tree with stone.”
 b. **Dia melempari dengan batu.*

This contrasts with verbs that use *-kan*, however, where we do not see any difference in the acceptability of removing the goal argument in the verb or in the nominalisation. Sentence (76b) shows that, like in (73) above, the goal argument can be removed in both cases. Perhaps the reason for this asymmetry is that, because of the case assigned by *-i*, the applicative structure has a stronger requisite to include the goal than the applicative phrase spelled out by *-kan*.

(76) a. *Dia membukakan jendela **untuk kami***
he/she meng-open-kan window for we
 “He/she opened the window for us.”
 b. *Dia membukakan jendela.*

In any case, the suffix *-kan* has a goal argument that can be removed in the same way in the noun phrase and in the verb phrase, but the goal argument of the suffix *-i* is easier to remove in

the noun phrase than in the verb phrase. This shows that only the behaviour of the suffix *-i* might support the predictions of the proposal that the applicative structure is absent from the nominalisation; *-kan* is inconclusive in this respect, because the verbal construal also allows removal of that argument.

This asymmetry might also connect with the problem of the word order between the theme and the goal in the two suffixes that we have analysed as heading an applicative structure. Highlighting now the other internal argument—the theme argument—, deverbal nominalisations seem to have a stronger tie with the theme argument, which might mean that the complex event nominalisation only contains the internal argument and all other elements are introduced as adjuncts in the noun phrase. Based on sentence (70), the examples in (77) show that keeping the theme argument (77a) is grammatical but keeping only the goal argument (77b) is ungrammatical. Based on (74), the examples in (78) also show that keeping the theme argument (78a) is grammatical but keeping only the goal argument (78b) is ungrammatical. It shows that removing the theme argument in nominalisation is not easy, for both suffix *-i* and *-kan*, as in the corresponding verbs.

- (77) a. *pembukaan jendela* “the opening of the window”
 b. **pembukaan (?) untuk kami* “the opening (of something) for us”
- (78) a. *pelemparan batu ke pohon* “the throwing of the stone to the tree”
 b. *pelemparan (?) ke pohon* “the throwing (of something) to the tree”

While the behaviour of *-i* might mean that Appl is simply absent from nominalisations, let us discuss a third option to analyse this fact. The last possible explanation is that the ApplP is still present after deverbal nominalisation, but it does not function properly; it appears in an impoverished version that loses its ability to assign case to the goal argument and is not spelt out phonologically. The spell out can also happen but with a zero allomorph, perhaps because within a nominal context it must be used in a weakened version where not all its features are active. This weakened applicative version could explain that the verbal *meng-i* constructions, where both internal arguments do not need any preposition, becomes in its nominalised form a structure that requires a preposition for the goal argument. From this perspective, the goal argument in (79) does not need a preposition because the suffix *-i* assigns case to the goal, being a strong Appl head used in a fully verbal context. Meanwhile, in (80), the case assigning does

not work as in (79) and thus the goal argument requires a preposition, because in this nominal context the Appl head is weakened and cannot assign case.

(79) *Dia memberi saya kue.*
he/she meng-give-i I cake
“He/she gave me a cake.”

(80) *Kue pemberian dia untuk saya*
cake peng-give-an he/she for I
“The cake that is a gift from him/her for me”

The options that have the best chances to be correct both involve accepting that there is some kind of incompatibility between nominalised structures and applicatives; the applicative is either removed or must appear in a severely weakened version. The question, if this line of research is correct, would be what is the reason that makes applicatives in Indonesian need to be licensed strictly in a verbal context. The answer to this question is not obvious. Theories about applicatives treat these heads as introduced only in verbal contexts (Pylkkänen, 2002) – specifically, adjacent to verbal heads–, but as far as we can say in our proposal the Applicative should be local to verbal heads also in the nominalisation. Moreover, it has been argued (Ingason, 2016) that at least in some languages applicatives can be used in non-verbal contexts. If the analysis that we have just sketched is on the right direction, then we would have to find a reason specific to Indonesian that blocks strong applicatives in a nominalised verbal context.

The suggestions above, therefore, need to be tested and explored further in a larger research. For this thesis, we should leave them as they are and let it be only a few ideas that can be continued in the future. Let us move now to the third puzzle for deverbal nominalisations in Indonesian.

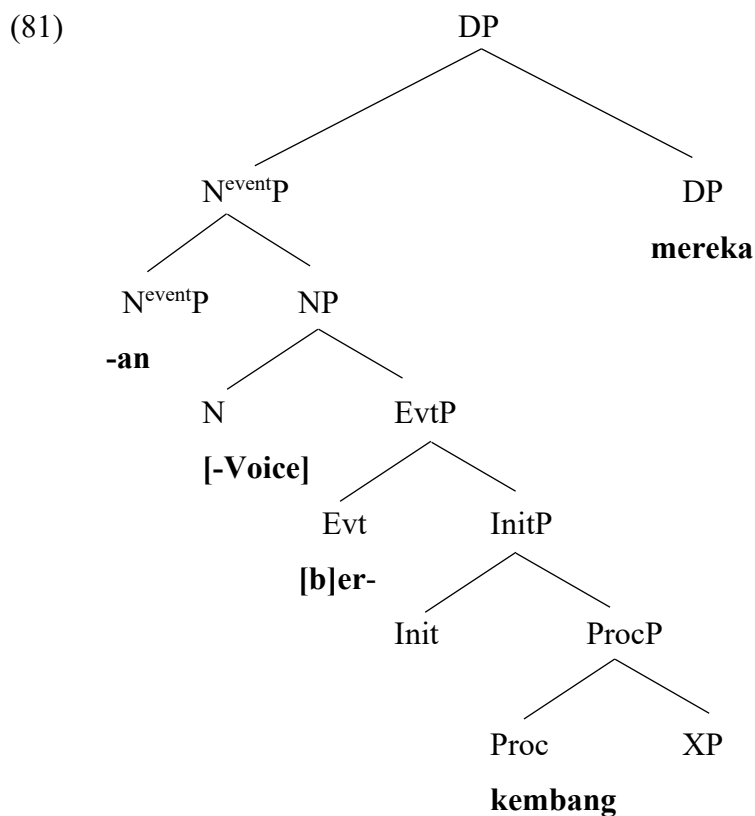
5.7.3.3 The simple event construal

Based on the observation described in §5.2-§5.5, we can make the generalisation that a simple event noun can only be followed by the external argument in the noun phrase, which moreover is introduced without the help of a preposition.

This does not mean, however, that the external argument is a part of the verbal structure under the deverbal nominalisation, that is, an argument. As in the case of complex event nominalisations our analysis necessarily means that, when the first nominaliser [-Voice]/*ke-* is

present, the EvtP cannot project the external argument, so this should extend also to cases of simple event nouns. Our proposal is that, like in complex event nominalisations, the agent is also an adjunct. The difference is that in this structure, there are no internal arguments and therefore the agent can be assigned case in a possessive structure. Thus, we propose that in the simple event noun construal all arguments in the verbal structure below the nominaliser have been removed for reasons that we have not figured out.

The external argument, thus, is not a part of the verbal structure that is the base of the nominalisation. We have pointed out in the representation (69) that the external argument is an adjunct in a complex event noun construal, projected above the under N^{eventP} . In simple event nominalisation, the external argument is merged with the N^{eventP} as a possessor, and therefore the outcome is a DP that does not need a preposition, as illustrated in (81) below for the phrase *Perkembangan mereka* “their development” from sentence (44).



This generalisation is preliminary and is not without challenges, the main one of which is to have a story that explains when and how the arguments that Proc or Res could have introduced become absent from the structure. One first possibility, given that the morphological marking –and by assumption, the structure related to the nominalisation– is identical in complex and simple event nouns is simply that, in the context of the nominalisation, Indonesian has the

choice to not introduce the internal argument as an overt syntactic constituent. The absence of an internal argument correlates with the impoverished aspectual information that the verbal structure carries, that is, perhaps in the construction that we call “simple event” the nodes used for the verbal base are impoverished, so that they do not introduce arguments and, also, they cannot carry enough aspectual information to define a full event with internal aspectual structure. However, as in the case of applicatives, why the structure can become impoverished in this context is something that we will have to explore in further research.

Additionally, there are other relevant observations that we have not integrated in this analysis: for instance, the confix *ke-ter-an* (see §5.5) has mainly a complex event noun interpretation, in contrast to the confix *ke-ber-an* (see §5.4.2), which can only be interpreted as a property-state noun. It is not clear why the confix *ke-an* can generate more interpretations when combined with the prefix *ter-* than when it is built on top of the prefix *ber-*; perhaps, the first nominal layer should actually be further decomposed as a way to integrating these facts, but again this will have to be left for further research.

As the time and space restrictions do not allow us to explore these puzzles further, we should close this chapter at this point, admitting that we have only provided a sketch of the analysis of nominalisations seen through the lens of our analysis of verbalisations. Let us now wrap up this thesis into some conclusions, which we will do in the next chapter.

Chapter 6

Concluding Remarks

In this thesis I have presented an analysis of verbal affixes in Indonesian, where I have made specific proposals about the relation between the choice of verbal affixes and the argument structure of the verbs involved; as a possible extension of that analysis, I have also presented a preliminary analysis of the nominal affixes involved in the deverbal nominalisations of the corresponding verb classes. The main goal of this thesis, then, was to explore whether argument structure can be defined in the syntax instead of the lexicon by determining whether one can identify specific building blocks, manifested as syntactic heads, that combine within the verbal structure and introduce those arguments. As stated in Chapter 2, the following research questions were formulated.

- (1) To what extent can the argument structure of a predicate be predictable by the syntactic properties of that predicate, without making reference to the lexical entry of each one of the bases?
- (2) To what extent are the argument structure of verbs preserved in Indonesian nominalisations, and to what extent is the morphological marking of such constituents transparent of the argument-taking possibilities within them?

Based on the five verbal affixes investigated in this research (*meng-*, *ber-*, *ter-*, *meng-kan*, *meng-i*), I claim that these verbal affixes have syntactically predictable effects in terms of their argument structure and the main properties that they impose on the verbs they build. The argument structure of each affix —prefixes and confixes— is as follows.

- | | | |
|-----|-----------------|-----------------------|
| (3) | <i>meng-</i> | monotransitive |
| | <i>ber-</i> | intransitive agentive |
| | <i>ter-</i> | intransitive passive |
| | <i>meng-kan</i> | ditransitive |
| | <i>meng-i</i> | ditransitive |

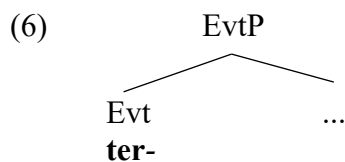
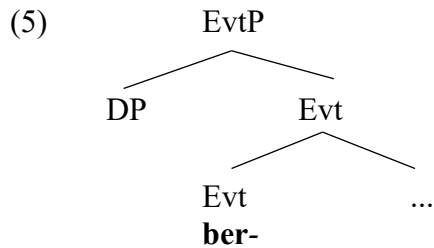
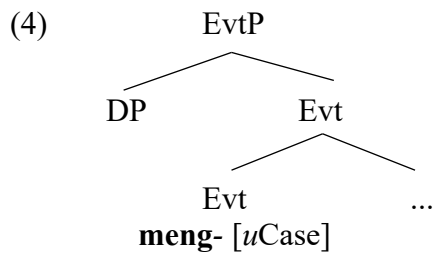
Although both *meng-kan* and *meng-i* are ditransitive, they differ in their meanings and whether the head that is spelled out has the capacity to assign case to its specifier. The suffix *-i* assigns case to the goal argument, while the suffix *-kan* does not and therefore requires the goal argument to be marked by a preposition.

Moreover, I have argued that the effect of these affixes is not only syntactically predictable, but also that the affixes themselves can be associated to specific syntactic heads with clear cut properties. I have argued that Indonesian verbal prefixes and verbal suffixes are projected in different areas of the verb. The prefixes *meng-*, *ber-*, and *ter-* are projections of the head Evt, while the suffixes *-kan* and *-i* are projections of the head Appl, with the caveat that in the case of the second there seems to be at least one case where it might be spelling out the verbal head Res –remember the verbs of movement–.

Being projected as an EvtP means that the prefixes are not part of the eventuality descriptive heads which are Init-Proc-Res in Ramchand's (2008, 2018) terms. The argument I gave for this was that affirmative imperative clauses do not take these prefixes, indicating that the prefixes in fact introduce temporal and worldly properties that are not preserved in affirmative imperative clauses due to a reduction of the functional structure of the clause.

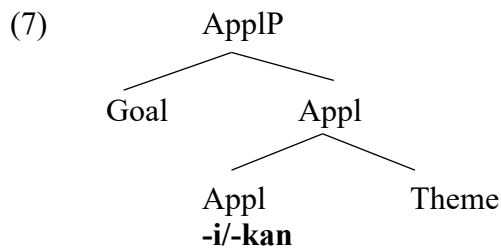
EvtP can adopt different voice values and can also assign accusative case or not. As in Ramchand (2018), EvtP is understood as a head that corresponds to voice, and which can introduce an external argument. In the case of Indonesian, I have found that Evt reflects the active and passive voice values and may or may not assign the accusative case; the three verbal prefixes represent different combinations of these voice values.

An active voice value requires an initiator, which both the prefixes *meng-* and *ber-* have. The difference between the prefix *meng-* and *ber-* is that the former assigns accusative case and the latter does not, as represented in (4) and (5) respectively. On the other hand, the prefix *ter-* is different in that it makes a passive construal which does not have an initiator, removing DP from the structure illustrated in (6). An alternative proposal for the prefix *ter-* is that it introduces an undergoer, instead of an initiator, in its specifier position, but we remain neutral with respect to this possibility for the time being.



The confixes *meng-kan* and *meng-i*, in my analysis, are not one single unit, but the compositional combination of the prefix *meng-* and the suffixes *-kan* and *-i*. Concerning the nature of the prefix *meng-*, the confixes *meng-kan* and *meng-i* keep the active voice value and assign accusative case. The differences, as expected, follow from the presence of an additional head able to introduce arguments and the differences between the suffixes *-kan* and *-i*.

Unlike the prefixes which are projected in the EvtP, the suffixes are projected in a lower head that is Applicative (Pylkkänen, 2002 & 2008) which facilitates the projection of two arguments: the goal and the theme. The goal is where the case is assigned when the suffix projected is *-i*. The consequence is that the suffix *-i* does not require the goal specifier to have a preposition. When the suffix projected is *-kan*, no case is assigned to the goal specifier and thus the goal must have a preposition. The other argument under ApplP, the theme, is the one that can be incorporated into verb because it is in a head-complement sequence with the verbal heads. The fact that there are verbs whose theme is incorporated with both suffixes has been taken as evidence that both correspond to the structure in (7).



Thus, our initial answer to the first research question is that Indonesian can be analysed in a way where the argument structure possibilities are predicted from the presence or absence of a number of affixes which spell out identifiable syntactic heads.

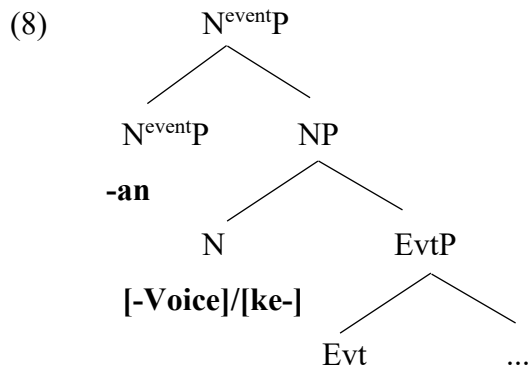
The predictability of the argument structure of a predicate explained above does not come without loose ends, especially when one considers the suffixes. First, there is one class of verbs that do not use ApplP when they are combined with the suffix *-i*, that is the verbs of movement, and seems to require a Result Phrase as Ramchand (2008, p. 76) proposes. Second, I found that the suffix *-kan* can manifest as a high applicative above Proc/Init, but that is not the case for the suffix *-i*. These two points should be investigated further in future research.

The second question, concerning the argument structure of verbs preserved in Indonesian nominalisations, was discussed preliminarily in Chapter 5. I will not draw conclusions from this preliminary study, as I think that it is more fair to provide instead a summary of the limited analysis made for Indonesian deverbal nominalisations with particular focus on the problems that they provide for further studies.

I have provided arguments that the nominal structure of deverbal nominalisations involve at least two layers. The lower layer is spelled out either as a prefix *ke-* or as a subsegmental morpheme that removes the voice feature of the first consonant of the verbal prefix. The morpheme [-Voice] changes *meng-* into *peng-* and *ber-* into *per-*. The other realisation of the low nominaliser in Indonesian is *ke-* which precedes, instead of assimilates, the verbal prefixes *ber-* and *ter-*; it is compulsory with the second, presumably for phonological reasons, and competes with the [-Voice] variant in the first, I assume, through allomorph competition.

In the absence of a second layer, the nouns produced by this nominaliser are agentive, not eventive. Event nominalisations require another nominal layer, spelled out by the nominal suffix *-an*, which provides the eventive reading to the noun.

My proposal is that the nominaliser [-Voice], which alone triggers an agent nominalisation reading of the agentive verb, is projected immediately above EvtP. Based on the fact that eventive reading requires the suffix *-an*, which transparently combine with the prefixal part, another functional head which spells out as *-an* is projected above the first NP. We have called this layer N^{eventP}.



Not all arguments of the predicate are preserved in the corresponding nominalisation. The external argument, we have proposed, is always removed from the nominalisation. We have suggested that the first nominal layer has this effect. This means that any agent in a nominalisation is, in our analysis, introduced when the nominalisation is completed, as an adjunct. In complex event nominal, the agent appears as an adjunct of N^{eventP}. In simple event nominal, the external argument can be interpreted as the possessor of the nominalisation, and therefore the external argument merges with N^{eventP} into a DP where we assume the agent reading is derived only from the semantics of the base, which is an otherwise agentive eventuality.

The internal argument of a predicate which has one is present in the complex event nominalisation. Although clearly this is a property that needs to be explored further, we have proposed that the internal argument does not preserve the accusative case received from the verb but receives genitive case that is forced by the nominal structure above EvtP. The absence of overt case marking in Indonesian, where both accusative and genitive is zero, makes this, for the time being, a speculation, but one that can be explored in the future.

While it seems that the internal argument introduced in ProcP and ResP is preserved in complex event nominalisations, it is less straightforward to arrive to clear conclusions in the case of the internal arguments introduced in ApplP. When a predicate with an applicative is nominalised, there is no trace of the applicative suffix –neither *-i* nor *-kan-* in the nominal form. This

disappearance complicates the analysis and we have no definite analysis regarding the internal arguments introduced in ApplP, what happens to Appl in nominalisations, or why nominals should be less compatible with deverbal nominalisations. However, we did offer some suggestions.

After discarding that the applicative affixes were cancelled in the presence of another suffix, two explanations were proposed in this thesis for the disappearance of the verbal suffix *-i* and *-kan* in nominalisation. The first one is that Appl is entirely absent from the nominalisation, but it is not a solid argument considering that only the behaviour of the suffix *-i* might support the predictions of this proposal; at least we would have to find independent arguments for the disappearance coming from *-kan*. The second possible explanation is that the ApplP is still present after deverbal nominalisation, but in an impoverished version. However, to support this second proposal we need to find a reason specific to Indonesian that blocks strong applicatives in a nominalised verbal context. Either way, more research is needed to better understand what might be going on in such cases.

Our proposal for the simple event nominalisations is also preliminary. We have proposed that in them the internal argument is not projected, which makes it possible for the agent adjunct to receive the genitive case in a possessive structure with the derived noun. We have not provided a full explanation of what causes the internal argument not to be projected, beyond suggesting that this correlates with the impoverished aspectual structure internal to the event in these nominalisations: for reasons that are unclear in the framework that we have adopted, the absence of an internal argument that could have been projected correlates with the impossibility of receiving internal aspectual modifiers. However, descriptively, we believe to have made a contribution: the simple event nominalisation in Indonesian is in contrast with Grimshaw's (1990) typical cases of simple event nouns in that in her work these event-denoting nouns do not come from a verb, while in Indonesian it is possible to obtain nominalisations behaving like simple event nouns but coming from verbs.

Thus, our second research question –whether the structure of the nominalisation can also be explained syntactically and not lexically– has been only partially answered, given that we have not provided a solid enough explanation for all these facts.

Importantly, we must say that despite the syntactic approach adopted here, there are some aspects of our analysis that seem to be lexical instead of syntactic. Most relevantly, our spell

out procedure required combining two different operations: the spell out of the configurations did not only require spanning, but also head movement in the cases where the suffixes had been involved, so that *-i* and *-kan* formed a word with the verbal structure, or in order to prevent the applicative exponent from intervening between a theme and the verb in the cases where the theme argument incorporated to the verbal base. We admit that this makes the analysis not as elegant as we would have preferred, but we have been unable to find a better unified solution. Importantly also, these two operations –spanning and head movement– are inherently lexical: in some cases, the head movement is used to explain that the argument is incorporated into the verb, indicating that some predicates are lexicalised in particular ways that do not seem to be derivable from independent properties of the syntactic configuration, but rather from the lexical fact that the theme exponent is also used to lexicalise the verbal heads in such cases. Similarly, the different movements involved between the bases and the suffixes seem to require reference to a lexical property. Despite these lexical conditions, however, this behaviour is syntactically constrained by head-complement relations, and we can say, more informally, that we have not lost the hope that further research will be able to provide a more syntactic explanation to it.

All in all, my answering the first research question has supported the syntactic approach to defining argument structure, that is by showing that the argument positions depend on affixes without conceptual content that however provide syntactically well-defined configurations. My effort to answering the second question, as it turned out, in fact raised more questions to explore further than definite and elegant answers. I hope, however, that both the analysis for the argument structure of the predicate and the preliminary analysis for the nominalisation in Indonesian have made some contribution, if only from the perspective of letting the problematic areas emerge and pointing out the puzzles that these formations pose for a syntactic analysis, and that the hypotheses presented here can be used as a foundation for future research.

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