# Yamdena (im)perfectivity: the interplay between legacy material and fieldwork* 

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#### Abstract

Yamdena, an Austronesian language of eastern Indonesia, is claimed to have an (im)perfectivity distinction in its verbal subject prefixes. According to grammar sketches that appeared in the 1920s and 1990s, long prefixes mark imperfective aspect and a range of other related functions, while short prefixes mark perfective aspect. This paper describes how this claim was investigated with the help of legacy materials and fieldwork. The legacy materials provided verb roots to test; three elicitation tasks were then performed with three consultants, and the results were cross-checked with the legacy materials again afterwards. This confirms that the verbal subject prefixes, at least on some verb roots, express (im)perfectivity as well as other functions like transitivity and reciprocality. This study illustrates a semantic hypothesis that can be checked with a combination of ample unglossed legacy materials and a limited amount of fieldwork.


Keywords: Austronesian, fieldwork, legacy materials, aspect, argument indexing

## 1 Introduction

This paper has two goals. The first goal is to illustrate the interplay between legacy materials and fieldwork to investigate linguistic hypotheses. The second goal is to describe (im)perfectivity marking in Yamdena, an Austronesian language of eastern Indonesia. In its language sketches, this language is claimed to have two sets of verbal subject indexing prefixes: a perfective and an imperfective aspect set (Drabbe 1926b; Lamere and Mettler 1994; Mettler and Mettler 1997b; Rumyaru, Mettler, and Mettler 1999). The two forms for the third person singular, $n$ - and $n a$-, are illustrated in (1). ${ }^{1}$
(1) a. i n-daun sesaf

3sG 3sg.pfv-think something
'He thinks about something.'
b. i na-daun

3sG 3sg.IPFv-think
'He remembers/worries/thinks deeply.'
(Mettler and Mettler 1997b:83)
However, (a) there is little information about the range of meanings that the supposed perfective and imperfective prefixes can express, (b) it is unclear which verbs can take both long and short

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Figure 1: The location of Yamdena.
prefixes, (c) the behaviour of the long versus short prefixes in longer texts has not yet been investigated and (d) other Austronesian languages in eastern Indonesia have long and short subject indexing prefixes, but none of these seem to mark (im)perfectivity.

In this paper, I show how I investigated this topic by going back and forth between legacy materials and online fieldwork. In section 2, I explain how I used legacy materials to build a hypothesis about the functions of the long and short subject prefixes. In section 3, I present my methods and results for fieldwork conducted on Yamdena. In section 4, the fieldwork results are cross-checked with the legacy materials. Section 5 gives a conclusion.

Yamdena (ISO 639-3 code jmd) is an Austronesian language of the Tanimbar-Bomberai subgroup (Grimes and Edwards forthcoming); see Figure 1. It is spoken by around 30,000 people on Tanimbar island in southern Maluku province (Mettler and Mettler 1990). There are two dialects: North Yamdena (Nus Das) and South Yamdena (Nus Bab). All work on the language has been conducted on the southern dialect. Yamdena is considered to be a stage 5 ("Developing") language following the EGIDS vitality scale (Eberhard, Simons, and Fennig 2022).

## 2 Legacy materials: building hypotheses

In this section, I give an overview of the legacy materials and their analyses of the long and short prefixes, divided into the pre-1950 materials (§2.1) and the post-1980 materials (§2.2). In §2.3, I present the hypotheses of the functions of the long and short subject prefixes, and explain how I prepared the fieldwork questionnaires.

### 2.1 Pre-1950

The oldest Yamdena materials are the result of the work of the Dutch catholic missionary Petrus Drabbe. They include a catechism and prayer books in Yamdena (n.a. 1918, 1930, 1948), ${ }^{2}$ a grammar sketch written in Dutch (Drabbe 1926b), and a Yamdena - Dutch dictionary (Drabbe 1932). ${ }^{3}$

The grammar sketch is a work of 93 pages that covers a broad range of topics. 25 pages are devoted to the description of verbs. Yamdena obligatorily marks verbs with a subject prefix. For each person, this prefix has a short form (C- or CG-) ${ }^{4}$ and a long form (CV-). Drabbe (1926b:5354) notes that most verbs can carry both forms, although there are a small number of roots that can only take either the short or the long form. Usually, he writes, the long form means one of the following things: progressive (illustrated in 2), continuative (3), inchoative (4), pluractionality (5), reciprocality (6) or "be [Number]" (7). ${ }^{56}$ While Drabbe gives a few short example sentences with each of these claims, examples in the context of a longer sentence or a text are lacking.
(2) a. n-pete tais

3sG-weave sarong
'She weaves the sarong.'
Drabbe (1926b:53)
b. na-pete tais

3sG-weave sarong
'She is sarong-weaving.'
Drabbe (1926b:53)
(3) a. yak kwamis

1sG 1sG.friendly
'I do something friendly.'
Drabbe (1926b:54)
b. yak ku-kamis

1SG 1sG-friendly
'I am friendly.'
Drabbe (1926b:54)
(4) a. silai
big
'big'
Drabbe (1926b:54)

[^1]> b. i na-slyai
> 3sG 3sG-big
> 'He becomes big.'
(5) a. r-yabur

3pl-run
'They come walking.' Drabbe (1926b:54)
b. ra-yabur

3pl-run
'They come walking in large numbers.'
Drabbe (1926b:54)
(6) a. r-fen sir

3pL-kill 3pL
'They kill them.'
Drabbe (1926b:54)
b. ra-fen sir

3pL-kill 3pL
'They kill each other.'
Drabbe (1926b:54)
(7) ra-tel Petrus

3pl-three Petrus
'They three [including] Petrus.' Drabbe (1926b:54)

The long and short prefixes are also used to distinguish homophonous roots, as in (8). Some roots are claimed to only have the long prefix without any specific meaning, like tanuk'to speak'.
(8) a. yak kbwar

1sg 1sg.be_swollen
'I am swollen.'
Drabbe (1926b:54)
b. yak ku-bare

1sG 1sG-carry_on_shoulders
'I carry on my shoulders.'
Drabbe (1926b:54)

### 2.2 Post-1980

After a hiatus of 38 years, new publications on Yamdena began to appear. The first new publication was Pieter, Telelepta, Tapilouw, Sapury, and Soplantila (1986), a 51-page grammar sketch published by the Indonesian Center for Language Construction and Development (Pusat Pembinaan dan Pengembangan Bahasa). ${ }^{7}$ In this period, the missionary couple Toni and Heidi Mettler moved to Tanimbar to start working on a Bible translation, supported by the Summer Institute of Linguistics (SIL) and Pattimura University in Ambon (UNPATTI). In collaboration with

[^2]local language experts, they made a story book (SIL 1991), a phrasebook with an 11-page grammar sketch (Lamere and Mettler 1994), a spelling guide (Mettler 1994), an Indonesian-Yamdena word list (Mettler and Mettler 1997a), a 152-page grammar sketch in Indonesian (Rumyaru et al. 1999), and other materials, including songbooks, a poem book, and language drills for learning Yamdena. They also drafted a 260-page grammar, which was never published (Mettler and Mettler 1997b). Of these materials, many are marked with messages like 'for private use only', 'trial edition', 'not for distribution or research'. Some of the materials can be downloaded from SIL's archives (https://www.sil.org/resources/search?query=[jmd]). The others were shared with me by SIL Asia, after consulting with Toni and Heidi Mettler, and I have been given permission to use them. One scientific paper on the phonology of Yamdena is published as Mettler and Mettler (1990).

Currently, the Bible-translation work has been taken over by a local language foundation on Tanimbar: Foundation for the Advancement of Local Peoples (Yayasan Pemberdayaan Masyarakat Desa, YPMD). Their publications, at the time of writing accessible on their home page, ${ }^{8}$ include song books, a liturgy, short stories, a 117-page Yamdena - Indonesian wordlist, and a translation of most of the Bible books of the New Testament. (All materials except the Bible books can be downloaded as PDF files. I only obtained a PDF version of the Bible books after I had conducted my fieldwork.) ${ }^{9}$

All three works that are or include a language sketch mention the occurrence of long and short subject prefixes on the verb. Lamere and Mettler (1994:xxiii) analyze the short forms as "punctuallimited" or perfective, and the long forms as "repetitive, enduring, habitual or mutual" or imperfective. Besides giving the long and short forms and a few paradigms, there is one example, given in (9). Lamere and Mettler (1994:xxiv) also note that many verbs may take both prefixes, but they give no further information about which verbs fall into this category.
(9) a. i n-babal anaky

3sg 3sg.ppv-beat child.3sg.poss
'He beats his child (right now).'
b. i na-babal anaky

3sg 3sg.Ipfv-beat child.3sg.poss
'He usually/repeatedly beats his child.'
Lamere and Mettler (1994:xxiv)
Rumyaru et al. (1999:19-20) give a definition of perfective and imperfective, and list verbs that take long and short prefixes. There is, however, no explicit connection between form and function in the publication. Only a few verb roots occur both in their long and short prefix list. It is not clear if any of the lists is supposed to be exhaustive.

Mettler and Mettler (1997b:82) analyze the long prefixes as "imperfective/non-specific" and the short ones as "perfective/specific". They describe the long prefixes as coding "repeated, iterative and/or habitual action, and other events undefined in terms of time and space." According to Mettler and Mettler (1997b), most forms take both prefixes, but they give no lists of which roots take which prefixes. They also specify that the choice of prefix is partly morphophonologically conditioned: CC-initial roots must always take the long prefix.

Table 1 summarizes the published analyses and their main claims.

[^3]Table 1: Earlier analyses of long and short subject prefixes in Yamdena

| source | main claims |
| :--- | :--- |
| Drabbe (1926b) | - |
|  | most verbs take both forms |
|  | - |
|  | lome verbs take only long form marks progressive, continuative, inchoative, pluractionality, recip- |
|  | rocality, be [Number] |

### 2.3 Towards further investigating (im)perfectivity in Yamdena

Although both the early sketch (Drabbe 1926b) and the three more recent sketches (Lamere and Mettler 1994; Mettler and Mettler 1997b; Rumyaru et al. 1999) suggest that Yamdena has (im)perfectivity marking on the verbs, several things remain unclear. First, except for in Drabbe (1926b), there is little information about the range of meanings the perfective and imperfective sets can express. Second, it is unclear which verbs can and cannot take both sets, and why. Third, none of the claims are backed up with examples in contexts that are larger than a simple sentence, or with reference to texts from which examples might have been taken. Moreover, Kei and Fordata, languages of the same subgroup as Yamdena, also have two sets of subject prefixes which are allomorphs and do not express (im)perfectivity (Drabbe 1926a, Aone van Engelenhoven p.c., Craig Marshall p.c.). ${ }^{10}$ Two languages of the Timor-Babar subgroup also have long and short prefixes. In Selaru, which borders Yamdena in the south, the variation is allomorphic (Coward 1990). In Dela, the choice between short and long prefixes is partly phonotactically determined and partly lexical. Beyond that, a small class of verbs can take both short and long prefixes. In that class, long prefixes function to turn active intransitive verbs into their corresponding causative counterparts. Other verbs in this class are transitive verbs that, when used with the long prefix, are reciprocal (Tamelan 2021). These facts sparked my interest in investigating Yamdena verbal inflection.

When starting this investigation, I had no fieldwork experience with Yamdena. I had previously collected a word list and short grammatical questionnaire on Uruangnirin (ISO 639-3 code urn), ${ }^{11}$

[^4]a language of the same subgroup as Yamdena, and I had five years of fieldwork experience with Kalamang (ISO 639-3 code kgv), a Papuan language of eastern Indonesia (Visser 2022).

The research questions to be answered are:

1. Do Yamdena subject indexing prefixes express (im)perfectivity?

- Can we identify other functions mentioned in the earlier literature, like reciprocality?

2. Is it possible to make a list of verbs that take both long and short prefixes, only long prefixes, and only short prefixes?

Based on earlier published work on Yamdena, the hypothesis for question 1 is that Yamdena subject indexing prefixes express (im)perfectivity. Verbs in perfective aspect indicate that the event is viewed as single unanalysable whole, while verbs in imperfective aspect make reference to the internal temporal constituency of the event (Comrie 1976:3-4). This hypothesis was tested with a combination of fieldwork and texts in the legacy materials. Regarding question 2 it is expected that we cannot make an exhaustive list, but that we can at least make a short list by checking the behavior of verbs mentioned in earlier literature in elicitation and by checking highly frequent verbs in the legacy materials.

My methods are reminiscent of Cover (2015), who describes investigating TAM with a combination of semantic elicitation and text collection and analysis. There are two important differences. First, the Yamdena texts are unannotated legacy materials, whereas Cover's are annotated. Second, Cover's elicitation was extensive and fairly exhaustive, while the method employed here moves the bulk of the researcher's efforts to preparatory work with corpus materials. This allows for reduced elicitation time, which can be useful when it is hard to come by speakers, when speakers have little time, or, in my case, when the fieldwork has to be conducted online.

There are five inflection classes for the short prefixes. The forms for the first and second person singular and the second person plural differ between the classes, while the other forms stay the same. The classes are phonologically determined by the first or first two phonemes of the verb root. Discontinuous prefixes wrap themselves around the first phoneme in consonant-initial roots: the first person singular of -fangat 'go' is $k$-f-w-angat. Table 2, based on Rumyaru et al. (1999:22-31) and Mettler and Mettler (1997b:77-79), gives the long prefixes on the left side, and the classes of short prefixes on the right side.

Table 2: Yamdena subject prefixes

|  | long | short |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & 1 \\ & \# \mathrm{a}, \mathrm{e}, \mathrm{i}_{-} \end{aligned}$ | $\begin{aligned} & 2 \\ & \# \mathrm{o}, \mathrm{u}, \mathrm{w} \end{aligned}$ |  | $\begin{aligned} & 4 \\ & \# \mathrm{Ca}, \mathrm{e}, \mathrm{i}_{-} \end{aligned}$ | $\begin{aligned} & 5 \\ & \text { \#Co, }_{1} 12 \end{aligned}$ |
| 1SG | ku- | $k w-$ | $k$ - | $k$ - | $k$-w- | $k$ - |
| 2SG | $m u$ - | mw- | $m$ - | $m$ - | $m-w-$ | $m$ - |
| 3 SG | $n a-$ | $n-$ | $n-$ | $n-$ | $n-$ | $n-$ |
| 1PL.INCL | $t a-$ | $t$ - | $t$ - | $t$ - | $t$ - | $t$ - |
| 1 PL .exCl | ma- | $m$ - | $m$ - | $m$ - | $m$ - | $m$ - |
| 2PL | mi- | $m y-$ | $m y$ - | $m$ - | $m-y-$ | $m-y-$ |
| 3 PL | ra- | $r$ - | $r$ - | $r$ - | $r$ - | $r$ - |

All elicitation was done with third person singular and plural subjects, because they do not vary between inflection classes and are easier to elicit than first and second person pronouns, which may create problems with point of reference (Bowern 2015:99); Meakins, Green, and Turpin (2018:138). Subject marking on the verb is obligatory in Yamdena. Subject pronouns are optional.

To aid in my own investigations and to create a corpus of Yamdena materials that might be of interest for future researchers, I started annotating texts from the Yamdena legacy materials in Fieldworks (SIL International 2022), by adding a gloss and English translation. The annotated texts include three conversations from Lamere and Mettler (1994), five stories from Mettler and Mettler (1997b), the text in Mettler and Mettler (1990), four stories from SIL (1991), two religious songs found on the YPMD website, the ten commandments from n.a. (1948), and five stories published by YPMD. These texts add up to 12,000 words. ${ }^{13}$ The fieldwork was partially prepared based on an analysis of a subset of these texts (about 6,000 words), as annotation was ongoing at that time.

In preparation for the fieldwork, I did the following.

1. I checked the inflection of verbs that according to Drabbe (1926b) can have both prefixes. I searched for these verbs in all texts. Of the nine verbs he mentions, four did not occur in the texts, two only occurred with short prefixes, and three occurred variably. These three were -falak 'say', -keban 'see' and -fen 'kill; fill'. Despite their variable inflection, these instances were inconclusive as to whether the prefixes express different aspects.
2. I made a list of those roots that Rumyaru et al. (1999) give as taking both the short and the long prefix. These are -endat 'ask', ${ }^{14}$-angat 'smell', -lury 'swim' and -putu 'tie'. A search for these forms in the annotated texts was inconclusive as to whether the prefixes express different aspects.
3. I checked the inflection of the 16 most common verbs in the annotated texts. In Fieldworks, one can obtain a list of the most common verbs by sorting the lexicon by Grammatical Info (word class) and Number of Text Analyses (the number of times an entry is used in a gloss in a text). It turned out that all common verbs either had only long subject prefixes (this was the case for e.g. -min 'stay, live', -fai 'know' and -tomwat 'become a person' ${ }^{15}$ ) or only short subject prefixes (this was the case for e.g. -ti 'go', -falak 'say' and -kurat 'pull out').
4. I checked the contexts of all third person singular inflections in the annotated texts. At the time, there were 343 instances, of which 79 were long. Of these, 51 appeared to be in an imperfective context, while 8 seemed to be perfective. 16 instances were unclear.

In other words, this analysis did not give conclusive support in favor of the hypothesis.

## 3 Fieldwork: testing hypotheses

This section presents the fieldwork methods in $\S 3.1$ and the results in §3.2.

[^5]
### 3.1 Method

After establishing contact with the YPMD, ${ }^{16}$ I was assigned three female speakers of the southern dialect who are currently employed by YPMD as Bible translators and who were willing to work with me in their spare time. Au Olinger (born 1971), Yosefa Luturyali (born 1974) and Ina Matruty (born 1979) each worked with me for two hours. With Au Olinger and Ina Matruty I worked through a questionnaire about the subject prefixes (see appendix B, also archived at Visser 2023). To check how to make reciprocal constructions (Drabbe 1926b claims this is one of the functions of the long subject prefixes), Yosefa Luturyali described the short set of reciprocals video clips (Evans, Levinson, Enfield, Gaby, and Majid 2004). With Yosefa Luturyali I also conducted a follow-up questionnaire to double-check answers and fill in gaps.

The fieldwork was conducted via Zoom video call in March and April 2022, and recorded with the software's recording function. Answers were glossed in the computer programme Fieldworks (SIL International 2022), which helps in glossing consistently while building a lexicon of the language. In this paper, examples from the elicitation sessions are marked with a tag consisting of a text code and a line number, separated by an underscore, e.g. ipfv1_12. The text code refers to a questionnaire, and the line number to the line in the glossed text (which in turn corresponds to the question number in the questionnaire). The tags are clickable and lead to the relevant bundle in the Yamdena language archive, where the original materials, the recordings of the elicitation sessions and the glossed texts can be downloaded.

The meta-language for all elicitation was a mix of varieties of Malay and colloquial Indonesian. I understand Indonesian, a standardized variety of Malay that is the official language of Indonesia (Adelaar and Prentice 1996), but I speak something more akin to Papuan Malay as it is spoken in Fakfak regency, since I have previously done fieldwork in that area. My consultants speak both Indonesian and Moluccan Malay as it is spoken on Tanimbar. There were no notable communication issues despite the difference in Malay variety. In this article, I refer to our language of communication as Indonesian.

The questionnaire about the verbal prefixes consisted of three parts:

1. Indonesian to Yamdena translation of sentences in a typically perfective or imperfective context (Appendix B, task 1). The perfective contexts were created by pinpointing them at an exact moment in time, by using words like 'now' or 'yesterday'. The imperfective contexts were created by describing situations as extending over a period of time, for example by using the words 'always', 'every day', 'when it's raining' or 'when she goes to the forest'. For this task, I used a selection of nine verbs that according to the legacy materials could occur with both prefixes, two that only appear with the long prefixes, and one that appears only with the short prefixes.
2. Yamdena acceptability judgments of pairs of simple clauses without context that only differed in whether the long or the short prefix was used (Appendix B, task 2). For this task, the same verbs as in the translation task were used.
3. Yamdena acceptability judgments of inflected verbs in context in the legacy materials (Appendix B, task 3). For this task, I used the roots that were found with both long and short prefixes in the legacy materials: -falak 'say', -keban 'see' and -fen 'kill; fill'. I selected 13

[^6]instances of these verbs and copied them with their context (the whole page on which they appear) to a separate document. Each instance was showed to Yosefa Luturyali and Ina Matruty, and they were asked if in this context, a long prefix could have been replaced with a short one and vice versa.

For task 1, Indonesian to Yamdena translations, the consultants were asked to translate sentences. First, I read the context for the sentence to translate. Then I read the sentence to translate (the target sentence). Sometimes, the target sentence is introduced by a specific question, as in (10c). If not, I introduced it by saying "how would you describe this situation?". I soon found out that it was clearer for the consultants if I introduced the target sentence with "now I would like to say this in Yamdena". I elaborated on the context when the consultant did not understand.

Examples for two verbs, translated to English, are given in (10) and (11). The target sentences are underlined. They are reminiscent of those in the TAM questionnaire in Dahl (1985).
(10) a. [Imperfective. Context: My friend always says stupid things. How would you describe this situation?] He says stupid things.
b. [Perfective. Context: My friend is saying stupid things right now. How would you describe this situation?] He says stupid things (right now).
c. [Perfective. Context: When he is drunk, my friend says stupid things all the time, he just can't stop. How would you describe this situation? I ask: What does your friend do?] He says stupid things (all the time).
(11) a. [Imperfective. Context: In the village, there is one slippery road. I am afraid Grandma and Granddad will fall. You want to clarify that I shouldn't worry, because they are always careful on that road.] They are (always) careful.
b. [Perfective. Context: Now they are on the slippery road. How would you describe this situation?] They are (being) careful.

The first time reading a target sentence, I did not read words that are within parentheses. If it was necessary to make the consultant understand the aspect of the clause (which in Papuan Malay is not expressed by verbal inflection but with the help of adverbs or reduplication), I added the information in the parentheses.

Task 2 consisted of Yamdena acceptability judgments, which were presented in pairs. I read the first item of the pair from my questionnaire, asking for a translation into Indonesian. Then I read the second, asking if there is a difference in meaning. I varied presenting the long and short prefix first. This type of systematic elicitation can be problematic (Louie 2015), for example because the consultant gets bored or gives answers according to prescriptive language beliefs. I used it because this method requires little preparation and execution time, and because this method was one of many I employed. I did not expect the consultants to think metalinguistically and come up with a generalization; I was merely curious to see how my consultants would interpret simple contextless clauses with only a difference in verbal prefix. In my questionnaire, I added an Indonesian translation within brackets as a reminder to myself, and to check whether my consultants interpreted the sentences the way I intended them (apart from (im)perfectivity). (12) illustrates a sentence pair, with possible English translations.
a. bate $n$-keban langam
woman 3 sg -see eagle
'The/a woman sees/saw the/an eagle.'
b. bate na-keban langam
woman 3sG-see eagle
'The/a woman is/was seeing the/an eagle.'

For task 3, legacy material contexts, I used the screen sharing function in the video call. Each verb was presented in its original context, as a screenshot of the page on which it appeared in the legacy material, with the verb highlighted in yellow. Figure 2 shows a screenshot of a page with the verb -keban 'see', inflected with the short first person plural inclusive prefix $t$-. The consultant was asked if in this context, the long prefix $t a$ - could also have been used. The figure also displays the English translation of the text as given in the source. The consultants only saw the Yamdena text.

| 18. SONGU ANAKY |  | SONGU'S CHILD |
| :---: | :---: | :---: |
| Anritw: | Kanaky bat se ne ne? | Who is that girl? |
| Amolonan: | Bwe, to kufai feti kanaky se ne ne, farlan Songu anaky e . | I have no idea who that is, but she resembles Songu's child. |
| Anritw: | Au, souny nbalak lan Songu e. | Yes, her face is like Songu's. |
| Amolenan: | Sir betno rof mpe ma rma ye, ma betno tkeban sir ye? | Where did they come from? We have not seen them before. |
| Anritw: | Betno rof Yampun a rma, owo? | Maybe they just arrived from Ambon. |
| Amslanan: | Farane owo, souny nangafel a nbal. | Maybe. She is a very pretty girl. |
| Anritu: | Au. | Yes. |

Figure 2: Legacy material context task from (Lamere and Mettler 1994:13), with a translation in English

### 3.2 Results

All functions given in the sketches were confirmed, and hence the hypothesis that Yamdena verbal subject prefixes also mark (im)perfectivity was confirmed. ${ }^{17}$ Table 3 lists and exemplifies the functions of the long prefixes. Functions like continuous, progressive, repetitive, habitual and permanent condition are collapsed under the label imperfective (Comrie 1976). Other proposed functions of the long prefixes are listed separately.

[^7]Table 3: Functions of the long verbal subject prefixes

| function | example |
| :--- | :--- |
| imperfectivity | see discussion in text |
| become | *n-tomwat, na-tomwat '3sG becomes a person' |
| pluractional | $n$-falak'3sG says', na-falak '3sG says about many things' |
| distinguishing ho- | $r$-kurat 'they clear forest; cut down trees', ra-kurat 'they weed' |
| mophonous stems  <br> reciprocality $r$-salan sir 'they see them', ra-salan sir 'they see each other' <br> transitivity $n$-fen 'be full', na-fen 'fill' |  |

The (im)perfective contexts task was not very successful in eliciting long forms. Most of the target sentences were translated with a short form, regardless of whether I had created a typically perfective or imperfective context. This either means that the contexts I created were not clearly (im)perfective enough, that the short forms are aspectually neutral, or that the prefixes do not express (im)perfectivity. There were two valuable hints in this task that the long prefixes have functions that were proposed in earlier literature. First, when I asked for the translation of 'they ask each other', I got two answers, given in (13). The long forms can express a reciprocal reading and can contrast with the short forms (13a), which give a normal transitive reading (13b).
(13) a. ra-enrat sir

3PL-ask 3pl
'They ask each other.'
ipfv1_17.1
b. r-enrat sir

3pl-ask 3pl
'They ask them.' ipfv1_17.2

Second, I only got long forms with the verb root -kurat. In all corpus examples, this root means 'clear land' and only occurs with short prefixes. In (14), I asked for a translation of 'they clear the land'. The consultant paraphrased this as 'they pull out weeds'. In the follow-up questionnaire, it was clarified that the meaning of the root -kurat changes depending on the prefix. With the long prefix, it always means 'weed'. ${ }^{18}$ With the short prefix, it means to clear land by cutting trees. In (15), this means clearing land to make a rice field. While these two meanings are related (and weeding is more repetitive and hence a better candidate for an imperfective prefix), I take this as evidence that the long and short prefixes can also be used to distinguish homophonous stems.
merwane na-kurat olak
man 3GS-weed rice.field
'They already weeded the rice field.'
$\min 1 \_24$

[^8]merwane n-kurat olak
man 3Gs-clear rice.field
'They already cleared the rice field.' min1_23
The minimal pairs task (task 2) was successful in making explicit some of the meanings of the long prefix. For some pairs, only one form was accepted. For others, both forms were accepted without the consultant being able to express how they were different. But for most pairs, the consultant could explain the difference well by paraphrasing the meanings. From this task, it appears that the long prefix can express a state (like ra-keban, 'they can see', which describes the ability to see, whereas $r$-keban just means 'they see', illustrated in 16) or repetitiveness (like the difference between na-endat ' 3 sG is asking again and again' and $n$-endat ' 3 sg asks', illustrated in (17), and between na-falak ‘ 3 sg says again and again' and $n$-falak ' 3 sg says').
a. sir ra-keban lo

3pl 3pl-see already
'They can already see.' [Consultant remarks: "This one would describe people who were previously blind and now can see again."] persder1_18.2
b. sir r-keban lo

3pL 3pl-see already
'They already see.' persder1_18.1
a. kanak na-endat fali_safe
child 3sG-ask why
'The child is asking (again and again): "Why?"" [Consultant remarks: "This one is used when the child is repeatedly asking." (Indonesian: "bertanya-tanya".)] min1_12
b. kanak na-endat fali_safe
child 3sG-ask why
'The child asks: "Why?"" min1_11
The third task, the legacy material corpus task, was done with two consultants. They did not differ in their judgments, nor did they hesitate in giving a judgment once they had read the context. In all 13 instances, they agreed that the form as given in the legacy material was the correct form, and they explicitly rejected the other form.

There is a risk, having presented the data the way I did, that the consultants would be afraid to correct an already published text (one that they likely also recognized, and in some cases had collaborated on). In future research, I would rather mask the prefix and ask the consultants to fill in the gap. However, that the consultants had understood the task was apparent from some of their comments. While they usually could not tell why the other form was not suitable, in some cases they could. ${ }^{19}$ In one of the examples, the form ra-falak 'they speak' is used in a conversation about

[^9]gossiping. Both consultants noted that the prefix must be long because "there are many people", indicating perhaps pluractionality or distributivity. In another example, with ku-keban 'I see', a consultant noted that the short form kweban is possible when lo 'already' is added, indicating that the short form is perfective.

The descriptions of the reciprocals stimuli videos, performed with one consultant, confirmed that there is a reciprocal element to the long prefixes, at least for some verbs. The root -wain 'delouse' was also used with a long prefix when the delousing was performed simultaneously (for example, person A delouses person B, and person B delouses person C at the same time). Whether the action was symmetrical or not (A and B delouse each other) did not matter. For the other verbs (-koke 'hug', -fur 'chase/run', -fla 'run', -omat lim 'shake hands' and -babal 'hit'), the long form was always given. Whether the short form was possible was not always checked, but when checked it was not acceptable (this was the case for -koke 'hug', -fur 'chase/run' and -fla 'run'). For -omat lim 'shake hands', only the long form was acceptable to describe the videos, but the consultant explained that the short prefix on the same root is possible to express the meaning 'touch someone's hand'.

Lastly, the data shows that at least with one root, -fen, the long prefix indicates that it is used transitively, while the short prefix indicates that the verb is intransitive. (18a) shows -fen with a long prefix in an intransitive clause. This was not accepted by the consultant, who suggested (18b) instead. In (19a), I tested -fen with a long prefix in a transitive clause, which was accepted. A short prefix in the same clause, given in (19b), was not accepted. This pattern was confirmed with other subjects and objects like das 'house', lemari 'closet' and buku tulis 'notebook'. Note that this is not the only way to distinguish transitivity: there are transitive/intransitive verb pairs that are just two completely different forms, like -ktem 'be closed' (intransitive) and -epat 'close' (transitive).
a. *bak na-fen
container 3 sG -full
'The container is full.'
min2_1.1
b. bak a n-fen lo
container trNs 3 SG-full already
'The container is already full.'
min2_1.1
(19)
a. i na-fen bak

3sG 3sg-fill container
'He/she fills/is filling the container.'
min2_1.2
b. *i n-fen bak

3sG 3sg-fill container
'He/she fills/is filling the container.' min2_1.2

In total, 20 verb stems were tested in elicitation. Table 4 summarizes which verbs were accepted with both prefixes, which with only short prefixes, and which with only long prefixes.

Table 4: Elicitation results of verbs inflected with both, short only and long only subject prefixes

| both | short | long |
| :--- | :--- | :--- |
| -endat 'ask' | -angat 'smell' | -fai 'know' |
| -falak 'say, talk' | -bali 'return' | -mtoran 'sit' |
| -fen 'kill' | -lur 'swim' | -min 'stay' |
| -fen 'be full;fill' | -sail 'lift' | -ngamon 'be good' |
| -keban 'see' | -ti 'go; leave' | -saur 'tell a story' |
| -kurat 'clear forest; weed' |  | -tomwat 'become a person' |
| -pule 'wrap' |  |  |
| -putu 'tie' |  |  |
| -salan 'see' |  |  |

Verbs that only take long prefixes seem to do so for morphophonological reasons, or because they express imperfectivity-related meanings. -mtoran 'sit' starts with a consonant cluster, -tomwat expresses 'become a person', which is progressive because it expresses the process from changing from a non-human being into a human being, and -fai 'know', -min 'stay' and -ngamon 'be good' express states, which are typically imperfective (Comrie 1976:20). Only for -saur 'tell a story' is it not clear why it must carry the long prefix.

The most puzzling group is the group of verbs that only allow the short prefix. I cannot detect anything inherently perfective in the meaning of these verbs. Perhaps the short prefix is the default prefix set for verbs that do not allow both prefixes.

## 4 Legacy materials: cross-checking results

To solidify the findings from the fieldwork, some of the results were cross-checked in the legacy materials. Because only a small part of the materials is interlinearized, it is not easy to search for subject prefixes in the texts. Even though one can search for, for example, words starting with 3pl ra- or 3sG na-, it would take a long time to filter out all instances of words starting with these letters that are not verbs with a subject prefix. This problem is even bigger when looking for instances of the short prefixes. Other issues are that there are some spelling differences between the pre-1950 materials and the post- 1980 ones (mainly $<\mathrm{oe}>$ and $<\mathrm{j}>$ for post $-1980<\mathrm{u}>$ and $<\mathrm{y}>$, as well as some differences in the use of double vowels and consonants), and that the spelling of the sound [nd] $\sim$ [nr], which varies in pronunciation but is one phoneme, is not consistent in any of the materials. Yet another issue is that homophonous verbs (like -fen 'kill' and -fen 'fill; be full') cannot be distinguished. Also, in many of the songbooks the words are syllabified so as to fit with the music annotation. This means that the question of how common variation in subject prefixes is remains to be answered.

However, I was able to check the behavior of those roots that came up in the elicitation. Most roots were checked in the legacy materials before starting the fieldwork. Some roots only came up during elicitation (because consultants offered them as an alternative translations). Moreover, before starting the fieldwork I had a legacy materials corpus of around 150,000 words $(6,000$ of which were glossed at the time). After the fieldwork, I had around 410,000 words, because I had by then gotten hold of a PDF file of the Bible translations finished to date (May 2022), and some other
minor materials. The results presented here are about the behavior of the roots in Table 4 in the full corpus of legacy texts.

For each of the verbs, a search was performed in Adobe Acrobat Pro using Full Acrobat Search ${ }^{20}$ for the root plus the long and short person prefixes. For the most part, the findings confirm the results from the fieldwork for which verbs take which prefixes. Figure 3 shows the number of occurrences of the variable verbs with long and short prefixes in the legacy materials.


Figure 3: Occurrences of variable verbs with long and short prefixes in the legacy materials
The main finding here is that although most verbs do occur with long and short prefixes, they occur (far) more often with the short prefixes. ${ }^{21}$ Given the available corpus, it is not yet possible to check the use of these verbs in their context. For that, we would need much more glossed data.

In any case, this finding suggests that either perfective aspect is much more common than imperfective aspect in the legacy texts, or that the short prefixes not only express perfectivity, but are also the default choice when the aspect of the verb is unknown ${ }^{22}$ or not of importance. This also accords with the findings from elicitation.

The fact that a large portion of the legacy texts are Bible books may play a role, but Konoshenko (2021) shows that at least for quotative markers, there is no difference in distribution in Bible texts versus natural spontaneous texts. This is supported by a search for the same roots in just the Bible texts, as presented in Figure 4a. Another search was performed with only the pre-1950 texts, given in Figure 4b, to see if older texts show a different distribution. In both collections, the root -kurat 'clear; weed' does not appear, and the old texts lack instances of -pule 'wrap'. Otherwise, the results look similar to the overall results, but with an even stronger preference for short prefixes.

The search for roots which only have long prefixes in the fieldwork data (-fai 'know', -mtoran 'sit', -min 'stay', -ngamon 'be good', -saur 'tell a story', -tomwat 'become a person') confirms those data: all occur in the legacy texts with only long prefixes.

[^10]

Figure 4: Occurrences of variable verbs with long and short prefixes

Four out of five roots which only have short prefixes in the fieldwork data only have short prefixes in the legacy texts. These are -angat 'smell', -lur 'swim', -sail 'lift' and -ti 'go; leave'. The root -bali 'answer; return' has 9 occurrences with a long prefix (against 996 occurrences with a short prefix). These are all instances of -bali in the sense of 'answer'. The fieldwork only tested -bali in the sense of 'return', and the legacy data seems to confirm that the root with this meaning only occurs with short prefixes. The root -bali 'answer' seems to take both long and short prefixes: in the annotated legacy texts, there are also instances of -bali 'answer' with a short prefix.

The cross-check in the legacy materials largely confirms the findings from the fieldwork. All verbs which only have long prefixes in the fieldwork data only have long prefixes in the legacy materials, and most verbs which only have short prefixes in the fieldwork data only have short prefixes in the legacy materials. Most verbs which take both prefixes in the fieldwork data also take both prefixes in the legacy materials. The legacy data also show a strong preference for short prefixes, again confirming findings from the fieldwork.

## 5 Conclusion

In this paper, I described the interplay between legacy materials and fieldwork in investigating Yamdena verbal prefixes. I showed how the grammar sketches of the language provided a hypothesis (that Yamdena verbal subject prefixes mark (im)perfectivity), and how the texts in the legacy materials informed the questionnaires I prepared for fieldwork. I used three questionnaire techniques: translation in context, acceptability judgments of minimal pairs, and acceptability judgments of words in the legacy materials. A combination of these techniques, together with the reciprocals stimulus kit (Evans et al. 2004), confirmed that Yamdena verbal prefixes indeed express (im)perfectivity: at least with some roots, the long prefixes are used for imperfective aspect, and the short ones for perfective aspect. Moreover, I confirmed other uses of the prefixes already suggested by Drabbe (1926b): pluractionality (expressed with the long prefixes), distinguishing homophonous stems, reciprocality (long prefixes) and transitivity (long: transitive, short: intransitive). I also confirmed the claims from the grammar sketches that not all verbs can take both prefixes. For those verbs that were tested in the fieldwork data, I cross-checked their occurrences with long and short prefixes in a bigger corpus of unannotated legacy texts. This confirmed the fieldwork data, confirming that the variable roots indeed occur with both long and short prefixes, the "short" roots only occur with short prefixes and the "long" roots only occur with long prefixes. Moreover, the cross-check showed
that the variable roots have a strong preference for short prefixes. The question of which verbs can take both long and short prefixes could not be answered - in fact, it is not even clear if "many" or "most" verbs can take both, or if only a minority can. To answer this question, more text annotation is needed.

What governs whether a verb root allows both long and short prefixes, and how common this is, remains for further research. Another open question is why the short prefixes are so much more common on the variable roots. Two possible scenarios are that perfective aspect is much more common in the legacy texts, or that the short prefixes not only express perfectivity, but are also the default choice when the aspect if the verb is unknown or not of importance. ${ }^{23}$

This paper shows an example of a question that can be answered with a legacy corpus, a limited amount of (online) fieldwork, and limited previous knowledge of the language under study. This also means that the method could by used by typologists. It illustrates that with relatively little effort, one can test linguistic hypotheses in a great portion of the world's languages. In 2022, 3589 languages had a (partial) Bible translation (Wycliffe Global Alliance 2022), and in $202163 \%$ of the world population had access to the internet (International Telecommunication Union 2022). The method is likely to work for answering questions about linguistic structure that is abundant in any corpus, such as word order, case and adpositional marking, indexing, functions of demonstratives and discourse-related topics like reference tracking. Hypotheses need not necessarily come from earlier published work on the language: they may also stem from analyses of related languages, or from any kind of linguistic theory.

This study also shows the limitations of legacy materials, confirming points made in e.g. Austin (2021); Dobrin and Schwarz (2021). Without glossed texts and without extensive fieldwork, frequencies of morphemes are hard to get, and meanings in contexts are not available (although with Bible translations, a parallel translation in English or another language can be very helpful). This confirms the importance, for linguistic research, of text annotation in language documentation projects (Himmelmann 2006).

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## Appendix A Search terms

The following search terms were employed to look for inflected verbs in the legacy materials.

- For -falak ‘say; talk':
- short: kfwalak mfwalak nfalak tfalak mfalak mfyalak mfjalak rfalak
- long: kufalak koefalak mufalak moefalak nafalak tafalak mafalak mifalak rafalak
- For -keban 'see':
- short: kweban mkweban nkeban tkeban mkeban mkyeban mkjeban rkeban
- long: kukeban koekeban mukeban moekeban nakeban takeban makeban mikeban rakeban
- For -endat 'ask':
- short: kwendat mwendat nendat tendat mendat myendat mjendat rendat kwenrat mwenrat nenrat tenrat menrat myenrat mjenrat renrat
- long: kuendat koeendat muendat moeendat naendat taendat maendat miendat raendat kuenrat koeenrat muenrat moeenrat naenrat taenrat maenrat mienrat raenrat
- For -putu 'tie':
- short: kputu kpoetoe mputu mpoetoe nputu npoetoe tputu tpoetoe mpyutu mpjoetoe rputu rpoetoe
- long: kuputu koepoetoe mириtu moepoetoe naputu napoetoe taputu tapoetoe maputu mapoetoe miputu mipoetoe raputu rapoetoe
- For -salan 'see':
- short: kswalan mswalan nsalan tsalan msalan msyalan msjalan rsalan
- long: kusalan koesalan musalan moesalan nasalan tasalan masalan misalan rasalan
- For -pule 'wrap':
- short: kpule kpoele mpule mpoele npule npoele tpule tpoele mpyule mpjoele rpule rpoele
- long: kupule koepoele mupule moepoele napule napoele tapule tapoele mapule mapoele mipule mipoele rapule rapoele
- For -kurat 'clear forest; weed':
- short: kwurat kwoerat mkurat mkoerat nkurat nkoerat tkurat tkoerat mkyurat mkjoerat rkurat rkoerat
- long: kukurat koekoerat mukurat moekoerat nakurat nakoerat takurat takoerat makurat makoerat mikurat mikoerat rakurat rakoerat
- For -ngamon 'good':
- short: kngwamong mngwamong nngamon tngamon mngamon mngyamon mngjamon rngamon
- For -min 'stay; live':
- short: kmwin mwin nmin tmin myin mjin rmin
- For -saur 'tell a story':
- kswaur kswaoer mswaur mswaoer nsaur nsaoer tsaur tsaoer msaur msaoer msyaur msjaoer rsaur rsaoer
- For -mtoran 'sit':
- kmtoran nmtoran tntoran myntoran rntoran
- For -fai 'tahu':
- fkwai mfwai nfai tfai mfai mfyai mfjai rfai
- For -tomwat 'become a person':
- ktomwat mtomwat ntomwat mtyomwat rtomwat


## Appendix B Elicitation materials

## Aktifitas «terjemahkan kalimat»

## Long and short subject prefixes

verbs that occur with long and short in materials:

- -falak 'say'
- -keban 'see, be careful'
- -fen 'kill, full'
verbs that are listed with long and short in Rumyaru sketch:
- -endat 'tanya'
- -angat 'berbau'
- -lury 'berenang'
- -putu 'mengikat'


## (Im)perfective contexts

[ipfv1/Task 1]
for verbs that can have both (and others) find clearly ipfv/pfv contexts and ask for V form

## Imperfective

$\rightarrow$ First, ask for free sentence after sketching context.
$\rightarrow$ Then, ask for translation of target sentence.

Pertama, saya kasih konteks/keadaan. Baru, saya minta ibu bisa menjawab satu pertanyaan. Baru, saya minta ibu menerjemahkan satu kalimat.
-falak 'say' (variable)

1. hab: [Konteks/keadaan: Teman saya selalu bilang barang bodoh. Bagaimana menggambarkan situasi itu? Jawaban:] Dia bilang hal-hal/barang bodoh.
2. prog [Konteks/keadaan: Teman saya sekarang ada bilang barang bodoh. Bagaimana menggambarkan situasi itu? Jawaban:] Dia (ada/sedang) bilang hal-hal/barang bodoh.

Kemarin dia bilang hal-hal bodoh selama satu jam.
3. rep [Konteks/keadaan: Kalau dia mabuk, teman saya bilang barang bodoh terus, dia tidak bisa berhenti. Bagaimana menggambarkan situasi itu? Saya tanya: Anak itu bikin apa? Jawaban:] Dia bilang hal-hal/barang bodoh (terus).

## -keban 'see' (variable)

4. hab [Konteks/keadaan: Setiap hari, kakek lihat burung kakatua. Saya tanya: Kakek lihat burung apa setiap hari? Jawaban:] Dia lihat burung kakatua.
5. prog [Konteks/keadaan: Nenek suka lihat kapal yang lewat. Sekarang dia ada lihat kapal lagi.

Saya tanya: Nenek ada bikin apa sekarang? Jawaban:] Dia (ada/sedang) lihat kapal.

Kemarin dia lihat kapal selama satu jam.
6. rep [Konteks/keadaan: Kakek lihat pesawat kalau dia dengar satu. Sekarang ada banyak pesawat yang lewat. Kakek lihat dan lihat lagi. Say tanya: Kakek bikin apa? Jawaban:] Dia lihat-lihat pesawat (terus/lagi).
7. mutual [Konteks/keadaan: Nenek dan kakek baku lihat (mereka saling memandang). Saya tanya: mereka bikin apa? Jawaban:] Mereka baku lihat / saling memandang / saling perpandang.

## -keban 'be careful' (variable)

8. hab [Konteks/keadaan: Di desa ada satu jalanan licin. Saya takut nenek dan kakek mau jatuh. Ibu mau jelaskan tidak ada masalah, karena mereka selalu perhatikan di jalanan itu. Jawaban:] Mereka (selalu) perhatikan.
9. prog [Konteks/keadaan: Sekarang mereka ada di jalanan licin. Bagaimana menggambarkan situasi itu? Jawaban:] Mereka (ada/sedang) perhatikan (sekarang).

Kemarin waktu kembali di rumah mereka perhatikan.

## -fen 'kill' (variable)

10. hab [Konteks/keadaan: Kalau ibu pancing sama bapak, bapak selalu membunuh ikan. Saya tanya: bapak bikin apa? Jawaban:] Dia membunuh ikan.
11. prog [Konteks/keadaan: Sekarang bapak di laut, bunuh ikan yang ibu baru pancing. Saya tanya: Bapak ada bikin apa? Jawaban:] Dia (ada/sedang) membunuh ikan.

Kemarin dia membunuh ikan selama satu jam.
12. rep [Konteks/keadaan: Bapak memancing banyak ikan. Dia harus membunuh semua. Saya tanya: Bapak (ada) bikin apa? Jawaban:] Dia (ada/sedang) membunuh/bunuh-bunuh ikan.

## -fen 'full' (variable)

13. hab [Konteks/keadaan: Kalau hujan, baknya tetanggah rumah cepat penuh. Saya tanya: kalau hujan, tetanggah rumah punya bak bagaimaina? Jawaban:] Mereka punya bak (baknya) penuh.

## -endat 'tanya' (variable)

14. hab [Konteks/keadaan: Satu anak di kelas 2 selalu tanya guru kalau dia bisa keluar jam 11. Saya tanya: Anak itu bikin apa jam 11? Jawaban:] Dia tanya kalau dia bisa keluar.
15. prog [Konteks/keadaan: Sekarang kita di kelas. Anak tanya guru. Saya tanya: anak itu bikin apa? Jawaban:] Dia (ada/sedang) tanya kalau dia bisa keluar.

Kemarin dia tanya kalau dia bisa keluar selama sepuluh minit.
16. rep [Konteks/keadaan: Saya pu anak yang tanya terus. Kalau kami minum teh, dia bertanya sampai telinga sakit. Ibu tanya: kamu pu anak bikin apa? Jawaban:] Dia tanya terus.
17. mutual [Konteks/keadaan: Jawaban:] Mereka saling bertanya / baku tanya.

## -angat 'berbau' (variable)

18. hab [Konteks/keadaan: Sore bapak selalu berbau, karena dia membersihkan ikan. Dia tanya: Sore saya berbau atau tidak? Jawaban:] Sore kamu berbau.

## -lury 'berenang' (variable)

19. hab: [Konteks/keadaan: Hari sabtu, anak-anak selalu berenang di laut. Orang baru tanya: Hari sabtu anak-anak bikin apa? Jawaban:] Hari sabtu, mereka berenang di laut.
20. prog [Konteks/keadaan: Hari sabtu ini, anak-anak berenang lama sekali. Satu ibu tanya satu ibu lain: Anak-anak bikin apa? Jawaban:] Mereka (ada/sedang) berenang (terus)

Kemarin mereka berenang selama satu jam.
21. rep [Konteks/keadaan: Satu anak belum pintar berenang. Dia berenang terus supaya dia bisa menjadi pintar. Saya tanya: Anak itu bikin apa? Jawaban:] Dia berenang (terus/lagi).

## -putu 'mengikat' (variable)

22. hab [Konteks/keadaan: Kalau ibu pergi di gunung, dia selalu ikat bungkusan pakaian. Saya tanya: Ibu bikin apa kalau dia pergi di gunung? Jawaban:] Dia ikat pakaian.
23. prog [Konteks/keadaan: Sekarang ibu ada menyapkan untuk pergi di gunung. Saya tanya: ibu ada bikin apa? Jawaban:] Dia (ada/sedang) ikat pakaian.

Kemarin dia ikat pakaian selama satu jam
24. rep [Konteks/keadaan: Ibu duduk ikat kangkung untuk jual. Dia ikat terus. Bagaimana menggambarkan situasi itu? Jawaban:] Dia ikat (terus)

## -ngamon 'good' (long)

25. hab [Konteks/keadaan: Anak-anak selalu baik/anugerah hari jumat. Bagaimana menggambarkan situasi itu? Jawaban:] Hari jumat, mereka baik.
26. prog [Konteks/keadaan: Anak-anak biasanya tidak anugerah, tapi sekarang mereka duduk kerja rajin. Bagaimana menggambarkan situasi itu? Jawaban:] Mereka (ada/sedang) baik/anugerah.

Kemarin mereka baik/anugerah selama satu jam.

## -min 'stay' (long)

26. hab [Konteks/keadaan: Hari Sabtu, mereka selalu tinggal di kota. Saya tanya: Hari sabtu mereka tinggal di mana? Jawaban:] Mereka tinggal di kota.
27. prog [Konteks/keadaan: Hari ini hari Sabtu. Saya tanya: mereka ada di mana? Jawaban:]

Mereka (ada/sedang) tinggal di kota.

Bulan januari mereka tinggal di kota selama dua hari.

## -kurat 'clean land' (short)

28. hab [Konteks/keadaan: Kalau musim ganti, orang desa membersih tanah (cabut/potong rumput). Saya tanya: kalau musim ganti, mereka bikin apa? Jawaban:] Mereka membersih tanah.
29. prog [Konteks/keadaan: Sekarang musim ganti, dan orang desa ada cabut rumput. Saya tanya: mereka ada bikin apa? Jawaban:] Mereka (ada/sedang) membersih tanah.

Kemarin mereka membersih tanah selama dua jam.
30. rep [Konteks/keadaan: Satu bapak kerja terus. Dia cabut, cabut, cabut, cabut... Bagaimana menggambarkan situasi itu? Jawaban:] Dia membersih tanah.

## Perfective

-falak 'say' (variable)
31. Kemarin, dia bilang hal-hal/barang bodoh.
32. Dia sudah bilang hal-hal/barang bodoh.
33. Waktu dia mabuk, dia bilang hal-hal/barang bodoh.

## -keban 'see' (variable)

34. Kemarin dia lihat burung kakatua.
35. Tadi pagi dia lihat kapal.
36. Dia sudah lihat kapal.
$\rightarrow$ extra: describe video '29. Looking ate biscuit.mp4'

## -keban 'be careful' (variable)

37. Kemarin mereka perhatikan di jalan.
38. Tadi pagi dia perhatikan.
-fen 'kill' (variable)
39. Kemarin dia membunuh ikan.
40. Dia sudah membunuh ikan
41. Tahun 2005 (dua ribu lima), dia membunuh orang.

## -fen 'full' (variable)

42. Kemarin mereka punya bak penuh.

42b. Bak sudah penuh.
43. Tahun kemarin sekolanya penuh.

## -endat 'tanya' (variable)

44. Kemarin dia tanya saya kalau saya mau ikut.
45. Tadi pagi dia tanya mamanya.
-angat 'berbau' (variable)
46. Kamu berbau
47. Kamorang berbau.
-lury 'berenang' (variable)
48. Kemarin dia berenang.
49. Dia sudah berenang.
50. Nanti malam dia berenang.
-putu 'mengikat' (variable)
51. Kemarin dia mengikat pakaian.

51b. Dia sudah mengikat pakaian.
52. Nanti sore mereka mengikat padi.

52b. Mereka sudah mengikat padi.
-ngamon 'good' (long)
53. Anak-anak baik.
54. Mereka baik.
-min 'stay' (long)
55. Ibu Eline tinggal di kota.
56. Dia tinggal di Norway.
57. Tahun 2019 dia tinggal di Pulau Karas.

## -kurat 'clean land' (short)

58. Kemarin mereka membersihkan kebun.
59. Mereka sudah membersikan tanah.

## Minimal pairs

[min1/Task 2]
$\rightarrow$ Ask for translation of both.
$\rightarrow$ Then explicitly ask: apakah ini berbeda?

## -falak 'say' (variable)

1. Merwane n-falak: «Au.» (Laki-laki bilang: «Iya».)
2. Merwane na-falak: «Au.»
-keban 'see' (variable)
3. Bate n-keban langam. (Perempuan lihat burung elang.)
4. Bate na-keban langam.

## -keban 'be careful' (variable)

5. Bat makenar r-keban. (Nenek-nenek perhatikan.)
6. Bat makenar ra-keban.
-fen 'kill' (variable)
7. Merwane n-fen ian. (Laki-laki membunuh ikan.)
8. Merwane na-fen ian.
-fen 'full' (variable)
9. Ketal n-fen. (Panci/ember penuh.)
10. Ketal na-fen.
```
-endat 'tanya' (variable)
11. Kanak n-endat: «Fali safe?» (Anak tanya: «Kenapa?»)
12. Kanak na-endat:«Fali safe?»
-angat 'berbau' (variable)
13. Ko mu-angat. (Kamu berbau.)
14. Ko m-angat.
-lury 'berenang' (variable)
15. Kanak ra-lury. (Anak berenang.)
16. Kanak r-lury.
-putu 'mengikat' (variable)
17. Ene n-putu sayore. (Ibu ikat sayur.)
18. Ene na-putu sayore
```

-ngamon 'good' (long)
19. Ko ku-ngamon. (Kamu baik.)
20. Ko k-ngamon.
-min 'stay' (long)
21. Sir ra-min balisya dole. (Mereka tinggal di sebelah laut.)

## -kurat 'clean land' (short)

23. Merwane n-kurat olak. (Laki-laki membersihkan kebun padi.)
24. Merwane na-kurat olak.

## Corpus

## [cor1, cor2/Task 3]

Test replacement of long with short and vice versa.
$\rightarrow$ Open context screenshots in separate file (Aktifitas corpus replacements.odt).

## -falak 'say'

1. Na Ratu ni farete buti ne ye, faretar sa nfalak feti,
na-falak bisa?
Di dalam 10 perintah Allah ada satu ayat yang katakan:
God’s law says:
2. Tate, nempa makenar ma ramtu farye ye, tfalak feti rakanak a rbali lo. ta-falak bisa?

Tidak, kalau orang sudah tua, biasanya seperti kanak- kanak.
That's natural. When people get very old, we say that they become like children again.
3. Nempa to kmpweang ma rfalak farane ber yakw.

Tetapi aku tidak suka mereka bilang aku begitu.
But I don't like them talking like that about me.
4. Ra-falak, ra-falak, ra-falak.
r-falak bisa?

Orang-orang sedang membicarakan apa?
Mereka bicara tentang Akawaman dan Kudanenan.
Mengapa membicarakan mereka?
What are the people talking about?
They're gossiping about Akawenan and Kudanenan.

What are they saying about them?

## -keban 'see'

5. Sir betno rof mpe ma rma ye, ma betno tkeban sir ye?
ta-keban bisa?
Mereka datang dari mana, hingga baru kelihatan?
Where did they come from? We have not seen them before.
6. To bise, nronram ye lo mpa, to kukeban ye.
k-keban bisa?
Tidak mungkin, kalau sudah malam begini, aku sudah tidak bisa melihat lagi.
That's impossible. It's already night, and I can't see anything.
7) Mpe rkeban sir lo, e?
ra-keban bisa?
Apakah mereka sudah ditemukan?
Have they been found yet?
8) Lebabe ye nkeban radu ma rasaur kabanir a na laran.
na-keban bisa?
Tadi malam dia lihat mereka berceritera di pantai.
Last night she watched them talking on the beach.

## -fen 'penuh' > continue?

9. Lama nfalak farane, kudan ne natorak i ma nlubur tila nfen ber fase. na-fen bisa? Seketika itu panci segera bergolak, airnya mendidih dan panci itu penuh dengan nasi. After that the pot would quickly shake and the water would boil and the pot would fill with rice.
10. Nempa dalmir suse fali fase nlale ma nafen monuk srat dalmir, n-fen bisa? tila nait das dalmir.
Tetapi mereka menjadi cemas ketika nasi terus mengalir dan membanjiri jalan serta masuk ke rumah-rumah.

But they became anxious as the rice continued to flow and flood the roads and enter the houses.
11. Nempa, fali oto trek a nfen a nfofak, mpa torfauky monuk kadutar. na-fen bisa?

Akan tetapi, truk terlalu penuh jadi tidak semua karung kopra bisa diangkut.
But the truck was so full that all the bags would not fit.
-fen 'kill'
12. "Musnyalik! Lete nruany nma lo! Tafla desar koli keta nfen kit!" na-fen bisa? "Cepat! Pemiliknya datang! Ayo kita pergi sebelum dibunuh!»
"Quick! The owner is coming! Let’s run before he gets here and eats us!"
13. Na tetetkar a ne rarengi farye: keta milalin, kete mifen, kete mimnang, m-fen bisa? ma kete mimkeus tomwatar nir kabanir.

And later they wrote like this: ..., don't kill, don't steal, don't covet someone else's belongings.

1

## Corpus examples for informants [cor1, cor2/Task3]

## -falak

1. 

| Aboyaman: | Awa, ka mbwabal tomwatar e, kete nresy. |
| :---: | :---: |
| Amalaman: | Fali safe? |
| Aboyaman: | Ko to mlwompang sir e. |
| Amalaman: | Si nir sale mpa, kbwabal sir. |
| Aboyman: | Diat, nempa ko mumlufe Ratu ni faretar lo. |
| Amalaman: | Faret safar? |
| Aboyaman: | Na Ratu ni farete buti ne ye, faretar sa nfalak feti, "Miwompang tomwat walyetar farlan mlwompang ko tenam a nbali". |

2

## 21. MANGARESE

| Batdara: | Makene ye nares rutw. |
| :--- | :--- |
| Enany: $\quad$ Narese safe? |  |
| Batdare: $\quad$Tafai motak ye? Ma to ninrang ma kangkir <br> rasingin a na ye. |  | rasingin a na ye.

Enany: $\quad$ Tate, nempa makenar ma ramtu farye ye, tfalak feti rakanak a rbali to.

Batdare: Diat, nempa makenar monuk to farye.

Enany: Tose farmpe, makene ye ka far ye, owo?

3

Kanaky Urangw, fali mtwasing safe ye?
menwane:
Kanaky bate: Ktwasing a fali tomwatar a rsompun yakw.
K. merwens: Rsompun ko farmpe?

## K. bata: $\quad$ Rsompun feti kumnang.

K. morwans: Nempa mufaj lo, feti to mumnang e, ne mnwau motak.
K. bate: $\quad$ Nempa to kmpweang ma rfalak farane ber yakw.

## 36. RAFALAK

Asowanam: Nuse rafalak safe ne?

Amelenan: Rafalak Akawaman radu Kudanenan.

Asowanan: Safe ma rafalak sir?

## -keban

| Anritw: | Kanaky bat se ne ne? |
| :---: | :---: |
| Amelenan: | Bwe, to kufai feti kanaky se ne ne, farlan Songu anaky e . |
| Antitw: | Au, souny nbalak lan Songue. |
| Amolenan: | Sir betno rof mpe ma rma ye, ma betno tkeban sir ye? |
| Anritw: | Betno rof Yampun a rma, owo? |
| Amslonam: | Farane owo, souny nangafel a nbal. |
| Anritw: | Au. |

## 22. MUMLINE SAFE?

| Kanaky: | Memi, mumline safe ye? |
| :--- | :--- |
| Maminy: | Kurnlin motak. |
| Kanaky: | Tate, mudaun kabanir sa mpa mumin motak ye. |
| Maminy: | Au, kudaun yanam nor urmar. |
| Kanaky: | Mpa farmpe? Keta mlwarat sir far letar nre tate? |
| Maminy: | To bise, nronram ye lo mpa, to kukeban ye. |
| Kanaky: | Ne farane ye, kete mudaun rut sir lo, la rma <br> motak. |
| Maminy: | Au. Nempa nronram ye lo, ma safe ma to rma <br> fukin ye? |
| Kanaky: | Botuan, Ko mfwalak diat. |

## 33. RAYEBAN



Anritw: Maniap, kangkir du rayeban.

Aratw: Kanak mperar?
Anritw: Kanak Kabyartar.
Aratw: $\quad$ Fali rti mpe ma rayeban?

Anritw: $\quad$ Sir ri rapind, ne mnaur uman maniap a ne ye, to rsangal ral a mpa, mnaur nor sir far dol a rtf.

Aratw: $\quad$ Mpe rkeban sir lo, $e$ ?

Anritwr: Lolone, ma ranriak sir ye

| Asowaman: | Maniap mperar a rkafrey a ne? |
| :--- | :--- |
| Amslaman: | Waingw Aratw radu sawany. |
| Asowaman: $\quad$ Rkafreye safe? |  |
| Amelaman: $\quad$ Anrity nasoru Aratw radu Akawenan. |  |
| Asowaman: $\quad$ Fali safe ma nasoru sir? |  |
| Amelaman: $\quad$Lebabe ye nkeban radu ma rasaur kabanir a na <br> Asowaman: $\quad$ Ma mpe farmpe to? <br> Amslaman: $\quad$ Omp lo nre, narnwer motak lo. |  |

Kudan a ne to far kudany walyetar, nempa kudan mpasalan. Noak ma nbui weye na kudan dalamy ne, batmakene biase nfalak, "Jo, Kudan ko mufinau! Mdwane fase!"

Lama nfalak farane, kudan ne natorak i ma nlubur tila nfen ber fase.

Farlan batmakene nmpeang ma kudan to nafinau lo e, nfalak, "Kudan Mnwar! Kete mufinau lo!"

Luryain e sir rampumpuki feti nir fase silai Nempa dalmir suse fali fase nlale ma nafen monuk srat dalmir, tila nait das dalmir. Mpe orangkai nfalak, "Bima! Musnyalik ma mtwampu kudan ne!"

Nempa, fali oto trek a nfen a nfofak, mpa to rfauky monuk kadutar. Oto trek a nor kadut nurar a ne nti ma latngare namian.

Noak ma Leki lolone koko i naosfesta na bunir a ne, metryat e Feni nafla ma nafwayak, "Musnyalik! Lete nruany nma lo! Tafla desar koli keta nfen kit!" Leki nmetryat ma nafla e nal i la nyaran motak kabanir. Ne nti nakmat Feni ma ndaf a na weri seriny a ne lo.

Dari Liturgi: 06. Tmorip Tlarat Ratu Ni Mpempeang (Tamtoran)
M : Soranyar mir kateman! Kmi myebas mir momorip wangim lo mpa ka myal Ratu Ni Ngribatnir ye ma myose mlyarat na mir momorip beberi, farlan ma rarengi na Roma pasal 13:8-10 farye: "Ka kete miutang myof tomwatar. Ma farlan miutang e ka weni mbyaras monuk. Ma ka mikamis a kmi ma mdyaun feti iane farlan mir utngar ma ka mbyaras dedesar. Fali ise ma nkamis tomwat walyetar, iane nose monuk tetetkar ma Ratu nal ber Musa. Na tetetkar a ne rarengi farye: keta milalin, kete mifen, kete mimnang, ma kete mimkeus tomwatar nir kabanir. Botuan feti tetetkar a ne yadin nempa ramin monuk lan tetetak lese, iane: Ka mkyamis tomwat walyetar farlan ma mkyamis a kmi. Fali ise ma nkamis tomwat walyetar, $i$ to nose yatak sir iane feti i nose monuk tetetkar ma Ratu nal ber Musa ne."

## Minimal pairs pfv/ipfv folllow-up

## -fen 'full'

only found with short. Long really not poss? Test act and pass.
1a. Bak na-fen.
1b. I na-fen bak.

2a. Das na-fen.
2b. I na-fen das.
3a. Lemar na-fen.
3b. I na-fen lemar.
4a. Buku tulis na-fen.

4b. I na-fen buku tulis.

## -lur(y) 'full'

only found with short. Long really not poss?
5. Sir ra-lur(y) dedesar.
6. Kam ma-lur(y).
7. I na-lur(y).
8. Anak-anak berenang-beranang.
9. Anak itu berenang-berenang.
10. Kami berenang-berenang.
-saur 'cerita'
only found with long in my data. elicit short. test if long also accepted.
11. Maniap i nsaur. (kemarin dia cerita)

Maniap i na-saur.
12. Mpe dine i nsaur. (tadi dia cerita)

Mpe dine i nasaur.
13. I nsaur lo. (dia sudah cerita)

I nasaur lo.
14. Sir rsau. (dong cerita)

Sir rasau. (dong baku cerita?)

## -mtoran 'sit'

only found with long in my data. elicit short. test if long also accepted.
15. Maniap i nmtoran na kadere ne. (kemarin dia duduk di kursi ini)

Maniap i namtoran na kadere ne.
16. Mpe dine sir rmtoran. (tadi dong duduk)

Mpe dine sir rmtoran.
17. Kit tmtoran lo. (kita sudah duduk)

Kit tamtoran lo.
-salan 'lihat, bertemu'
only short in my data. long not poss?
18. Sir ra-salan. (dong baku bertemu? dong bertemu?)

Sir ra-salan i.

Sir ra-salan sir.
19. I ra-salan merwanar dedesar. (dia ketemu/lihat laki-laki terus)

I nasalan kabal (dedesar). (dia lihat kapal-kapal (terus))
20. Dia lihat-lihat burung.
21. Dong ketemu-ketemu orang.
-sail 'naik'
only short in my data. long not poss?
22. sir ra-sail far da (dong naik di darat)
23. i na-sail far da
24. kit ta-sail far da
25. dia naik-naik di gunung.
dia naik-naik di gunung-gunung.
26. dia naik-naik di tangga-tangga.

## -ti(e) 'pergi, berangkat'

only short in my data. long not poss?
27. i na-ti(e)
28. sir ra-ti(e)
29. kam ma-ti(e)
30. kita berangkat-berangkat.
31. dong pergi-pergi.

## -angat 'berbau'

Elicited wrongly in first round.
32. Ko muangat / ko mwangat - beda atau sama?
33. Yak kuangat / yak kwangat - beda atau sama?

## Check of Au's unexpected forms

Are these acceptable? In which context?
long:
34. I nafalak kabain yat modar.
35. I nafen inar.
36. I naenrat.
37. I napule ni kabanir.
short:
39. Kangkir a rngamon.
40. Sir rngamon.
41. Ibu Elin nmin kote.
42. I nmin Norway.
43. Maiap a ne i nmin Karas.
44. Sir rkurat lo.

## Extra verbs

-fai 'tahu' (long)
45. Enan to nafai. (Dia pu mama tidak tahu.)
46. Enan to nfai

## -tomwat 'become person' (long)

47. Lemwar ra-tomwat monuk. (Lumba-lumba semua menjadi manusia.)
48. Lemwar r-tomwat monuk.
-bali 'return, answer' (short)
49. I na-bali far pnu. (Dia kembali ke desa.)
50. I n-bali far pnu.

[^0]:    * This paper builds on data shared with me by several people and institutions. First, my Yamdena consultants Au Olinger, Ina Matruty and Yos Luturyali. Second, the Foundation for the Advancement of Local Peoples in Maluku, Indonesia (YPMD). Third, Toni and Heidi Mettler and SIL Asia. Fourth, the heritage center of the St. Agatha monastery in Sint Agatha, the Netherlands. Thank you all for being generous with your data. The author is funded by the Wenner-Gren Foundations.
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    ${ }^{1}$ English is not an ideal language to translate perfectivity contrasts into (cf. De Wit 2016:62-65). Throughout this paper, I have done my best to give translations that are as accurate as possible. Where the source gives an English translation, I stick to the original translation.

[^1]:    ${ }^{2}$ It is unclear who the authors of these works are, but it is likely that they stem from the work of Petrus Drabbe, who lived on Tanimbar Island working with the languages Yamdena and Fordata from 1915 to 1935 (Gonda and Anceaux 1970).
    3 I archived all copyright-free works at https://hdl.handle.net/10050/ 4538c99a-f306-4821-b850-79565ce192e8.
    ${ }^{4} \mathrm{C}=$ consonant, $\mathrm{G}=$ glide, $\mathrm{V}=$ vowel.
    ${ }^{5}$ Glosses follow the Leipzig Glossing Rules (https://www.eva.mpg.de/lingua/pdf/Glossing-Rules.pdf). One additional gloss, tress, is used for the transitory vowel $a$.
    ${ }^{6}$ In the examples from Drabbe (1926b), I have changed the spelling to align with the spelling in other publications on Yamdena. I changed his $<\mathrm{j}>$ and $<\mathrm{oe}>$ to $<\mathrm{y}>$ and $<\mathrm{u}>$, respectively. Segmentations, glosses and English translations are added by me. The /w/ in the verb roots in (3) and (8) is the result of metathesis Mettler and Mettler (1997b:77-79).

[^2]:    ${ }^{7}$ This is not further mentioned here, because it hardly contains any information on subject marking.

[^3]:    ${ }^{8}$ https://www.ypmd-maluku.org/en/home, under Spiritual Materials and Educational Materials
    ${ }^{9}$ I obtained permission from the YPMD secretary, Zeto Wekan, to archive the YPMD materials at https: //hdl.handle.net/10050/4538c99a-f306-4821-b850-79565ce192e8.

[^4]:    ${ }^{10}$ This is not to say that marking aspect on person indexers is strange or impossible. Hausa, for example, has fused pronouns/TAM forms (Jaggar 2001).
    ${ }^{11}$ This has in the meantime been superseded by further documentation of Uruangnirin (Visser, Kanabaraf, Kanabaraf, Kanabaraf, and Tianotak 2022).

[^5]:    ${ }^{12}$ Some verbs in this class behave as class 4.
    ${ }^{13}$ The Fieldworks project with the lexicon and annotated texts can be downloaded from https://doi.org/10. 5281/zenodo. 7695805.
    ${ }^{14}$ In some works spelled as -enrat.
    ${ }^{15}$ This is a common verb because many of the annotated texts are tales where animals turn into human beings.

[^6]:    ${ }^{16}$ For which I would like to thank Craig Marshall, who helped with this, very much.

[^7]:    ${ }^{17}$ The "be [Numeral]" construction given in Drabbe (1926b) was not tested.

[^8]:    ${ }^{18}$ This also appeared in the minimal pairs task (task 2).

[^9]:    ${ }^{19}$ Matthewson (2004) argues against asking consultants explicit questions about linguistic knowledge. I agree that this should not be the only way of obtaining data from consultants, but I also believe that one can always try to ask these questions as long as the consultants do not get embarrassed if they don't know the answer. My consultants seemed comfortable answering these questions, even though they often didn't know the answer. My results show that I got some valuable comments from asking these questions.

[^10]:    ${ }^{20}$ In Windows, open the file in Adobe Acrobat Pro, press CTRl+F, press the arrow next to the search box, select Open Full Acrobat Search, write all forms of interest in the search box separated by spaces, press Show More Options, under Return results containing: select Match Any of the words, tick Whole words only, press search. All search terms can be found in Appendix A.
    ${ }^{21}$ The only verb that did not occur with both prefix forms is -pule 'wrap', but since it only occurs 20 times in the data, this may be a coincidence. The roots -fen 'kill' and -fen 'fill; be full' could not be investigated because they are homographs. There was only one occurrence of -putu 'tie', so it was excluded from the data.
    ${ }^{22}$ Most texts are translations (e.g. Bible translations and children's story book translations), and the source text may or may not reveal the aspect of the verb.

[^11]:    ${ }^{23}$ To my knowledge, there is no previous work that claims that either perfective or imperfective aspect is the default in any language. For Russian, there has been some work showing that verb semantics is related to aspect marking and/or interpretation, resulting in frequency differences, but it cannot be claimed that either perfective or imperfective is default (Bohnemeyer and Swift 2004; Breu 1980; Fenk-Oczlon 1990; Janda, Endresen, Kuznetsova, Lyashevskaya, Makarova, Nesset, and Sokolova 2013).

