Phasal Polarity in Bantu Languages

A typological study

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Abstract

This study explores a category of expressions akin to not yet, already, still and no longer, called Phasal Polarity (PhP) expressions and builds on the work of Löfgren (2018). PhP expressions encode the domains of phasal values, polarity and speaker expectations and have previously been described in European languages (van der Auwera: 1998) and in a small, genealogically diverse sample (van Baar: 1997). Using reference grammars as the primary source of information the aim of this study is to describe PhP expressions in Bantu languages. The results confirm the findings in Löfgren (2018), the distribution and behaviour of PhP expression in Bantu differs from both European languages and the genetically diverse sample of van Baar. The markers are found to be morphologically diverse and the verbal morphotax indicates that the markers are, or are in the process of, being incorporated into the tense-aspect systems of their respective language. Furthermore, the cross-linguistic frequency of PhP expressions seem to have areal or genealogical tendencies.

Keywords

Sammanfattning

Denna studie utforskar en kategori av utryck besläktade med inte än, redan, fortfarande och inte längre, som kallas Phasal Polarity (PhP) expressions. Studien bygger vidare på en studie av Löfgren (2018). PhP expressions uttrycker fas, polaritet och talarförväntningar och har tidigare beskrivits i en studie med europeiska språk (van der Auwera: 1998) och i en småskalig, genetiskt mångfaldig studie (van Baar: 1997). Med referensgrammatikor som primärkälla ämnar denna studie undersöka PhP expressions i Bantuspråk. Resultaten styrker det som tidigare påvisats av Löfgren (2018). PhP expressions i Bantuspråk har annorlunda distribution och användning jämfört med europeiska språk och Van Baars urval. Markörerna varierar avseende morfologi och verbens morfotax indikerar att markörerna har, eller håller på att, inkorporeras i respektive språks TA-system. Vidare föreslås att den tvärspråkliga frekvensen för PhP exressions har areala eller genealogiska tendenser.

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Abbreviations

1	1st person		OBJ/OM	object marker
2	2nd person		PERS	persistive
3	3rd person		PRI	present imperfective
9	prefix for class 9		PFV	perfective
15	prefix for class 15		PRO	pronoun
ADV	adverb		PROG	progressive aspect
ANT	anterior		PRS	present tense
ART	article		PST	past tense
AUG	augmentative		QUOT	quotative
AUX	auxiliary		RECPAST	recent past
CL	class		SG	singular
CE	counterexpectational		SM	subject marker
C.PASS	causative passive voice		STAT	stative
DELF	delocutif (see Zavoni (2003))		SUBJ	subjunctive
DIST	distal		TAM	tense aspect mood
DJ	disjoint		=	clitic boundary
DP	dependent		≠	verbal root
FUT	future		?	morpheme unknown
FV	final vowel			
INF	infinitive			
IPFV	imperfective			
lgs	languages			
NEG	negative			

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Presentation conventions

Metalanguage small capitals are used to discuss PhP expressions on an abstract level when no specific language is discussed (i.e. NOT YET, STILL etc.).

Grammatical tone is a common feature in Bantu. This feature is not consistently indicated in the reference grammars, and is therefore only illustrated when tone is relevant to distinguish one PhP expression from another marker. Otherwise, tone is left out of the discussion.

Examples are given as found in the original source. The ISO-code of each language is given in square brackets in all examples.

1 Introduction

The perception and cognition of time is a universal human experience, as is the encoding of aspectual or temporal distinctions in a language. Although not necessarily codependent, the human perception of time is diverse, as is the linguistic encoding of this phenomenon. Be it grammatical, syntactical or lexical, all human languages can express time. The grammatical category tense is used to relate events to a point in time. Aspect is used to describe the internal structure of the event, i.e. if it is ongoing or completed. There is another category related to the aspectotemporal domain which is known under the label of 'phase' and which was first introduced by Plungian (1999). Phasal values encode different phases of an event; the start, the middle and the end. While phases are most often expressed with adverbials in European languages, there are some languages that have grammaticalised phasal values.

The focus of this study is a category of expressions that combine phasal values and polarity values called Phasal Polarity expressions (henceforth PhP). PhP expressions received some attention in the late 1990s, but not much has been done since then (van der Auwera 1998; van Baar 1997). The domain remains fairly unexplored, but there are two ongoing projects that are currently investigating this phenomenon. One of them is *Phasal Polarity in African languages* at Hamburg University, led by Raija Kramer. The other one is *Expectations shaping grammar: searching for the link, between tense - aspect and negation* at the Department of Linguistics at Stockholm University, led by Ljuba Veselinova. My work contributes to both of these projects by collecting and analyzing data from grammars. Furthermore, this study builds upon my BA thesis where I studied PhP expressions in East Bantu (Löfgren 2018). The present study should therefore be viewed as the second phase of a larger Pan-Bantu study.

1.1 Aims and research questions

The aim of this study is to describe Phasal Polarity expressions in Bantu languages while also contributing to the current discussion on Phasal Polarity. The research questions are investigated in the view of Kramer's (nd) theoretical framework. The research questions are as follows:

1. What forms do the PhP expressions have?

2. Which PhPs are available and in what languages?

3. What is the morphological status of the markers?

4. What function do the PhP expressions have?

5. Do the markers occur under any restrictions?

2 Background

In the following section the phenomenon of Phasal Polarity is introduced. In section 2.1, the basic functions of PhP are established. In section 2.2, a framework for discussing PhP is introduced, and the characteristics of PhP expressions are explored further. In section 5.5, alternative views and theoretical implications are discussed. In section 2.4, an introduction to relevant aspects of Bantu languages is given.

2.1 Phasal Polarity

Phasal Polarity mainly encodes three domains: phasal values, polarity and speaker expectations (van Baar 1997: 1). The English PhP expressions are adverbials, as illustrated in example (1) below.

(1)   PhP expressions in English (van Baar 1997: 1)

    a.   Peter is *still* in London.

    b.   Peter is *already* in London.

    c.   Peter is *not yet* in London.

    d.   Peter is *no longer* in London.

Phasal values mark the start, continuation or end of an event (Plungian 1999). Phases might resemble tense or aspect, but they are not the same. Tense has a deictic function and therefore relates an event to (most often) the moment of speech. Aspect is used to view the internal structure of an event (Comrie 1976, 1985). Phases, while temporal in nature, are not related to the moment of speech like tense, and do not describe the internal structure like aspect. Instead they express the stage of development the event is in. PhP expressions encode phases as follows: The inchoative ALREADY marks the starting point of an event. The continuative STILL expresses that the event is ongoing. The negative continuative NOT YET expresses the continuation of a non-existing situation and the terminative NO LONGER expresses the end of said event.

PhP expressions also encode polarity. There are two PhP items which are positive (ALREADY, STILL) and two which are negative (NOT YET, NO LONGER). They are also related to each other semantically by means of internal and external negation. Internal negation means that the PhP item has negation in its scope, and external negation means that the PhP item falls within the scope of negation. This is more apparent in some languages than others. Consider the following examples of PhP expressions in Spanish. In Spanish, NOT YET is constructed by negating STILL, and NO LONGER by negating ALREADY, thus making use of internal negation to create both negative PhP expressions.

(2)   The Spanish PhP system [spa] (Garrido 1992: 361)

    a.   *El   niño duerme   **todavía***
        ART child sleep.PRS.3SG still

        'The child is still sleeping'

    b.   *El   niño **no** duerme   **todavía***
        ART child NEG sleep.PRS.3SG STILL

        'The child is not sleeping yet'

    c.   *María **ya**   vive   aquí*
        Maria already live.PRS.3SG here

        'Mary already lives here.'

d. *María **ya** **no** vive aquí*
   Maria already NEG live.PRS.3SG here

   'Mary no longer lives here.'

PhP items can also express the speaker's expectations or attitude towards a situation. For example, if you expect something to happen, but it has not happened yet, you would use NOT YET. Some languages use different words or markers to express ALREADY, depending on if the event is realised earlier or later than expected. For example, in English *finally* can be used instead of *already* if something happens later than expected. Van der Auwera (1998) and van Baar (1997) compare the relation between PhP expressions and speaker expectations to scenarios, or several alternate realities that the speaker relates to when using a PhP expression (see section 2.2.3).

2.2 Kramer's parameters

Influenced by both van der Auwera (1998) and van Baar (1997), Kramer (nd) has developed six parameters under which PhP items can be discussed. The parameters are: telicity, coverage, pragmaticity, paradigmaticity, expressibility and wordhood. The telicity parameter concerns the telicity or phasal properties of PhP expressions. The coverage parameter concerns whether a PhP items can be used to express more than one PhP concept, as illustrated in example (2) above. The pragmaticity parameter concerns how speaker expectations affect PhP expressions. The paradigmaticity parameter covers the paradigmatic relationship between PhP expressions themselves, as well as between PhP expressions and TAM. The expressibility parameter concerns whether a PhP system has specialised items or not. The wordhood parameter concerns the encoding of PhP items, more specifically the fact that they vary from independent auxiliaries or adverbs to bound affixes. Since information about semantics and pragmatics is hard to come by in grammars, the parameters telicity and pragmaticity cannot be addressed in this study. The parameters expressibility and wordhood are addressed in the results and the discussion (see sections 4.1, 4.2, 5.1.1 and 5.1.2). The parameters coverage and paradigmaticity are only included in the discussion (see sections 5.1.4 and 5.1.3).

In the following sections each PhP item will be discussed in detail according to Kramer's parameters.

2.2.1 *Telicity* and the encoding of phasal values

As mentioned above PhP expressions express phasal values. Kramer (nd) discusses the phasal properties of PhP items together with the fact that they are either telic or atelic, hence the name of the parameter.

STILL is continuative, atelic and encodes the phase of an event that is ongoing, without any specific reference to when it started or when it will end. Van der Auwera (1998: 41) refers to STILL as a phase of continuation that presupposes a positive preceding state. In other words, STILL presupposes that the current event held in the past and states that it still holds at the moment of speech.

ALREADY is inchoative and encodes the starting point of an event. Van der Auwera (1998: 41) refers to ALREADY as presupposing that the preceding event is negative, i.e. it was not previously ongoing, but has now begun. An inchoative reading implies that ALREADY is immediately contiguous to the previous negative state. Van Baar (1997: 37), however, disputes this claim. According to van Baar, ALREADY is not always inchoative, but is sometimes used to express the sense of earliness (see section 2.2.3). Van Baar uses the example below.

(3) Example of ALREADY in Dutch [nld] (van Baar 1997: 37)
    Hij gaat al niet meer naar school.
    he goes already NEG anymore to school

    'He has already quit school'

According to van Baar, the use of ALREADY in example (3) above does not necessarily mean that the boy has just quit school. Another interpretation is that the boy quit school earlier than expected, without the referred situation being contiguous to the moment of quitting. This dispute illustrates how much circumstances can change the meaning of a PhP expression. It is true that ALREADY can have an inchoative reading in some situations, but it is equally true that its main function can be to show the speaker's background assumptions, or expectations.

NOT YET is continuative, like STILL, but it encodes the continuation of a nonexistent situation. Similarly to ALREADY, Van der Auwera (1998: 41) describes NOT YET as presupposing a negative preceding event. The event was not previously ongoing and continues to not happen.

NO LONGER is a terminative expression which encodes the point of change where an event ends. Van der Auwera (1998: 41) describes NO LONGER as presupposing a positive preceding event. The event was previously ongoing but has now stopped, i.e. a punctual expression referring to a point in time when something stops happening. It should be mentioned that there are alternative ways of looking at NO LONGER. Van der Auwera (1998) mentions that NO LONGER also can be viewed as the absence of continuation. Consider the following scenario: If Fred's car is stolen, he no longer has a car. Does NO LONGER, in this case, refer to the point in time when Fred lost his car, i.e. the point when he no longer has it? Or does it describe the continuation of Fred not having the car in contrast to him having it before? It is possible to think of different scenarios that could give NO LONGER either a terminative, or a continuative reading. It can be argued that the use of NO LONGER in example (16) in the section below, is more punctual than the example with the car described above.

2.2.2 *Coverage* and the encoding of polarity

Kramer's (nd) coverage parameter covers whether a PhP expression is involved in more than one PhP expression. If a language has one specialized expression per PhP concept, like English in example (1), it is a rigid system. If a language has PhP expressions that are involved in more than one concept, like Spanish in example (2), it is a flexible system. The Spanish PhP system only has specialised items for the two positive PhP items, and the negative ones are constructed by negating their positive counterparts. When deriving negative PhP items from positive ones, internal or external negation is used. External negation negates the whole proposition, while internal negation only negates a component of the utterance. The relationship between PhP expressions and polarity was first described by Löbner (1989) in what he called the Duality Hypothesis and is used by Kramer to create the coverage parameter. The following section covers the relationship between polarity and PhP.

The internal negation of STILL is NOT YET, and the external negation yields NO LONGER. The relationship between PhP and negation is illustrated in table 1 below. Van Baar (1997: 21) describes the relationship between STILL and negation as follows. Consider an ongoing situation [STILL (p)]. The internal negation of this situation is [STILL (not p)], or NOT YET. This is true, because if something has *still not* happened, it is true that is has *not yet* happened. The external negation of the ongoing situation [STILL (p)] is [not (STILL p)], or NO LONGER. This is true because if something is *not still* happening, it is true that it is *no longer* happening.

Table 1: PhP and internal and external negation

PhP and internal and external negation		
	Internal neg.	External neg.
STILL	[STILL (not p)]	[not STILL (p)]
ALREADY	[ALREADY (not p)]	[not ALREADY (p)]

The internal negation of ALREADY is NO LONGER, and the external negation yields NOT YET, i.e. the

opposite of STILL. Van Baar (1997: 21) describes the relationship between ALREADY and negation as follows. Consider an ongoing situation [ALREADY (p)]. The internal negation of this situation is [ALREADY (not p)], or NO LONGER. This is true, because if something has *already not* happened, it is true that is is *no longer* happening. The external negation of the situation [ALREADY (p)] is [not (ALREADY p)], or NOT YET. This is true because if something has *not already* happened, it is true that it has *not yet* happened.

As was described above, NOT YET is the internal negation of STILL and the external negation of ALREADY. The English PhP expressions do not make use of this relationship in the realisation of PhP items, but many other languages do. It is common for languages to make use of internal negation to form NOT YET, like in the example of Russian below. The Russian *esčë* means STILL, but when negated it becomes NOT YET.

(4)   Example of NOT YET in Russian [rus] (van der Auwera 1998: 40)
      Igorja esčë ne   v Moskve
      Igor   still not in Moscow

      'Igor is not in Moscow yet'

According to van Baar (1997), to form NOT YET by negating ALREADY is considered to be rare. In Classical Nahuatl *ye* (already) is negated into *aya* which means NOT YET (lit. 'not already') (van Baar 1997: 22).

As mentioned above, NO LONGER is the external negation of STILL and the internal negation of ALREADY, i.e. the opposite of NOT YET. Again, the four different English PhP expressions do not reflect this relationship, but those of other languages do. According to van Baar (1997), it is common for languages to make use of internal negation to form NO LONGER, like in the example of Russian below. The Russian *uže* means ALREADY, but when negated it becomes NO LONGER, as can be seen in example (5) below. In Classical Nauhuatl, on the other hand, NO LONGER is constructed from negating STILL, illustrated in example (6).

(5)   Example of NO LONGER in Russian [rus] (van der Auwera 1998: 40)
      Igorja uže   ne   v Moskve
      Igor   already not in Moscow

      'Igor is no longer in Moscow'

(6)   Example of NO LONGER in Classical Nahuatl [nci] (Andrews 2003: 175)
      ayoc   ac
      NEG.STILL he/she.is.present

      'He is no longer here'

2.2.3 *Pragmaticity* and the encoding of speaker expectations

As mentioned above, Kramer's pragmaticity parameter concerns how speaker expectations affect PhP expressions. When using a PhP expression, the speaker relates the current event to either a time or state before the current moment, or an alternate one (van der Auwera 1998: 39). This is sometimes realised with different PhP expressions depending on the speakers attitude or expectation. A PhP expression can have up to three possible alternate scenarios depending on its semantic properties: a neutral scenario, an unexpectedly early scenario and an unexpectedly late scenario. The examples below are based on (van Baar 1997: 27-34) and share the following background:

1 p.m.: Lisa and Fred have a meeting at the airport.
2 p.m.: Lisa will fly to Oslo.
3 p.m.: Lisa will arrive in Oslo.

STILL has two alternative scenarios. One neutral, and one that is unexpectedly late. If Fred arrives at the airport at 1 p.m., he expects Lisa to be at the airport, as agreed. If this is the case, Fred would say:

(7)   (Yes, I know) Lisa is still at the airport.

Let's say that Fred and Lisa are supposed to discuss a very urgent matter during their meeting and Lisa has to get this information to Oslo as soon as possible. If on his way home, Fred learns that Lisa has to take a later plane, his utterance would be one of surprise and disappointment because Lisa is still at the airport later than he expected.

(8)   (Damn!) Lisa is still at the airport.

An interpretation of STILL where the situation in its scope occurs unexpectedly early is logically impossible. If Fred expects Lisa to arrive at the airport at 1 p.m. and leave at 2 p.m., but she in fact arrives at 12 p.m., Fred can not use STILL (van Baar 1997: 33).

Unlike STILL, ALREADY has three possible scenarios. A neutral scenario, an unexpectedly early scenario and an unexpectedly late scenario. To illustrate each scenario, the same background will be used and is repeated below for the sake of convenience.

1 p.m.: Lisa and Fred have a meeting at the airport.
2 p.m.: Lisa flies to Oslo.
3 p.m.: Lisa arrives in Oslo.

If Fred is late to the meeting and arrives at the airport at 3 p.m., he expects Lisa to be in Oslo. If this is the case the scenario is neutral, and Fred would say:

(9)   (Yes, I know) Lisa is already in Oslo.

If Fred arrives in time for the meeting at 1 p.m., but finds out that Lisa took an earlier flight at 12 p.m., he would be surprised. In this case he would use ALREADY to convey that the event of Lisa being in Oslo happened earlier than expected, and say:

(10)   (What?!) Lisa is already in Oslo.

A third scenario is also possible. If Fred and Lisa have their meeting and afterwards find out that Lisa's plane is delayed they would be disappointed. Remember, Lisa has to arrive in Oslo as soon as possible. When Lisa has landed, Fred would say:

(11)   Lisa is finally in Oslo.

In English, a different expression is used for the scenario that is later than expected, and also conveys a sense of relief or contentment that event has ocurred.

Like STILL, NOT YET has two possible scenarios. A neutral scenario and an unexpectedly late scenario. If Fred is early for their meeting and arrives at the airport at 12 p.m., Fred would say:

(12)   (Yes, I know) Lisa is not at the airport yet.

The second scenario of NOT YET is a surprisingly late one. In English this is expressed with a different expression than in the neutral scenario in example (12). If Lisa's is late for their meeting and Fred is at the airport waiting for her, he would say:

(13)   (What!?) Lisa is still not at the airport.

Both *not yet* and *still not* express that an event has not happened yet. The difference is that *still not* conveys a sense of impatience or irritation (van Baar 1997: 35).

As earlier mentioned, STILL only has a neutral and an unexpectedly late scenario since the third is logically impossible. The unexpectedly early scenario is impossible for NOT YET as well. It is impossible to not yet have arrived at a place earlier than a person expects. Up till the expected time of arrival, Fred does not expect Lisa to be at the airport and would therefore use *not yet*, making it a neutral scenario.

Like ALREADY, NO LONGER can have a neutral, unexpectedly early and unexpectedly late reading. The background used in the previous sections is repeated below for the sake of convenience.

1 p.m.: Lisa and Fred have a meeting at the airport.
2 p.m.: Lisa flies to Oslo.
3 p.m.: Lisa arrives in Oslo.

If Fred is late for his meeting with Lisa and arrives at the airport at 3 p.m., he knows Lisa will have already departed, thus making the scenario neutral. Then he would say:

(14)   (Yes, I know) Lisa is no longer at the airport.

If Fred is on time for the meeting, but Lisa has already left, it would result in an unexpectedly early scenario. The point in time when Lisa is no longer at the airport is earlier than expected.

(15)   (What?!) Lisa is no longer at the airport.

If Fred and Lisa have their meeting on time, but Lisa's flight is delayed, she would be leaving later than expected. Remember, she has to arrive in Oslo as soon as possible. In this case, when Lisa has finally left, Fred would say:

(16)   (Great!) Lisa is no longer at the airport.

2.2.4 *Paradigmaticity* and symmetric/asymmetric PhP systems

Kramer's paradigmaticity parameter concerns the paradigmatic properties of PhP expressions and the systems they form. This parameter has an internal and external perspective. From an internal perspective, the paradigmaticity parameter covers the paradigmatic relationship between PhP expressions themselves. From an external perspective it covers the paradigmatic relationship between PhP expressions and TAM.

The English PhP system is symmetric from an internal point of view, because all English PhP expressions have an equivalent with opposite polarity. According to (van Baar 1997: 61), the logical equivalent of STILL is NO LONGER, and for ALREADY it is NOT YET. Kramer uses an example from Fulfulde to explain asymmetric systems. The Fulfulde *siwa* means NOT YET, but since Fulfilde lacks the PhP item ALREADY, it has no corresponding PhP expression. Instead it shows paradigmatic properties together with the completive marker *timm* 'to finish'. The Fulfulde PhP system is therefore asymmetric, there is no corresponding PhP expression for NOT YET.

From an external point of view, the paradigmaticity parameter concerns whether PhP expressions in a language can co-ocurr, or form oppositions, with any TAM-markers in that language. If this is the case, the system is symmetric and if not the system is asymmetric. Kramer (nd) notes that since the relationship between the aspectotemporal domain and PhP is complex, it is unlikely that any system is truly symmetric in this case.

2.2.5 *Expressibility* and the cross-linguistics frequency of PhP expressions

The expressibility parameter concerns whether a PhP-system has any missing concepts, i.e. if there is any PhP item that is not expressed. Both van der Auwera (1998) and van Baar (1997) find that most languages can express all PhP items. It is most common for a language to have a four-term system, but specific languages can of course be missing one or all PhP expressions. In van der Auwera's sample, only two languages lack NO LONGER, four languages lack STILL, four languages lack NOT YET and ten languages lack ALREADY (1998: 36). This result leads to the conclusion that NO LONGER is the most frequent PhP expression, followed by STILL, NOT YET and ALREADY. Van der Auwera summarises this in his Euroversal Accessibility hierarchy of PhP expressions:

(17)   The Euroversal Accessibility Hierarchy (van der Auwera 1998: 37)
        NO LONGER > STILL/NOT YET > ALREADY

In van Baar's sample, one language lack STILL and one NOT YET, three languages lack ALREADY and four languages lack NO LONGER (1997: 116). Like van der Auwera, van Baar also summarises his results in a hierarchy.

(18)   The Universal Expressibility Hierarchy (van Baar 1997: 116)
        STILL/NOT YET > ALREADY > NO LONGER

Comparing the two hierarchies, it is apparent that they differ on the account of one expression, namely NO LONGER. While van der Auwera (1998) claims that it is the most common PhP expression in European languages, van Baar (1997) finds that it is the least common in his more genealogically diverse sample. In this case, European languages seem to behave differently to the rest of the world. It should be mentioned that by today's standards, van Baar's sample of 40 languages is too small to draw any significant conclusions.

2.2.6 *Wordhood* and structural encoding of PhP expressions

A PhP item can show varying degrees of independence. They range from auxiliaries that take grammatical markers, to bound affixes (Kramer nd). The sample of van der Auwera (1998) is an example of the former. His study is called Phasal adverbials in the languages of Europe, because in most European languages PhP expressions are adverbs, i.e. independent lexical items. Van Baar (1997) on the other hand, concludes that the encoding of PhP expressions is very diverse in his sample. Depending on the language, PhP items can be free particles, auxiliaries, adverbs, bound affixes or clitics. Some languages even have systems with mixed bondedness (van Baar 1997: 321). PhP expressions can therefore not be identified based on formal criteria alone.

2.3 Origin of PhP expressions

Van Baar (1997) discusses some etymological sources for PhP items, summarised in table 2. He finds that three common sources for ALREADY are completion 'finish', affirmation 'good', or future reference (van Baar 1997: 86). For STILL he finds that words referring to repetition 'again' and consistent extension 'same' are common sources (van Baar 1997: 91). NO LONGER has quite similar sources to STILL. Van Baar (1997) finds that consistent extension, repetition and comparative words like 'more' are the most common sources (van Baar 1997: 95). The etymology of NOT YET is, however, less clear. Van Baar finds some examples of it originating from words meaning 'lack of' or 'a while', but the majority of cases are unclear (van Baar 1997: 97).

Both van der Auwera (1998) and van Baar (1997) find that PhP expressions are often borrowed from neighbouring languages. The results of van der Auwera's (1998: 68-72) study show that STILL and NOT YET are being borrowed the most, followed by ALREADY and lastly NO LONGER. According to van Baar (1997: 100-101), the PhP expression most likely to be borrowed is ALREADY, followed by STILL and then

NO LONGER. Van Baar did not find any case of NOT YET being borrowed in his study. He relates this back to his claims about system coverage and points out that lower coverage means that an item is less likely to have been borrowed.

Table 2: Etymological sources and borrowability of PhP expressions

Origins and borrowability of PhP expressions		
PhP expression	Origin	Borrowability
STILL	'again', 'same'	high (van der Auwera 1998)
		low (van Baar 1997)
ALREADY	'finish', 'good', FUT	medium (van der Auwera 1998)
		high (van Baar 1997)
NOT YET	unclear	high (van der Auwera 1998)
		low (van Baar 1997)
NO LONGER	'more', 'again'	low (van der Auwera 1998; van Baar 1997)

2.4 Bantu languages

Bantu languages are part of the Niger-Congo phylum and are spoken in Sub-Saharan Africa, from Nigeria and Cameroon, across to Somalia, and down to southernmost South Africa (Nurse 2008: 2). The classification of Bantu languages is a complex and somewhat disputed topic. Bantuists have come up with numbers ranging from 300 languages (Nurse 2008) or 400 languages (Grollemund et al. 2015), up to 500 or 600 (Maho 2003; Grimes 2000). It is difficult to say which classification is correct since the classification of Bantu languages is a disputed topic (see van de Velde et al. 2019). There are three main reasons that make classifying Bantu languages difficult. The first reason is the classic linguistic dilemma of distinguishing language from dialect. Second, the complex migration patterns of the Bantu people have affected the languages and made them harder to classify. Third, there are still many Bantu languages that are undocumented. Nurse (2008) states that, as of now, it is impossible to know the exact number of Bantu languages, and suggests that any number from 300-600 is possible, but that a lower number is more realistic. The classification used in this study is that of Hammarström et al. (2018), which is largely based on the one by Grollemund et al. (2015).

2.4.1 The Bantu verb

Bantu languages are agglutinating and express morphologically what other languages might express lexically or syntactically (Nurse 2008: 21). Most Bantu languages also have lexical and grammatical tone. Due to their complex morphology, it is common in Bantu linguistics to illustrate the morphotactics of the verb using a template. The first template was proposed by Meeussen (1967), but has since been changed. The Bantu verbal template is illustrated in table 3, based on Güldemann (1999: 546). The template describes the single inflected verb, but it is important to note that Bantu verbal constructions may contain up to two auxiliaries as well. The Bantu verb may contain morphological markers for: subject, object, tense, aspect, mood, polarity and derivation. It is not obligatory for all slots to be filled (Nurse 2008: 31).

The template and its explication is based on Güldemann (1999) and Nurse (2008). According to Nurse (2008), the preinitial slot most commonly contains the primary negative, which marks a negative main

Table 3: Morphological structure of finite predicates in Bantu (Güldemann 1999: 546)

The Bantu verbal template

SLOT	FUNCTION
preinitial	TAM/polarity
initial	subject
postinitial	TAM and polarity
preradical	object
radical	verbal root
prefinal	derivation/TAM
final	TAM
postfinal	clause type/object/polarity

clause/indicative clause. Because of its position on the edge of the verb, the preinitial slot is also prone to new innovations, such as tense, aspect or focus markers (Nurse 2008: 32). The initial slot is the subject slot, filled by either a pronoun or a class marker for animals or inanimate objects. The postinitial slot contains markers for TAM and polarity.

The preradical slot contains pronominal object markers that agree with the object(s). The radical slot contains the verbal root. The prefinal slot, also called the extension, contains derivations such as applicative, causative and passive. The prefinal slot, as can be seen in table 12, contains imperfective/habitual/repetitive aspect. The final position contains modal markers such as the subjunctive or indicative, as well as a past or anterior marker. The postfinal slot is, like the prefinal, less stable than the slots closer to the root. It sometimes contains morphemes marking plurality, but differs a lot from language to language due to its position (Nurse 2008: 36-38).

2.4.2 Tense and aspect in Bantu languages

In this section a brief introduction to the temporal and aspectual distinctions in Bantu is given. Since Bantu TA-systems are very complex, this section only contains information relevant to this study, and is by no means exhaustive.

In Bantu languages, tense is encoded by obligatory inflection, usually in the postinitial slot, or in both the postinitial and final slots. Different tonal patterns are also used, as well as auxiliaries. Bantu languages are famous for having multiple remoteness distinctions in past and future tenses, but this feature varies a lot from language to language. In a study by Nurse (2008), the results show that 40 percent of Bantu languages have more than one future tense and around 80 percent have more than one past tense. A number as high as five past or future tenses have been attested for a couple of languages, but they are outliers (Nurse 2008: 89).

(19) Past tense distinctions in Pimbwe [piw] (Nurse 2008: 91)

    a. (tw-a-ti) tʊ-gʊd-ile 'We bought (today)'

    b. (tw-á-lí) tʊ-ká-gʊd-íle 'We bought (yesterday to last month)'

    c. tw-á-lí tʊ-g ´ʊd-ile 'We bought (remote)'

The future tense distinctions function in the same way. In languages with two future tenses, F1 often refers to hodiernal future (sometimes also crastinal) and F2 refers to any time after that. There is little data on languages with more than 2 future tenses, but they are thought to be divided similarly to the past tense. As can be seen in example 20, Pimbwe has a hodiernal future tense, one that stretches from tomorrow to next month and a remote future for all events after next month, illustrated in example (20) below.

(20)   Future tense distinctions in Pimbwe [piw] (Nurse 2008: 91)

    a.   tʊ-kʊ-gʊl-a 'We will buy (today)'

    b.   (tʊ-lʊ-gʊl-á 'We will buy (tomorrow to last month)'

    c.   tʊ-lʊ-gʊl-ánga 'We will buy (next month to infinity)'

The most common aspects found in Bantu, according to Nurse's (2008) study, are: progressive, persistive, anterior, imperfective, habitual, perfective and inceptive. Aspect can be expressed by both inflection and by periphrastic constructions. If expressed periphrastically, the tense marker is commonly found on the auxiliary and the aspect marker on the main verb. Aspect is most often encoded in the final slot, but can also be found in the postinitial slot (Nurse 2008: 132).

A common contrast in Bantu TA-systems is perfective/imperfective. Furthermore, imperfectives are typically marked in Bantu, while perfectives typically receive zero-marking (Nurse 2008: 136). Consider example (21) below. The imperfective marker *ang* marks the imperfective while the perfective form is only marked for (past) tense.

(21)   Perfective and imperfective aspect in Bukusu [bxk] (Nurse 2008: 135)

    a.   xw-á-kul-a 'We bought'

    b.   xw-á-kul-ang-a 'We were buying'

Progressive, continuous and habitual aspect are all common in Bantu. Habitual aspect refers to an action that is often or habitually re-occurring. In Bantu languages, progressive and continuous aspect are very similar as they both refer to an ongoing event without concern for its beginning or end. The difference is that continuous aspect refers to a longer period of time than progressive aspect, which refers to a period closer to the time of speech (Nurse 2008: 137). Progressive aspect is more common, and attested in 66 percent of Nurse's sample. Habitual aspect is attested for 43 percent of the sample and is therefore considerable less common than progressive aspect (Nurse 2008: 139-143).

2.4.3 Negation in Bantu languages

As mentioned briefly in the previous section, Bantu languages often have a primary and a secondary negative marker. The primary negative marker negates main clauses or the indicative mood and the secondary negative marker negates relative clauses, the subjunctive mood and/or imperatives and infinitives. According to Güldemann (1999: 551), it is common that negative markers in the pre-initial slot is restricted to main clauses, while negative markers in the post-initial slot are not commonly restricted to a clause-type.

Historically, the primary negative marker was most often found in the preinitial slot, while the secondary negative was found in the postinitial slot. This is still true for some Bantu languages, but many have developed a primary negative marker in the postinitial slot (Nurse 2008: 180-182). Nurse (2008) finds that in his sample, the postinitial strategy is the more common as it is found in 74 percent of his sample. The preinitial and postinitial strategies are illustrated in examples (22) and (23) below. The negative marker *ta* is the same in both languages, but in Lega it is found in the preinitial position and in Lungu in the postinitial slot.

(22)   Preinitial negation in Lega [lgm] (Nurse 2008: 181)

    a.   tw-a-bolót-á 'We pulled'

    b.   <u>ta</u>-tw-á-bolota 'We did not pull'

(23)   Postinitial negation in Lungu [mgr] (Nurse 2008: 180)

    a.   tú-kú-líma 'We are hoeing'

    b.   tu-<u>táá</u>-ku-lima 'We are not hoeing'

Other negation strategies that are found include a double-marking strategy, where a negative marker is found together with a negative final vowel in the postfinal slot, as well as negative pre or post verbal clitics (Nurse 2008: 180-183). Negation is also sometimes marked periphrastically (Güldemann 1999: 550). Bantu languages have many negation strategies, but the inflectional strategy is by far the most common. Several strategies can also co-occur on the same verb (Nurse 2008: 184). Nurse (2008: 188) finds that 77 percent of his sample languages have more than one negation strategy. Some languages were found to have as many as four or five different strategies.

Another important feature of negation in Bantu languages is the fact that some languages have a different TA-system depending on the polarity of the sentence. Bantu negation is therefore often asymmetric in the sense of Miestamo (2005). The TA-markers of the positive system are not the same as in the negative system (Nurse 2003: 184). Compare examples (24) and (25) below. In example (24) there is an anterior prefix *a*. In the negative equivalent the negative anterior marker *zo* is used instead.

(24)   Example of the anterior in Kalanga (Chebanne and Schmidt 2010: 116)
nd-a-bon-a
1SG-ANT-see-FV

'I have seen'

(25)   Example of the negative anterior in Kalanga (Chebanne and Schmidt 2010: 116)
a-ndi-zo-bon-a
NEG-1SG-ANT.NEG-see-FV

'I have not seen'

2.4.4 Grammaticalisation in Bantu

To further discuss some of the diachronic implications of this study, an introduction to grammaticalisation is necessary.

Broadly speaking, grammaticalisation is a diachronic process where grammatical morphemes develop from lexical morphemes. Bybee et al. (1994) described the process as follows. A lexical word with a more general meaning is used in a wide variety of contexts. Frequent usage leads to further loss of referential content, which in turn allows the word to be used in yet more contexts. The increase in frequency also leads to phonological reduction and dependency on other elements in the utterance. Dependency leads to rigidity in terms of position in the utterance (word order), which leads to fusion with nearby elements. Another consequence of a high frequency of occurrence and very general semantic meaning, is use in redundant situations. This leads to the interpretation that when not used, it signals a different or opposite meaning. This is when the gram becomes obligatory. This is, of course, a simplified description (see also Givón (1971) and Heine (2011)).

There are a few issues that should be mentioned in a discussion of grammaticalisation in Bantu. The agglutinating structure of modern day Bantu was developed from three main sources: non-verbal material preceding the verb, non-verbal material following the verb and auxiliary verbs preceding the lexical

verb. Non-verbal material, either before or after the verb, gradually developed into clitics and then into affixes (Nurse 2008: 285-288). The same process is true for auxiliaries, which are still very productive as a grammaticalisation source in Bantu, and have been for millennia. Typically, the construction that develops into an inflected verb is an auxiliary inflected for tense and the verb in the infinitive. It is also possible for an auxiliary inflected for tense and a main verb inflected for aspect to develop in the same way.

Another peculiarity often seen with Bantu auxiliaries is that the auxiliary often has the majority of the inflections, and therefore looks more like the main verb. This is discussed by Heine (2011). Consider the following example. The main verb (V1) takes a non-finite verb as its complement (26a). V1 gradually loses some of its semantic and morphosyntactic properties, and gains some grammatical properties (26a). V1 is now an auxiliary and V2 is the main verb (26b).

(26)   Grammaticalisation of auxiliary constructions in Bantu (Heine 2011: 21)

    a.   Main verb (V1) + (non-finite verb) complement

    b.   Auxiliary + Main verb (V2)

This is how the above mentioned construction, with an auxiliary that looks like a main verb, comes to be. It is also possible that the verb that is now the auxiliary verb and the main verb will eventually merge and, as earlier stated, will grammaticalise into a single inflected verb.

2.5 Summary

PhP expressions are morphologically diverse markers that encode phasal values, polarity and speaker expectations. Together they form a system within a language. Earlier studies by van der Auwera (1998)and van Baar (1997) have found that the cross-linguistic frequency in European languages differs from a world-wide sample. Van der Auwera's European study finds that NO LONGER is the most common PhP expression, while Van Baar claims that STILL is the most frequent. The goal of this study is to investigate the encoding of Phasal Polarity in Bantu languages. Influenced by both van der Auwera (1998) and van Baar (1997), Kramer (nd) has developed six parameters under which PhP items can be discussed: telicity, coverage, pragmaticity, paradigmaticity, expressibility and wordhood. Her parameters provide a theoretical framework for the study.

3 Method

In this section, an outline of the method is provided. In section 3.1, the sample is described. In section 3.2, the data collection and analysis are explained and in section 3.3, the working definitions are described.

3.1 The sample

The study should be viewed as the second phase of a larger Bantu study, which begun with my BA thesis where I studied PhPs in East Bantu based on a sample of 46 languages. In the present study I expand this East Bantu sample with a selection of 33 languages from the whole Bantu speaking area. Thus I worked with a convenience sample of 79 languages and a stratified sample of 53 languages. The languages in the stratified sample were selected based on known genealogical affiliation within the Bantu family, to avoid genealogial bias. The classification used is the one found in Glottolog (Hammarström et al. 2018). Many closely related languages from smaller sub-families within the Bantu family, such as Botatwe or Sotho-Tswana, were thinned out. Languages which were not as closely related, but in geographical clusters were also culled. Care was also taken to include languages from as many different branches of the Bantu family as possible, so that the whole Bantu area was covered.

The samples are presented in Appendix A and B in alphabetical order. Both genealogy and areality were taken into account while constructing both samples.

The stratified sample was used to calculate the cross-linguistic frequency of PhP expressions in Bantu, i.e. to answer research question 2 (see section 1). To answer research questions 3-5, which are more exploratory in nature, it was deemed more valuable to include as much data as possible. Thus, the main sample of 79 languages was used.

3.2 Data collection and analysis

The data were collected from grammars using the working definitions found in section 3.3. There are three main problems with grammars. First, grammars may be outdated, and as such features considered important today may not be described at all. Second, the language itself might have changed since the grammar was written. Third, the presentation conventions have changed over the years which makes morphological analysis and glossing very difficult at times. Therefore, effort was made during the data collection to use extensive and modern grammars as much as possible. The advantages of using grammars is that they are an easily accessible source of information and do not have any of the biases a questionnaire or an elicitation have (Croft 2002: 29-30).

A major difficulty was that all grammars do not present examples in glossed form. The examples containing PhP expressions were glossed by consulting relevant chapters in the grammar to identify the relevant morphemes. Below follows a typical example.

(27)   Example of STILL in Ruund as found in the original source (Nash 1992: 742)
        nicimatèkin
        'I am still placing them'

(28)   Example of STILL in Ruund [own glossing] (Nash 1992: 742)
        ni-ci-ma-tèk-in
        1SG-STILL-OBJ-place-CONT

        'I am still placing them'

The orthography is another challenge. When working with Bantu languages, bound morphology is to be expected. In some cases, a grammar with little to no bound morphemes was found. It is impossible to

say if this is because of the orthography, or if the author analysed the language in question as analytical. This makes it difficult to discern whether the markers are bound or not. Below follows a typical example. The example is not glossed, but what seems to be morphemes have been separated.

(29) Example of NOT YET in Tsonga [tso] (Ouwehand 1978: 108)
A mi si heta xana?
'have you not yet finished?'

The morphological status of PhP expressions was often not mentioned explicitly in the grammars. Therefore, the following procedure was followed when analysing the morphological status of the PhP expressions found in the sample. A bound prefix found before the stem with one subject marker was analysed as a prefix. In a periphrastic construction, with one subject marker on the PhP expression and one on the finite verb, the PhP item was analysed as an auxiliary. Free forms were labeled: particle/adverb, since it is difficult to distinguish the two without more information.

3.3 Working definitions

This section provides the functions and characteristics of PhP expressions based on the works of van der Auwera (1998), van Baar (1997) and Kramer (nd).

First, it is important to clarify what is considered an 'expression' in this study. Regardless of their morphological status, all PhP items are considered separate expressions. A free adverb is equal to a bound prefix. Constructions with a positive PhP item with a negative counterpart, such as *ya / ya no* 'already / no longer' in Spanish, are also considered to be separate expressions. The view described above is adopted from both van der Auwera (1998) and van Baar (1997).

NOT YET: This is a continuative expression of negative polarity. It represents an ongoing period of time before an event where the action has not yet taken place, but is expected to do so. In example (30) both the negative and the continuative properties of NOT YET are illustrated. The speaker has not asked the question they want to ask. Therefore there is an ongoing period of time at the moment of speech where the speaker has not asked their question, but they expect to do so at a later point in time.

(30) Example of NOT YET in Makhuwa [vmw] (Van der Wal 2009: 106)
mí   nki-ná-n-koh-é
SG.PRO NEG.1SG-CE-1-ask-ANT

'I haven't asked him yet'

ALREADY: This is an inchoative expression of positive polarity, which embodies a point of change when an event starts taking place. In example (31) the inchoative properties of ALREADY are showcased, since it marks the point where the teacher starts teaching.

(31) Example of ALREADY in Southern Sotho [sot] (Paroz 1946: 95) [own glossing]
kē-se   kē-rut-a
1SG-ALREADY 1SG-teach-FV

'I already teach'

STILL: This is a continuative expression of positive polarity. It represents a period of time when an event is taking place, and presupposes that the preceding state is positive. Example (32) shows that STILL is continuative, since the speaker is speaking at the moment of the utterance, and also spoke before.

(32) Example of STILL in Nyakyusa-Ngonde [nyy] (Persohn 2017: 186)
tʊ-kaalɪ   tʊ-kʊ-job-a
1PL-PERS   1PL-PRS-speak-FV

'we still speak / we are still speaking'

NO LONGER: This is a terminative expression of negative polarity. It represents a negative point of change when the event ends. Example (33) shows that NO LONGER is terminative since it shows that the speaker does not know, but that they knew before.

(33) Example of NO LONGER in Totela [ttl] (Crane 2011: 327)
ta-tu-chi-izi
NEG-1PL-PERS-know.STAT

'We no longer know'

4 Results

The results are presented following the order of the research questions in section 1.1. In section 4.1, the crosslinguistic frequency and varying PhP systems in Bantu are presented. In section 4.2, results regarding the morphological status and bondedness of PhP expressions in Bantu are presented. In section 4.3, some suggestions regarding the functions of PhP expressions in Bantu are given.

4.1 Frequency of occurrence and form of PhP expressions in Bantu

In this section, research questions 1 and 2 are answered. Question 2 is related to Kramer's parameter of expressibility.

1. What forms do the PhP expressions have?

2. Which PhPs are available and in what languages?

The forms of PhP expressions in Bantu are very diverse. For detailed forms of all PhP items see Appendix 3-6.

Table 4 below shows the crosslinguistic frequency in the stratified sample. The most common expression is NOT YET, which occurs in 39 languages or 74 percent of the sample. The next most common PhP item is STILL, which was found in 32 languages or 60 percent of the sample. Third most common is ALREADY, which occurs in 21 languages or 40 percent of the sample. The least common PhP expression is NO LONGER, which was found in 16 languages or 30 percent of the sample. Note that the frequencies in table 4 and 5 do not add up to 100 percent because individual languages have systems with combinations of several PhP expressions.

Table 4: Crosslinguistic frequency of PhP expressions in Bantu (stratified sample)

Crosslinguistic frequency in the stratified sample				
PhP	NOT YET	STILL	ALREADY	NO LONGER
Distribution	39 (0.74)	32 (0.60)	21 (0.40)	16 (0.30)

Table 5 below shows the crosslinguistic frequency in the main sample. The relative frequency of NO LONGER remains the same. The relative frequency of NOT YET has increased with 12 percentage points compared to the stratified sample. The relative frequency of STILL has decreased with one percentage point. The frequency of ALREADY has decreased by four percentage points compared to the stratified sample. There is no major difference however, which suggests that the crosslinguistic frequency in the whole Bantu area is relatively stable.

Based on the data presented in table 5, a Bantuversal hierarchy (inspired by van der Auwera's Euroversal hierarchy) can be proposed. The term 'frequency' was chosen instead of 'accessibility' (van der Auwera 1998) or 'expressibility' (van Baar 1997) for transparency.

(34)   The Bantuversal hierarchy of frequency of PhP expressions
        NOT YET > STILL > ALREADY/NO LONGER

The PhP systems are illustrated in table 6, located on the next page. The table shows the distribution of PhP systems in both the main sample and the stratified sample. The results presented in the text below are taken from the stratified sample. Six languages were found to have complete systems with all four PhP expressions in the stratified sample, and six languages were found to have none.

Table 5: Crosslinguistic frequency of PhP expressions in Bantu (main sample)

Crosslinguistic frequency in the main sample

PhP	NOT YET	STILL	ALREADY	NO LONGER
Distribution	68 (0.86)	47 (0.59)	29 (0.36)	24 (0.30)

Table 6: Phasal Polarity systems in Bantu

PhP systems

PhPs per language	Function	No. of lgs (main)	No. of lgs (strat.)
Four	NOT YET / ALREADY / STILL / NO LONGER	8	6
Three	NOT YET/ALREADY / STILL	14	11
	NOT YET / STILL / NO LONGER	9	4
	ALREADY / STILL / NO LONGER	1	1
Two	NOT YET / STILL	13	9
	NOT YET / NO LONGER	4	4
	NOT YET / ALREADY	2	1
	STILL / ALREADY	1	1
One	NOT YET	14	6
	ALREADY	2	2
	NO LONGER	2	1
	STILL	1	1
None	-	8	6

Chuwabu is an example of a language with a system containing four PhP items, which are illustrated in examples (35)-(38). Example (35) shows the marker *ná*, which is described as a counterexpectation marker and occurs after a negative morpheme and before the stem. Example (36) shows the Chuwabu ALREADY, *já*, which is a free form. In example (37) the adverb *naváno*, which means STILL, is shown. Example (38) shows the Chuwabu NO LONGER. The imperfective marker *ní*, together with the negative marker *ka*, form NO LONGER.

(35) Example of NOT YET in Chuwabu [chw] (Guerois 2015: 383)
     o-hi-mála   *wóódda* *só* *ka-ná-kwa*
     1-PFV.DJ-finish 15.be.thin but NEG.1-CE-die

     'she has turned thin, but she has not died yet'

(36) Example of ALREADY in Chuwabu [chw] (Guerois 2015: 363)
     já   *o-hí-dhówá* *o-hi-ábála*   *já*   *sáyóóta*
     already 1-PFV.DJ-go 1-PFV.DJ-dress already 9a.underskirt

     'she went, put on the underskirt'

(37) Example of STILL in Chuwabu [chw] (Guerois 2015: 323)
     naváno
     'still, till now'

(38) Example of NO LONGER in Chuwabu [chw] (Guerois 2015: 533)
     áttú   *ddabunó* *ka-ní-f*   *n*   *biya* *dha* *ólôgo*
     2.people today   NEG.2-IPFV-want 9a.stove 9.CON 14.clay

     'today people no longer want clay stove'

In the stratified sample, 16 languages were found to have systems with three PhP items. The most common three-marker system is one with NOT YET, ALREADY and STILL, which was found in 11 languages. The next most common three-marker system is one with NOT YET, STILL and NO LONGER, with four occurrences. One system with ALREADY, STILL and NO LONGER was also found. An example of a system with three PhP items can be seen below, in examples (39)-(41). In Ha, the marker *ráa* means 'not yet'. It occurs directly before the verbal stem, after the subject marker and the negative marker. To express STILL, the marker *cháa* is used. Like *ráa*, it occurs before the stem. To express NO LONGER, the marker *ki* is used, together with negation. Both *ráa* and *ki* appear to be negative polarity items since they have to always be used together with a negative marker.

(39) Example of NOT YET in Ha [haq] (Nurse 2008: 198)
     nti-tu-ráa-gura
     NEG-1PL-yet-buy

     'We haven't bought yet'

(40) Example of STILL in Ha [haq] (Nurse 2008: 197)
     tu-cháa-soma
     1PL-PERS-read

     'We still read'

(41)   Example of NO LONGER in Ha [haq] (Nurse 2008: 197)
       nti-tu-ki-soma
       NEG-1PL-PERS-read

       'We no longer read'

Systems with two markers were found in 15 languages. The most common two-marker system is one with NOT YET and STILL, which was found in 9 languages. A system with NOT YET and NO LONGER was found in four languages and a system with NOT YET and ALREADY in one language. One system with ALREADY and STILL was also found. Nyakyusa-Ngonde was found to have two PhP expressions. Both NOT YET and STILL are expressed with the auxiliary *kaalɪ*. In example (42), *kaalɪ* occurs with a finite verb and means STILL. In example (43), it occurs with a verb in the infinitive and therefore means NOT YET. In terms of coverage, this means that one and the same term is used for both concepts, with or without negation.

(42)   Example of STILL in Nyakyusa-Ngonde [nyy] (Persohn 2017: 186)
       tʊ-kaalɪ   *tʊ-kʊ-job-a*
       1PL-PERS   1PL-PRS-speak-FV

       'we still speak / we are still speaking'

(43)   Example of NOT YET in Nyakyusa-Ngonde [nyy] (Persohn 2017: 187)
       jɪ-kaalɪ   *ʊ-kʊ-py-a*
       9-PERS   AUG-15((INF)-be(come).burnt-FV

       'It's not yet done.'

As can be seen in table 6, a total of ten languages were found to only have one PhP expression, the most common being NOT YET with 6 occurrences. Two languages were found to only have ALREADY, and one language NO LONGER. One language was also found to only have STILL.

A language with only one PhP expression is Makwe, seen in example (44). Makwe only has an expression for NOT YET, which is constructed with the auxiliary *náamba*, which is negated and inflected for person and imperfective aspect.

(44)   Example of NOT YET in Makwe [ymk] (Devos 2008: 106)
       ináamba   *kuúlya*
       NEG:1SG.be:yet.PRI   15.eat.INF

       'I have not eaten yet.'

The answer to research questions 1 and 2 are as follows. The forms of the PhP expressions in the sample are very diverse (see Appendix 3-6). The languages in the sample also vary a lot regarding what PhP items they have available. NOT YET is, however, the most common and occurs in 74 percent of the stratified sample. STILL is second and occurs in 60 percent of the languages. In comparison, ALREADY with 40 occurrences and NO LONGER with 30, are not very common. As for the PhP-systems found in the sample languages, they are varied as well. It was, however, slightly more common to have a PhP system with two or three expressions in the stratified sample.

4.2 Morphological status

In this section, research question 3 is answered. Question 3 is related to Kramer's parameter wordhood.

   3. What is the morphological status of the markers?

As mentioned in section 3.2, the orthography in some grammars makes it difficult to analyse bondedness. The results presented in this section should be considered tentative.

Tables 7-10 show the morphological status of the PhP items in the main sample. NOT YET most commonly occurs as a prefix and an auxiliary. It occurs as a prefix 25 times and an auxiliary 23 times. It also occurs as an adverb in six languages and as both a prefix and an auxiliary in three languages. All other categories only have one or two occurrences for NOT YET.

ALREADY occurs as an adverb 11 times, an auxiliary seven times and a prefix seven times. It was also found to be a particle once and a suffix once. There were two instances were the morphological status could not be determined, and is therefore labeled unclear.

STILL occurs as a prefix 27 times and an auxiliary ten times. It also occurs as an adverb six times and as both a prefix and an auxiliary in two languages. All other categories only have one occurrence for STILL.

NO LONGER most commonly occurs as negated STILL. It also occurs as a prefix three times, an adverb two times and as both an adverb and a particle in two languages. Below, examples of the most common types of PhP items are given. All other categories only have one occurrence for NO LONGER.

Table 7: Morphological status of NOT YET in Bantu (main sample)

Morphological status of NOT YET

Morphological status	No. of occurrences	Relative frequency (main sample)
Prefix	25	0.40
Auxiliary	23	0.37
Adverb	6	0.1
Prefix/aux.	3	0.06
Particle	2	0.03
Suffix	2	0.03
Neg. ant.	2	0.03
Verb	1	0.02
Neg. prs.	1	0.02
Neg. pst.	1	0.02
Neg. TA	1	0.02
Suffix/particle	1	0.02
Bipartite/prefix	1	0.02
Total:	68	

Table 8: Morphological status of ALREADY in Bantu (main sample)

Morphological status of ALREADY

Morphological status	No. of occurrences	Relative frequency (main sample)
Adverb	11	0.38
Auxiliary	7	0.24
Prefix	7	0.24
Unclear	2	0.07
Suffix	1	0.03
Particle	1	0.03
Total:	29	

Table 9: Morphological status of STILL in Bantu (main sample)

Morphological status of STILL

Morphological status	No. of occurrences	Relative frequency (main sample)
Prefix	27	0.56
Adverb	6	0.13
Auxiliary	10	0.21
Prefix/aux.	2	0.04
Suffix	1	0.02
Particle/adverb	1	0.02
Bipartite (prefix/suffix)	1	0.02
Total:	47	

Table 10: Morphological status of NO LONGER in Bantu (main sample)

Morphological status of NO LONGER

Morphological status	No. of occurrences	Relative frequency (main sample)
Neg. STILL	10	0.41
Prefix	3	0.13
Adverb	2	0.08
Particle/adverb	2	0.08
Auxiliary	1	0.04
Suffix	1	0.04
Iter. aux. contruction	1	0.04
Neg. prs.	1	0.04
Neg. impfv.	1	0.04
Neg. prog.	1	0.04
Neg. iter/impfv	1	0.04
Total:	24	

As mentioned above, NOT YET is most commonly an auxiliary or a prefix. In Sukuma, NOT YET is described as an auxiliary. As can be seen in example (45), it is inflected for person. In Kande, NOT YET is described as a prefix. As can be seen in example (46), the prefix *na* occurs in an initial position, followed by the pronoun.

(45) Example of NOT YET in Sukuma [suk] (Nurse 2008: 199)
dʊ-taalɪ   ʊgʊ-gʊla   ɪminyeembe
1PL-still-be to-buy   mangoes

'We haven't bought yet = have still to buy'

(46) Example of NOT YET in Kande [kbs] (Grollemund 2006: 192) [own glossing and translation]
na-ma-tol-a
NOT.YET-1SG-sing-FV

'I have not yet sung' (je n'ai pas encore chanté)

The most common morphological status for ALREADY, is adverb. Below follows an example from Nyemba [1]. In Nyemba, ALREADY is an adverb and follows directly after the inflected verb.

(47) Example of ALREADY in Nyemba [nba] (Zavoni 2003: 362) [own translation]
ɛndí   akulandɛsá   kalɛ   manúrŋgu
PRO.DELF.SG SUBJ.CL.1.PRS.sell ADV.already CL.6.coal

's/he already sells coal' (il/elle vend déjà du charbon)

As mentioned above, STILL is most commonly described as an auxiliary or a prefix. In Swati, STILL is described as a prefix. The prefix *sa* immediately follows the subject pronoun. In Mwani, STILL is described as an auxiliary inflected for person, which occurs before the infinitive.

(48) Example of STILL in Swati [ssw] (Ziervogel 1952: 97) [own glossing]
ngi-sa-val-a
1SG-STILL-close-FV

'I'm still closing'

(49) Example of STILL in Mwani [wmw] (Floor 2010: 15) [own glossing]
n-ingarí   ku-fyóm-a
1SG-STILL INF-read-FV

'I'm still reading'

NO LONGER most commonly occurs as negated STILL. As can be seen in the example from Pedi below, NO LONGER and STILL have the same form, but NO LONGER is negated.

(50) Example of NO LONGER in Pedi [nso] (Ziervogel 1954: 70) [own glossing]
a-ki-sa-khov-i
NEG-1SG-STILL-sit-NEG.FV

'I no longer sit'

---

[1]The data come from a French grammar. In order to be consistent with the rest of the examples I have changed the glossing to fit the Leipzig glossing rules.

Table 11: Bondedness of PhP expressions (main sample)

Bondedness

	NOT YET	STILL	ALREADY	NO LONGER
Bound	33	28	9	16
Periphrastic	20	9	6	2
Free forms	11	10	16	6
Bound/free	2	1	1	0
Bound/periphrastic	2	2	0	0
Total:	68	47	29	24

The bondedness indicated in the examples can provide some more information regarding the PhP expressions. Again, due to the inconsistent orthography, the results presented here should be considered tentative. As can be seen in table 11, NOT YET, STILL and NO LONGER are most often described as bound in the grammars, while ALREADY is most often found as a free form. Note that the table shows the main sample. NOT YET is bound in 33 languages, periphrastic in 20 languages and free in 11 languages. It was also found as both bound and free in two languages, and both bound and periphrastic in two languages. ALREADY is a free form in 16 languages, bound in nine languages and periphrastic in three. It was also found as both bound and free in one language. STILL is bound in 28 cases, a free form in six languages and periphrastic in ten cases. It was also found as both bound and free in one language and both bound and periphrastic in two languages. NO LONGER is bound in 16 languages, a free form in six languages and periphrastic in two languages.

The answer to research question three is, in short, that the PhP expressions in the sample have a varied morphological status. The results indicate that NOT YET, STILL and NO LONGER might be more grammaticalised than ALREADY, since they are more often bound and were found to be prefixes and auxiliaries in a higher number of languages.

4.3 Semantics

This section contains tentative results for research questions 4 and 5. It should be stressed that the results, at this stage, are highly speculative.

4. What function do the PhP expressions have?

5. Do the markers occur under any restrictions?

The functions of the PhP expressions were investigated with great difficulty. The grammars consulted lack any discussion about the PhP expression's usage and meaning, and the reader was most often only provided with an English translation.

Even though the function is not mentioned explicitly in the grammars, the position of the marker in the verbal template can be a valuable source of information. The position in the template can provide clues as to what function the marker has. Note that only the bound markers are considered in this section, as any periphrastic construction or free forms do not fit into the template. The table below shows the position of the bound PhP expressions in the template in the main sample. When bound, all PhP expressions were most often found in the postinitial position. As mentioned in 2.4.1, this slot is

reserved for TAM-markers. To answer question 4: the results indicate that some PhP expressions might be incorporated in the TAM-systems of their language.

Table 12: Position in the verbal template (main sample)

Position in the verbal template				
	NOT YET	ALREADY	STILL	NO LONGER
Initial	0	0	1	0
Preinitial	2	0	1	0
Postinitial	31	9	29	15
Final	3	1	0	2
Unclear	1	0	0	0
n/a	31	19	16	7
Total:	68	29	47	24

Research question 5 proved difficult to answer as well. However, some information can be gained by looking at which PhP expressions that can co-occur with other TAM-markers. Table 13 shows the co-occurrence of PhP expressions and other TAM categories in the main sample. As can be seen, not many PhP items co-occur with other markers. Why is hard to say, as the grammars often do not state whether the PhP items can or cannot co-occur with other markers. It is possible that the grammars show only the simplest form of the PhP item. In the cases when they do co-occur, NOT YET occurs with a past tense marker eight times, an imperfective aspect marker five times and an anterior aspect marker four times. ALREADY occurs with an anterior aspect marker nine times and a past tense marker four times. STILL occurs with an imperfective marker four times, a past tense marker two times and many (or, rather, most) of the available markers two times. There is also a singular occurrence of STILL and present, past and anterior markers. NO LONGER occurs with an imperfective marker four times, many (or all) markers three times and an anterior aspect marker once.

Table 13: Phasal Polarity and TAM (main sample)

The co-occurrence of PhP expressions and TAM				
	NOT YET	ALREADY	STILL	NO LONGER
Present	0	0	1	0
Past	8	4	2	0
Anterior	4	9	1	1
Imperfective	5	0	4	4
Future	0	0	1	0
Many	1	0	2	3
Total:	18	13	12	8

To answer research question 5: There is no evidence of PhP expressions co-occurring with TAM, but they are in the postinitial slot in the verbal template that is reserved for TAM-markers. This indicates that they might be incorporated in the TAM-system of the language, or are on their way to being incorporated. The most common expression is NOT YET, followed by STILL, with ALREADY and NO LONGER being far less common.

4.4 Summary

The forms of the PhP items in the sample were found to be very diverse. In section 4.1 The Bantuversal Frequency Hierarchy was proposed.

(51)   The Bantuversal hierarchy of frequency of PhP expressions
        NOT YET > STILL > ALREADY/NO LONGER

The morphological status of the expressions was difficult to establish, but a majority of the items meaning NOT YET, STILL and NO LONGER were found to be bound. The majority of the expressions meaning ALREADY were found to be free forms. The majority of the PhP expressions were found to occur in the postinitial slot, described by Nurse (2008) as reserved for tense and aspect markers.

Due to the fact that this study is based on grammars, the functions of the PhP expressions could not be described in great detail. This also lead to difficulties determining if the expressions occur under any restrictions. It is, however, clear that PhP expressions often occur alone, without any other tense or aspect marker.

5 Discussion

This section is organized as follows. First, Kramer's (nd) parameters are discussed and compared to the results and previous studies. Second, areal tendencies of PhP in Bantu are discussed. Third, the co-occurrence of negation and NOT YET/NO LONGER is discussed. After that, problems regarding ALREADY and anterior aspect are discussed, followed by some important theoretical implications on PhP. Finally, there is a general discussion of PhP in Bantu.

5.1 Kramer's parameters

In this section, Kramer's (nd) parameters are discussed. The relevant parameters are compared to the data, and are discussed both in regards to their relevance for the present study and their general applicability.

5.1.1 Expressibility and universals

As stated in section 2.2.5, the expressibility parameter concerns whether a PhP-system has any missing concepts, i.e. if there are any PhP items that are not expressed. The findings in this study differ from the results presented by both van der Auwera (1998) and van Baar (1997). Van der Auwera's (1998) and van Baar's (1997) hierarchies, which describe the frequency of PhP expressions in Europe and cross-linguistically, are summarised below. Bantu languages differ from European languages in respect to the cross-linguistic frequency of PhP items. Unlike in European languages, the least common PhP item in Bantu languages is NO LONGER. In both van der Auwera's and van Baar's hierarchies, STILL and NOT YET are said to have the same cross-linguistic frequency. This is not true for Bantu languages, where NOT YET is more frequent than STILL. However, concerning ALREADY there seem to be some similarities to van der Auwera's hierarchy. ALREADY is not the least common PhP item in Bantu, but it is the most deviant. ALREADY is the least bound of all four PhP items and occurs as an adverb in most cases. Van Baar's hierarchy is much more similar to the Bantuversal hierarchy. The only difference is that NOT YET is the most common PhP item in Bantu, and STILL is the second most common.

(52) The Euroversal Accessibility Hierarchy (van der Auwera 1998: 37)
      NO LONGER > STILL/NOT YET > ALREADY

(53) The Universal Expressibility Hierarchy (van Baar 1997: 116)
      STILL/NOT YET > ALREADY > NO LONGER

(54) The Bantuversal hierarchy of frequency of PhP expressions
      NOT YET > STILL > ALREADY/NO LONGER

The results in this study confirm the results in the preceding study of East Bantu. The relative frequency found in Löfgren (2018) is almost the same as in the present study. The most common PhP item found in Löfgren (2018) was NOT YET, which occurred in 74 percent of the languages. The second most common marker was STILL with a 59 percent occurrence rate. ALREADY and NO LONGER were much less common, as they only occurred in 35 and 26 percent of the sample respectively. The relative frequency of occurrence for NOT YET, ALREADY and STILL has increased with one percentage point in the present study, and for NO LONGER with four percentage points.

5.1.2 Wordhood

The parameter wordhood concerns the morphological status of PhP expressions. Kramer (nd) describes PhP items as diverse, ranging from independent auxiliaries to bound affixes. As can be seen in tables 7-10, the morphological status of PhP expressions in Bantu is varied. As can be seen in table 11, it is also apparent that PhP items often are found to be bound or periphrastic. ALREADY breaks this trend since it was found to have a higher amount of free forms than bound forms in the sample. The high degree of bondedness indicates that NOT YET and STILL are possibly integrated in the respective language's TA-system.

5.1.3 Paradigmaticity

The parameter paradigmaticity concerns two things: the system internal paradigmatic relationship between PhP expressions and the relationship between PhP expressions and TAM. Due to the nature of the study, the latter cannot not be investigated. The former can, however, at least be discussed. As can be seen in table 6, only six languages in the stratified sample were found to have all four PhP expressions, and thus are the only ones that are symmetric. All other languages were found to have none, one, two or three expressions making their systems asymmetric. What other TAM-markers form a paradigmatic relationship with the corresponding PhP expression could not be determined.

5.1.4 Coverage

As earlier mentioned, negative PhP expressions are sometimes derived from positive ones. The term 'derived' is used here in a very broad sense. Negated forms of positive expressions are also considered derivations as the negated form is used with a new sense, that is, it is not simply a negated variant of an affirmative.

In eight languages, NO LONGER is created by negating STILL, as can be seen in table 14. In three languages, NOT YET is constructed by negating STILL, as can be seen in the table below. In Nyanja, NOT YET is a suffix in the final slot, and in Swati it is a prefix in the postinitial slot. In Tswa, NOT YET is unbound and occurs before the verbal stem.

Table 16 includes two languages where NO LONGER is constructed by negating ALREADY, and one language where NOT YET is constructed by negating ALREADY. In Ruund, ALREADY is expressed by the adverb *kal* which, when occurring with a negative verb means NOT YET. Chuwabu works the same way, ALREADY is expressed with the free marker *já* which means NO LONGER together with a negative verb. In Swati, ALREADY is an auxiliary inflected for person, but NO LONGER is a bound marker. The reason for this is not mentioned in the grammar.

The main difference between NOT YET and NO LONGER, in this case, is that no longer is more often derived. In total, NOT YET is derived four times. Three times from STILL and one time from ALREADY. In comparison, NO LONGER is derived nine times, seven times from STILL and two times from ALREADY.

Table 14: Bases of derivation for NO LONGER

Bases of derivation for NO LONGER

Language	ISO	STILL	NO LONGER
Pedi	nso	SM-sa-STEM	NEG-SM-sa-STEM-NEG.FV
Southern Sotho	sot	SM sa STEM-a	NEG SM sa STEM-a
Sumayela Ndebele	nbl	SM-sá-STEM-FV	NEG-SM-sá-STEM-NEG.FV
Tewe	twx	SM-cha-STEM-a	NEG-SM-cha-STEM-FV
Totela	ttl	SM-chi-STEM-FV	NEG-SM-chi-STEM-FV
Tsonga	tso	SM ha TM STEM	NEG SM ha TM STEM-NEG.FV
Zulu	zul	SM-sa-(OM)-STEM-a	NEG-SM-sa-STEM-NEG.FV
Haya	hay	SM-kya-STEM-FV	NEG-SM-kya-STEM-FV

Table 15: Bases of derivation for NOT YET

Bases of derivation for NOT YET

Language	ISO	NOT YET	STILL
Nyanja	nya	NEG-SM-RECPST-STEM-SBJV-be	SM-PST.PFV-STEM-FV-be
Swati	ssw	NEG-SM-sa-STEM-NEG.FV	SM-sa-STEM-FV
Tswa	tsc	NEG SM.CONT ha STEM-NEG	SM ha STEM

Table 16: ALREADY as a base for derivation

ALREADY as a base for derivation				
Language	**ISO**	NOT YET	ALREADY	NO LONGER
Ruund	rnd	SM-STEM-PRS-NEG kal	V kal	
		kand-kal SM-STEM		
Chuwabu	chw		já SM-ANT-STEM	já NEG-SM-STEM-ANT
Swati	ssw		(SM)-se SM-STEM-FV	NEG-SM-se-STEM-NEG.FV

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5.1.5 Review of Kramer's parameters

The parameters are a part of the ongoing work of Raija Kramer and have therefore never been applied to a study until now. In this section, the advantages and disadvantages of the parameters are discussed based on the experience gained in this study.

Kramer's parameters have one main strength. The parameters summarise all relevant aspects of PhP items and therefore provide a structure under which PhP expressions can be researched and discussed. They are a tool that can be used for both the benefit of the reader and the researcher, since they provide vital structure in the otherwise complex and multifaceted domain that is Phasal Polarity. They have thus been used to the benefit of the present study. Their weakness, however, is in the labels. Some labels are not transparent, some are misleading and some are too general or unclear.

The parameter telicity covers telicity to an extent, but mainly phasal values. This parameter becomes confusing since it covers more than telicity and could be improved by having the label indicate the content of the parameter more specifically.

The parameter coverage concerns whether a PhP expression is used for more than one concept, specifically together with negation. There is therefore a large part of this parameter that concerns the paradigmatic properties of PhP expressions and negation. The label coverage denotes how many concepts a specific PhP item *covers* and is therefore transparent and not misleading, but also does not clearly show the parameter's relation to polarity. The results of this study show that the PhP expression NO LONGER in Bantu is most often a negate form of STILL. I think it would be an improvement to indicate this relation clearly in the label.

The parameter pragmaticity covers speaker expectations, i.e. pragmatics. When it comes to pragmatics and PhP, it is only speaker expectations that are relevant. The label pragmaticity is therefore a little too broad and could be improved by indicating more specifically what it covers.

The parameter expressibility is borrowed from the works of van Baar (1997). While it is not transparent, it is used in tone of the largest studies of the field, and it is therefore more reasonable to expect a reader to adapt to them. Expressibility covers how many PhP expressions a language has, or if it is missing any. It would be preferable if the label reflected frequency or missing expressions. This is, of course, also true for the sections in van Baar (1997) that discusses and expressibility. In this study, care has been taken to avoid this term since it is not transparent. van Baar (1997)'s Universal Expressibility Hierarchy (see example 53) shows the hierarchy of frequency of PhP expressions found in his sample. The name of the hierarchy in this study does not use the term 'expressibility', and is instead named: 'The Bantuversal hierarchy of frequency of PhP expressions'.

The parameters wordhood and paradigmaticity are transparent.

All in all, Kramer's parameters are well constructed and a sufficient tool to facilitate the discussion of PhP. An improvement of the labels according to the discussion above would lead to parameters that not only serve as a structure, but as both a preview and a reminder to the reader of the many characteristics that PhP items have.

5.2 Geographical tendencies of PhP in Bantu

In this section, geographical tendencies regarding the distribution of PhP are discussed. Note that the maps were created using the stratified sample. All maps can be viewed online[2].

Map 1 shows the distribution of NOT YET across the Bantu area. The spread is geographically broad, but the north-western area seems to have fewer languages with an expression for NOT YET. There might be an explanation for this. North-west Bantu, or Forest Bantu, is known for often differing from other Bantu languages (Nurse 2008: 10), thus the tendency described above is unsurprising. There are also fewer languages that express NOT YET around lake Malawi between Tanzania and Zambia. Here, the reason is not as clear. It might be an areal feature specific to this area, but with the limited data it is difficult to say.

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[2] https://www.arcgis.com/home/webmap/viewer.html?webmap=2feafe23565547e9bdbea96b52748cd1&extent=-13.3576,-36.9603,73.4344,13.612
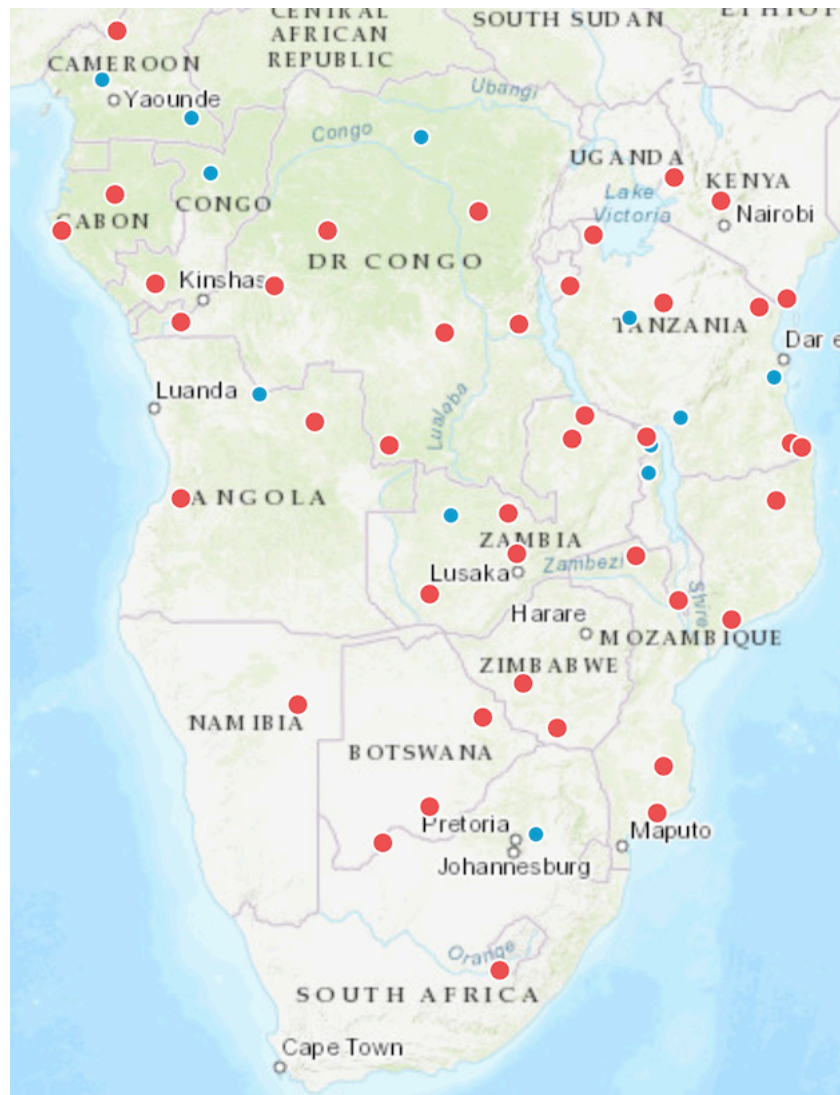
Figure 1: Map of NOT YET in Bantu
red = PhP, blue = no PhP

Map 2 shows the distribution of STILL in Bantu. The spread is not as broad as for NOT YET. There is a tendency for languages in the northern and eastern parts of Bantu to lack an expression for STILL. As mentioned before, north-western Bantu is often said to differ a lot from the rest of the area, which can explain why this part has fewer languages that can express STILL. The lack of STILL-expressions in the eastern part, around northern Mozambique, Malawi and Tanzania, is harder to explain. This might be an areal tendency.

Map 3 illustrates the distribution of ALREADY in the Bantu area. Compared to NOT YET and STILL, the geographical spread is not as broad. Languages in the north and central parts of Bantu seem to lack expressions for ALREADY. There is a small tendency for expressing ALREADY in south Bantu. It would be interesting to investigate whether central and north Bantu languages have an anterior marker instead of ALREADY in future studies.

Map 4 illustrates the distribution of NO LONGER in the Bantu area. Again, compared to NOT YET and STILL, the distribution of NO LONGER is not as broad. Central Bantu languages seem to lack an expression for NO LONGER, while it is more prominent in the north and south.

To summarise, NOT YET is widespread across Bantu, except in the the north-west (Forest Bantu). STILL is also widespread, and is more common in southern Bantu than in the northern or eastern parts. ALREADY is common in the south, but not in the central or northern parts. NO LONGER is more common
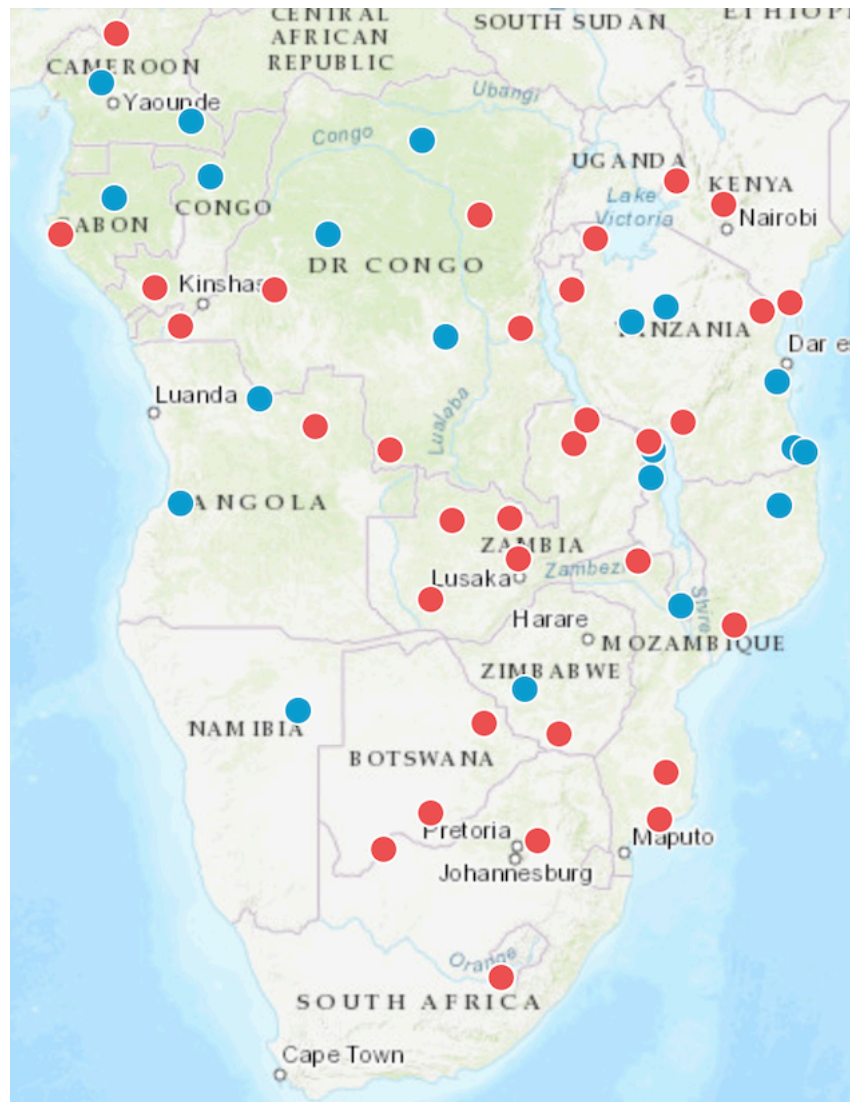
Figure 2: Map of STILL in Bantu
red = PhP, blue = no PhP

in southern and northern Bantu, but not in central Bantu. Since PhP has not been investigated much in Bantu languages before, these findings are new.

Figure 3: Map of ALREADY in Bantu
red = PhP, blue = no PhP
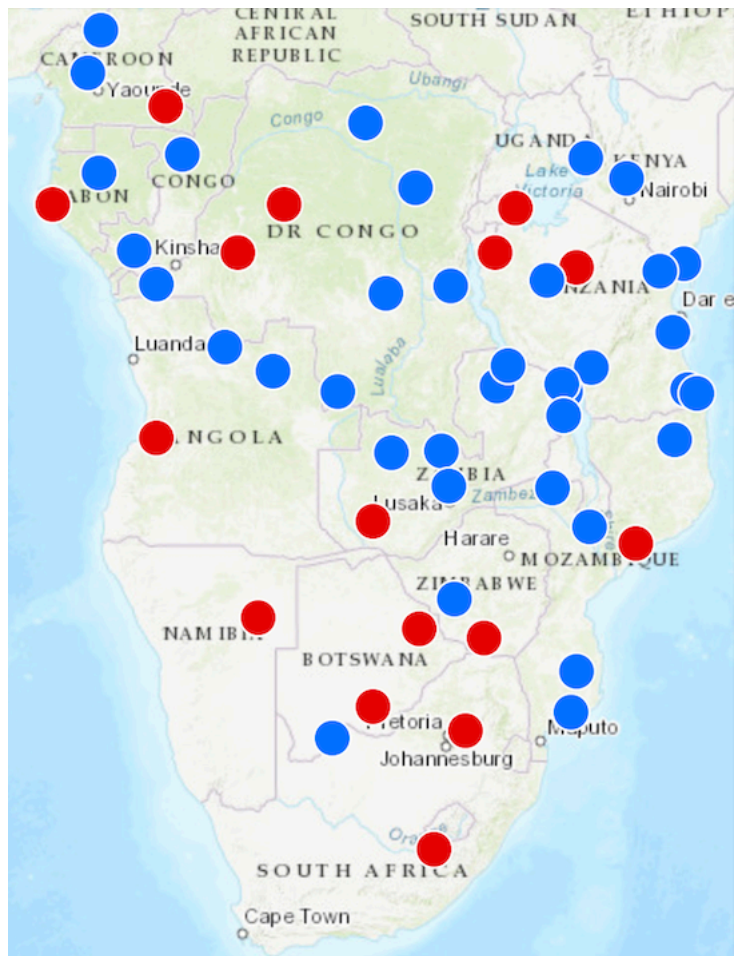
Figure 4: Map of NO LONGER in Bantu
red = PhP, blue = no PhP

5.3 The co-occurrence of negation in PhP

In this section the correlation of the two negative PhP expressions and standard negation is investigated. In total, 11 out of 63 construction with NOT YET do not have a negation marker. This number is much lower for NO LONGER, only one expression was found without negation. This is probably affected by the fact that it is very common for NO LONGER to be derived from STILL, see section 5.1.4.

Table 17: Co-occurrence of negative PhPs and SN

Co-occurrence of negative PhPs and SN		
PhP	**Co-ocurrence with SN**	**Total number of PhPs**
NOT YET	52 (0.83)	63
NO LONGER	23 (0.96)	24

The table below shows all languages where the construction with NOT YET does not contain negation. In total, eleven languages in the sample have this type of NOT YET construction. Two main types of constructions can be identified. One with a bound marker, and one with an auxiliary and the verb in the infinitive.

Table 18: NOT YET without negation

NOT YET without grammatical negation		
Language	**ISO**	NOT YET
Chokwe	cjk	kanda-SM-PERSISTIVE-STEM
Chopi	cce	SM-sanga-STEM-FV
Kalanga	kck	a-SC-thu + past consecutive
Kande	kbs	na-SM-STEM-FV
Makonde	kde	SM-ka-nàa(va) INF-STEM-FV
		SM-ka-nàamba INF-STEM-FV
Mambwe-Lungu	mgr	ala-a SM-ta-li SM-li-STEM-SUBJ
Myene	mye	SM-IPFV-pa-STEM-FV
Nyakyusa-Ngonde	nyy	SM-kaali AUG-INF-STEM-FV
Ruund	rnd	kand-kal SM-STEM"
Sukuma	suk	SM-taali INF-STEM
Yao	yao	SM-kana-SM-STEM-e

In 4 languages there is a bound marker with no additional negative marker, namely Chopi, Kande, Myene, Nyakyusa-Ngonde and Yao. In Yao NOT YET is constructed using *gini*, which occurs between the two subject markers. The interesting deviation in this construction is the final vowel. In short, Sanderson describes the final vowel as *a* in both the negative and positive tenses. There are two cases where final

vowel is *e*; in the immediate future tense and in the subjunctive mood. The future tense includes an additional prefix, but the subjunctive mood is only characterised by the change of the final vowel from *a* to *e*. Is NOT YET in the subjunctive mood in Yao? That would mean that the counterexpectational part of NOT YET links the construction to the subjunctive, that has similar semantic content. Hypothetically, it is imaginable that this expression is derived from the subjunctive like this: 'I may come later´ meaning 'I have not yet come (but I expect to later)'.

(55) Example of NOT YET in Yao [yao] (Sanderson 1922: 187) [own glossing]
ni-gini-ni-ich-e
1SG-NOT.YET-1SG-come-FV

'I had not yet come'

The prefix *sanga* is described briefly by Smyth and Matthews (1902: 95) as meaning NOT YET, but no further explanation is given. At first glance, NOT YET seems to be completely grammaticalized into a single prefix. However, a negative perfective prefix was found: *nga*. This form is also used to negate the subjunctive, in both cases together with the negative prefix *a*. If the negative *nga* is the same as in *sanga*, it is possible that NOT YET in Chopi is derived from either the anterior or the subjunctive. The marker *sa* meaning YET plus a negative subjunctive or anterior prefix. Again, it is possible that NOT YET has been derived from a construction originally in the subjunctive mood.

(56) Example of NOT YET in Chopi [cce] (Smyth 1902: 95) [own glossing]
i-sanga-von-a
1SG-NOT.YET-see-FV

'I have not yet seen'

The marker *kaalı* is described as a persistive marker that can mean either STILL or NOT YET depending on the complement. Possible reasons for this are not discussed. This type of construction is, however, common as noted by both Bernander (2017: 263) and Veselinova (pc).

(57) Example of NOT YET in Nyakyusa-Ngonde [nyy] (Persohn 2017: 187)
jı-kaalı ʊ-kʊ-py-a
9-PERS   AUG-15((INF)-be(come).burnt-FV

'It's not yet done.'

In Kande, NOT YET is marked with *na*. This marker occurs initially in the word. It is described as an uncompleted negative past marker.

(58) Example of NOT YET in Kande [kbs] (Grollemund 2006: 192) [own glossing and translation]
na-ma-tol-a
NOT.YET-1SG-sing-FV

'je n'ai pas encore chanté' (I have not yet sung)

In Myene, NOT YET is marked with *pá*. This marker occurs in the postinitial slot before the stem. It is described as an negative resultative.

(59) Example of NOT YET in Myene [mye] (Ambouroue 2007: 258) [own glossing and translation]
my-é-pá-kól-à
1SG-IPFV-NOT.YET-buy-FV

'je n'ai pas encore acheté' (I have not yet bought)

There is only one language where NO LONGER does not co-ocurr with negation, namely Kalanga. As can be seen in example 60, the structure of NO LONGER in Kalanga is complex. It is based on *tja*, STILL but has many added markers such as conditional and participle. This construction is not described more closely in the grammar and any further conclusions are therefore difficult to make.

(60)   Example of NOT YET in Kalanga [kck] (Chebanne and Schmidt 2010: 120) [own glossing]
       nd-a-ka-be   ndi-si-nga-tja-tim-a
       1SG-ANT-PST-AUX   1SG-PART-COND-STILL-plough-PART.FV

       'I was no longer ploughing'

5.4   ALREADY and the anterior

In this section, the complicated relationship between ALREADY and the anterior is discussed.

The anterior is a contested temporal-aspectual category. The anterior generally refers to an event situated in the past that has relevance to the present moment. Since it is not concerned with the internal structure of an event and instead relates two points in time to each other, the anterior is very different from other aspectual categories (Comrie 1976: 52). Anterior aspect can also have other readings such as resultative, experiential and recent past. A resultative reading means that the current situation is the result of an earlier event. An experiential reading means that an experience that happened in the past has some kind of current relevance. A recent past reading is used when two situations are very close together in time, i.e. something has *just* happened (Comrie 1976: 60). Completive aspect is sometimes also recognized as type of anterior because of its relevance to the present (Bybee et al. 1994: 54). For example, if a speaker says that they have eaten the food, it is relevant because it means that there is nothing left to eat at the present moment. Another category mentioned in Bantu literature as related to anterior aspect is inceptive or inchoative aspect (to be on the point of, to have just, to already (have)). The completive and inchoative/inceptive aspects both have a (possible) past reading. If you have already/just done something it is in the past, the same if you have completed an action. In this sense, ALREADY is very similar to anterior aspect and other related categories described above.

Nurse (2008) finds that categories such as the inceptive and completive often are hidden under terms such as perfect or perfective in the literature. Likely, because they are similar semantically. When examining anterior aspect in a specific language, he found that it sometimes could have completive or inceptive readings. This is especially relevant to the present study, since it is possible that the phasal polarity expression ALREADY could be lost under a different label or missed in the same way. It is unfortunately impossible to research whether this is the case in this study, since it would take too much time. It is, however, something that should be investigated in the future.

It is well known that anterior aspect markers are often derived from resultative or completive markers (Nicolle 2012: 372). Since ALREADY is similar, both semantically and functionally, to completive and resultative aspect it is possible that it can also be grammaticalized to a completive or even an anterior marker. There are some instances in the data that indicate that this is happening. Table 19 shows the instances where ALREADY and anterior aspect co-occur on the same verb. This occurs in six cases. In five of six languages, the anterior marker occurs with ALREADY, but in Makhuwa there is an alternate form of the anterior that is constructed with ALREADY.

The co-ocurrence of both ALREADY and the anterior is similar to an example by Nicolle (2012). The Swahili word for 'finish', *kwisha*, was first a free word. It became incorporated into a periphrastic construction together with the anterior. After that it developed into a bound construction, but still retained the anterior marker and its full form. Eventually it lost both the anterior and some phonetic content. Today it is a bound completive marker, *sha*. It is possible that something similar is happening to ALREADY in the languages shown in table 19. For further discussion, see Löfgren (2018: 30).

Table 19: Co-occurence of ALREADY and the anterior

Language	ISO-country	ALREADY	Anterior
Chopi	cce-MOZ	se-SM-STEM-ANT	SM-STEM-ile
Chuwabu	chw-MOZ	já SM-ANT-STEM	SM-hi-STEM-FV, SM-STEM-ile
Makhuwa	vmw-MOZ	SM-áà-STEM-FV	STEM-alé, SM-aa-STEM-ale
Tumbuka	tum-MWI	SM-ANT-no-STEM-FV	SM-ka-STEM-a
Wawa	www-CMR	SM STEM-tam-ANT	SM STEM-re
Yao	yao-MOZ	se-SM-STEM-ANT	STEM-ile

5.5 Alternative views and theoretical implications on PhP

Alternative views and theoretical implications that might affect PhP expressions are discussed in this section. First, the paradigmatic properties of the PhP domain are discussed. Second, PhP items are discussed in comparison to lexical affixes. Third, the implications that lexicalization might have on PhP expressions are discussed.

The encyclopedic definition of the word system is: "A regularly interacting or interdependent group of items forming a unified whole".[3] PhP items interact in mainly two ways: phasal values and polarity. This is also the view commonly found in the literature of PhP (van der Auwera 1998; van Baar 1997; Löbner 1989). As mentioned in section 2.2.4, PhP expressions are related by internal and external negation. This is evident in a system like Spanish, illustrated in example (2). In Spanish there are two positive PhP expressions, *todavia* 'still' and *ya* 'already'. To create the two negative PhP expressions, the positive ones are negated: *no todavia* 'not yet' and *ya no* 'no longer'. In a system like English, the polarity relationship between PhP items is not overtly expressed, but semantically it is still there.

As previously stated in section 2.2.1, PhP expressions encode the phases of an event, and can be interpreted as a temporal sequence. The sequence starts with NOT YET, when the event has not yet started. The point where the event starts is encoded by ALREADY, and the time when the event is ongoing is encoded by STILL. Finally, NO LONGER encodes the point in time when the event ends.

So far, PhP expressions have been compared to TA-affixes. An alternative view of PhP is that it might be more similar to lexicalization or lexical affixes, than to tense and aspect. This is discussed below.

A lexical affix is an affix, qualifying as such on both formal and functional grounds, that has lexical meaning (Mithun 1997: 357). The meanings that can be expressed are many and varied. Lexical affixes in Bella Coola can express a wide variety of objects, such as 'seal', 'bone' or 'sand', as well as people such as 'grandmother' and 'person'. They can also express actions such as 'eat', 'talk' and 'gather', or states such as 'be shiny' and 'be confusing'.

Mithun (1997) describes six characteristics of lexical affixes that separate them from lexical stems. First, lexical affixes can not form independent words. They are also a relatively closed class, unlike stems which are an open class and allow for new terms to be borrowed. Lexical affixes have a more generalized meaning than stems. They do not represent something concrete, but rather a network of associations. Because of this, they combine with other elements to form new words with a different meaning. In the example below from Bella Coola, the suffix *ak* 'hand', specifies the semantic patient (the hand). A more literal translation would be 'I am hand-wiping.' (Mithun 1997: 361).

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[3]Merriam-Webster, retrieved 28/03/19 https://www.merriam-webster.com/dictionary/system

(61) Example of a lexical affix in Bella Coola [blc] (Mithun 1997: 361)
      cp-ak-m-c
      wipe-hand-MEDIO.PASSIVE-I

      'I am wiping with my hand(s)'

Is it possible that bound PhP expressions are more like lexical affixes than, say, a TAM-affix? As mentioned in section 2.2.6, PhP items can be encoded as bound affixes and therefore can not form independent words in that language. They can, however, be independent adverbials like in English so in this regard they differ a lot from language to language. Whether it is a closed class or not is not discussed much in the literature, but it is said that PhP expressions are often borrowed (see section 2.3). A high degree of borrowability is a sign of a more open class, like a stem and not a lexical affix. Regarding whether PhP items have a general or specific meaning, it is difficult to compare them to lexical affixes. PhP expressions denote the phases of an action, which is not the same as a lexical affix that means 'mouth, opening, exit, etc'. A PhP item does not denote a network of associations in that sense, but have a temporal function in an utterance. In that sense their function is more general, like a grammatical function such as tense and aspect, but at the same time they do not denote as many different things as a lexical affix. They also do not combine with a stem to create a different word, instead they specify the phasal and polarity values of that word.

With this said, it is clear that there are many differences between PhP expressions and lexical affixes, mostly because a lexical affix has referential meaning, while PhP items have meaning more associated with the grammatical domains of phase and polarity. It is, however, important to keep lexical affixes in mind when looking into a domain as unexplored as PhP, as new information might show that they are more similar than they seem. Future studies could investigate this in more detail.

If PhP expressions are not lexical affixes, are they more similar to lexicalizations? Lexicalization is traditionally referred to as creation of a new expression, typically encoding a concept hitherto not expressed in a language. Currently, however, it refers to the coding of conceptual categories (Brinton and Traugott 2005: 18). A PhP item also encodes several concepts, although of a different kind than what would be considered a traditional lexicalization. Some parallels can, however, be drawn between PhP and lexicalizations such as 'remember' and 'return'. Wälchli (2006) investigates heavy and light *again* in a typological study. He concludes that light *again*, or the morpheme *re* in English, is less emphatic than it's heavy counterpart *again*, and tend to be lexicalized cross-linguistically.

Wälchli (2006) argues against light *again* being grammaticalised based on a number of reasons, of which one is especially relevant for the present study. The meaning of *again* is not general enough and therefore can not reach true grammatical status. This raises the question whether PhP items are general enough to become grammaticalized. As mentioned before, it is true that PhP items encode more than one value. The values encoded in PhP are phasal values, polarity and speaker expectations. Polarity, or negation, is very much considered to be a grammatical category in linguistics. Phasal values are not as well known, but can be argued to be of a similar disposition to that of aspect since they describe the stage an event is in. Speaker expectations are not grammatical in the same way, since pragmatics play a big role in both expressing and understanding expectations. However, it is possible that PhP expressions could become part of the grammatical system and, consequently speaker's expectations would be included into grammar. To summarize, two out of three values can be considered grammatical and one can not. Does this mean that the meaning of PhP expressions are general enough to become grammaticalised? With the current information it is safe to say that grammaticalisation is a possibility for PhP items, but that their complexity might affect the process.

5.6 Phasal Polarity in Bantu

The following section is a general discussion about PhP in Bantu. Table 20 provides a summary of the characteristics of PhP in Bantu.

The most frequent PhP expression in Bantu is NOT YET which occurs in 74 percent of the stratified

sample. It is most often found as bound or periphrastic. Out of the bound NOT YET expressions, 84 percent are found in the postinital slot, otherwise reserved for TAM and negation. The other three PhP expressions show a higher rate of occurrence in the postfinal slot. This can be explained when considering that NOT YET is a negative PhP expression. As can be seen in table 12, NOT YET sometimes occurs in the preinitial, postfinal and final slots. As can be seen in 3, the preinitial slot is reserved for TAM/polarity, the final slot for TAM and the postfinal slot for polarity (among others). Thus NOT YET does not deviate from the TAM/polarity slots. Regarding grammaticalisation, NOT YET show tendencies of being grammaticalised since it is often bound or periphrastic, and occurs in the slots reserved for TAM. When it comes to coverage, NOT YET was not found to be a negated form of a positive PhP expression more than a couple of times. The geographical distribution of NOT YET was found to be wide, but the expression is less common in north-eastern Bantu.

The next most frequent PhP expression in Bantu is STILL, found in 60 percent of the stratified sample. It was most often found as a bound expression, out of which 94 percent were found in the postinital slot. Like NOT YET, STILL show tendencies of being grammaticalised since it is most often found to be bound or periphrastic and also occurs in the TAM-slot. Nurse (2008: 295) mentions that there is an attested Proto-Bantu persistive marker *ki* 'still'. In total, seven languages have a STILL-marker that is a reflex of the Proto-Bantu *ki*, namely: Bemba, Ila, Lenje, Totela, Kaonde, Mambwe-Lungu, Ruund (see Appendix 5). In East Bantu, reflexes of *sa* seem to be more common (Löfgren 2018: 33). The geographical distribution of STILL was found to be wide, but the expression is less common in northern and eastern Bantu.

The third most frequent PhP expression in Bantu is ALREADY, found in 40 percent of the stratified sample. It is found as a free form in 55 percent of the main sample, and a bound morpheme in only 34 percent. In comparison with the other three expressions, ALREADY is the least bound. It is found in the postinital slot in nine out of ten bound expressions. As discussed in section 5.4, there are many reasons why ALREADY might not show as many tendencies for grammaticalisation as the other three expressions. It is very similar to the anterior or perfect aspect and might therefore not develop into an ALREADY-marker, but an anterior or perfect-marker. The geographical distribution of ALREADY shows that the expression is more common in southern Bantu.

The least frequent PhP expression in Bantu is NO LONGER, found in 30 percent of the stratified sample. It is found as a bound morpheme in 66 percent of the main sample, of which 15 are found in the postinital slot. An important feature of NO LONGER in Bantu is that it is often derived from STILL. This seems to be unique to East Bantu, however, since all eight cases (33 percent) were found in East Bantu languages (see table 14). In two cases it was found to be derived from ALREADY (see table 16). In total, NO LONGER was found to be a negated form of a positive PhP expression in 41 percent of the languages in the main sample. The geographical distribution of NO LONGER was found to be concentrated to the north and south, while central Bantu languages most often lack the expression.

Table 20: Summary of PhP in Bantu (stratified sample)

Summary of PhP in Bantu

	NOT YET	STILL	ALREADY	NO LONGER
Frequency of occurrence	0.74	0.60	0.40	0.30
Bound	0.58	0.56	0.34	0.66
Periphrastic	0.27	0.19	0.10	0.12
Free form	0.14	0.25	0.55	0.21
Postinitial slot	0.86	0.96	0.90	0.88

Regarding grammaticalisation, it is difficult to clearly determine whether PhP expressions are grammaticalised in Bantu, or not. However, there are two things that might indicate that this is the case. First, NOT YET, STILL and NO LONGER were also found to be bound in a majority of the languages. Grammatical morphemes in Bantu are most often bound morphemes. Second, all PhP expressions were most often found in the postinitial slot which is reserved for TA-markers. As mentioned in section 5.5, Wälchli (2006) states that if an element is too specific, it cannot be grammaticalised but instead might be lexicalised. On the one hand, PhP expressions have many properties that are more similar to grammatical categories, such as negation and phase, but on the other hand they are both complex and specific in what they encode. At this stage it is impossible to know whether PhP expressions are too specific or not, but this is an important theoretical implication that could be investigated in future studies.

5.7 Future research

This study is based on grammars and can therefore not investigate the semantics or pragmatics of PhP. An improvement for future studies would be to adapt the method to include these domains as well. A suggestion is to add a questionnaire or interviews in addition to grammars.

An interesting aspect of PhP in Bantu is that NOT YET seems to be the most common expression and it also has unclear origin. Unlike the Proto-Bantu persistive marker *ki* 'still', there is no proto form or source for NOT YET. Future studies on PhP in Bantu could investigate this, as well as the origins of the other expressions.

It would also be interesting to compare Bantu to other major linguistic areas in the world. Olsson (2013) finds that PhP in South-East Asia has a different derivational pattern compared to Bantu. NOT YET is often derived from STILL and NO LONGER from ALREADY. It is possible that other areas or languages families have tendencies to use a specific pattern as well.

The cross-linguistic frequency of PhP expressions also seems to vary depending on the area or language family. Van der Auwera (1998) finds that NO LONGER is the most common expression is Europe and this study concludes that NOT YET is the most common. It would be interesting to compare these areas with other parts of the world as well.

In section 5.2, it was mentioned that ALREADY is less common in the northern and central parts of Bantu. It would be interesting to investigate if these areas have a grammaticalised anterior or a another (lexico-)grammatical category which has functions similar to ALREADY.

6 Conclusions

The aim of this study has been to describe Phasal Polarity expressions in Bantu languages, building on the findings by Löfgren (2018). In this section, the answers to the research questions are summarised, as well as some more general findings.

1. What forms do the PhP expressions have?

The forms of PhP expressions in Bantu were found to be very diverse (see appendix 3-6).

2. Which PhPs are available and in what languages?

NOT YET was found to be the most common PhP expression in Bantu. It occurs in 74 percent of the stratified sample. STILL was found to be the second most common and occurs in 60 percent of the languages. ALREADY is the third most common with 40 occurrences and NO LONGER is the least common with 30 occurrences in the stratified sample.

3. What is the morphological status of the markers?

The morphological status of PhP expressions in Bantu was found to be varied. The following are the most common statuses for each PhP item. NOT YET was found to be a a prefix 25 times and an auxiliary 23 times. STILL was found to be a prefix 27 times and an auxiliary ten times. ALREADY was found to be an adverb 11 times and an auxiliary and a prefix seven times each. NO LONGER was found to be negated STILL ten times.

The bondedness of the PhP items was also investigated. It was found that NOT YET was a bound or periphrastic marker in around the same amount of languages. STILL was bound in a majority of the languages. ALREADY, on the other hand, was found to be a free form more often than bound or periphrastic. NO LONGER was most often found to be negated STILL, and therefore most often bound.

4. What function do the PhP expressions have?

This question proved problematic to answer as well. Based on grammars alone question four cannot be answered, therefore the results here are speculative. There is no information about the function in the grammars, but the large majority of the PhP items occur in the postinitial slot, which is reserved for TAM and polarity. This might indicate that the function of bound PhP expressions in Bantu are close to that of TA-markers.

5. Do the markers occur under any restrictions?

Again, this question proved difficult to answer. However, no evidence was found that PhP expressions often co-occur with other TA-markers. Any other information could not be found in the grammars.

The following is a summary of some general findings. PhP expressions, specifically NOT YET and STILL, might show a tendency of being grammaticalised and becoming a part of each language's TA-system. The reasons for this generalization are as follows. First, NOT YET, STILL and NO LONGER were also found to be bound in a majority of the languages. Grammatical morphemes in Bantu are most often bound morphemes. Second, all PhP expressions were most often found in the postinitial slot which is reserved for TA-markers.

The cross-linguistic frequency seem to have areal or genealogical tendencies. As already pointed out, van der Auwera (1998) finds that NO LONGER is the most common expression is Europe, while this

study concludes that NOT YET is the most common in Bantu. How varied this tendency is would be an interesting question for future studies.

Some tendencies regarding the geographical distribution were also observed. NOT YET is widespread across Bantu, except in the the north-west. STILL is also widespread, but is more common in southern Bantu than in the northern or eastern parts. ALREADY is common in the south, but not in the central or northern parts. NO LONGER is more common in southern and northern Bantu, but not in central Bantu.

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A Appendix: The main sample

Note that all languages are included in the Narrow Bantu sub-family, except Wawa and Umbundu that therefore do not have a Guthrie zone.

Table 21: The main sample

Language	ISO-country	G. Zone	Source
Bafia	ksf-CMR	A53	Popineau (1992)
Bemba	bem-ZMB	M42	Hoch (n.d.)
Bena (Tanzania)	bez-TZA	G63	Morrison (2011)
Bubi	buw-GAB	B305	Mickala (1994)
Bukusu	bxk-KEN	JE31c	Austen (1975)
Bungu	wun-TZA	F25	Nurse (2007)
Chokwe	cjk-AGO	K11	Martins (1990)
Chopi	cce-MOZ	S61	Smyth and Matthews (1902)
Chuwabu	chw-MOZ	P34	Guérios (2015)
Digo	dig-KEN	E73	Nicolle (2013)
Gikuyu	kik-KEN	E51	Nurse (2008)
Gitonga	toh-MOZ	S62	Lanham (1955)
Ha	haq-BDI	JD66	Nurse (2008)
Haya	hay-TZA	JE22	Kujipers (1922)
Herero	her-NAM	R30	Möhlig (2002)
Holoholo	hoo-COD	D28	Coupez (1955)
Holu	hol-AGO	L12	Daeleman (2003)
Ila	ilb-ZWE	M63	Smith (1907)
Kalanga	kck-BWA	S16	Chebanne and Schmidt (2010)
Kande	kbs-GAB	B32	Grollemund (2006)
Kaonde	kqn-ZMB	L41	Wright (2000)
Kgalagadi	xkv-BWA	S31d	v.d Merwe and Schapera (1943)
Komo	kmw-COD	D23	Harries (1958)
Kota	koq-GAB	B25	Piron (1990)
Koti	eko-MOZ	P311	Schadeberg (2000)
Lala-Bisa	leb-ZMB	M51	Madan (1916)
Lamba	lam-ZMB	M54	Doke (1938)
Lenje	leh-ZMB	M61	Madan (1908)
Lingala	lin-COD	C30b	Meeuwis (2010)
Makhuwa	vmw-MOZ	P311	van der Wal (2009)
Makonde	kde-TZA	P23	Kraal (2005)
Makwe	ymk-TZA	G402	Devos (2008)
Mambwe-Lungu	mgr-ZMB	M14-15	Bickmore (2007)
Manyika	mxc-ZWE	S13a	Stevick and Machiwana (1960)
Matumbi	mgw-TZA	P13	Odden (1996)
Mongo-Nkundu	lol-COD	C61	Hulstaert (1965)
Mpongmpong	mgg-CMR	A86	Lebika 2003)
Mwani	wmw-MOZ	G403	Floor (2010)
Myene	mye-GAB	B11	Ambouroue (2007)
Ndali	ndh-MWI	M301	Wright (2000)
Ndengereko	ndg-TZA	P11	Botne and Schafer (2008)
Ngoni	ngo-MOZ	N12	Ngonyani (2003)

Table 21 – continued from previous page

Language	ISO-country	G. Zone	Source
Nilamba	nim-TZA	F31	Johnson (1923)
Nsenga	nse-MOZ	N41	Miti (2001)
Nyakyusa-Ngonde	nyy-MWI	M31	Persohn (2017)
Nyamwezi	nym-TZA	F22	Maganga and Schadeberg (1992)
Nyaneka	nyk-AGO	R13	Silva (1911)
Nyanja	nya-MOZ	N31a	Kiso (2012)
Nyemba	nba-AGO	K13	Zavoni (2003)
Pedi	nso-ZAF	S32a	Ziervogel (1954)
Phende	pem-COD	L11	Gusimana (1980)
Ruund	rnd-AGO	L53	Nash (1992)
Sena (Malawi)	swk-MWI	N441	Kiso (2012)
Shambala	ksb-TZA	G23	Besha (1989)
Shona	sna-ZWE	S10	Carter (1986)
Soli	sby-ZMB	M62	van Eeden (1936)
Songe	sop-COD	L23	Samain (1923), Stappers (1964)
South-Central Kikongo	kng-COD	H14-16	Mfuwa (1995)
Southern Sotho	sot-ZAF	S33	Doko and Mofokeng (1957)
Sukuma	suk-TZA	F21	Nurse (2008)
Sumayela Ndebele	nbl-ZAF	S408	Ziervogel (1959)
Swati	ssw-SWZ	S43	Ziervogel (1952)
Tawara	twl-MOZ	S11	Dembetembe (1987)
Tewe	twx-MOZ	S13b	Carter and Kahari (1979)
Tonga (Zambia)	toi-ZMB	M64	Carter (2002)
Totela	ttl-ZMB	K41	Crane (2011)
Tsonga	tso-MOZ	S53	Ouwehand (1965)
Tswa	tsc-MOZ	S51	Gadelii (1999)
Tswana	tsn-BWA	S31a	Cole and Mokaila (1962)
Tumbuka	tum-MWI	N21	Kiso (2012)
Umbundu	mnf-AGO	-	Schadeberg (1990)
Venda	ven-ZWE	S21	Poulos (1990)
Wawa	www-CMR	-	Martin (2012)
Xhosa	xho-ZAF	S41	Kirsch and Scorge (1999)
Yaka	iyx-COG	B73	Mouandza (2002)
Yansi	yns-COD	B85	Mayanga (1985)
Yao	yao-MOZ	P21	Sanderson (1922)
Zimbabwean Ndebele	nde-ZWE	S44	Bowern and Lotridge (2002)
Zulu	zul-ZAF	S42	Canonici (1995)

B Appendix: The stratified sample

Table 22: The stratified sample

Language	ISO-country	G. Zone	Source
Language	ISO-country	G. zone	Source
Bafia	ksf-CMR	A53	Popineau (1992)

Continued on next page

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Table 22 – continued from previous page

Language	ISO-country	G. Zone	Source
Bemba	bem-ZMB	M42	Hoch (n.d.)
Bena (Tanzania)	bez-TZA	G63	Morrison (2011)
Bukusu	bxk-KEN	JE31c	Austen (1975)
Chokwe	cjk-AGO	K11	Martins (1990)
Chopi	cce-MOZ	S61	Smyth and Matthews (1902)
Chuwabu	chw-MOZ	P34	Guérios (2015)
Digo	dig-KEN	E73	Nicolle (2013)
Gikuyu	kik-KEN	E51	Nurse (2008)
Ha	haq-BDI	JD66	Nurse (2008)
Haya	hay-TZA	JE22	Kujipers (1922)
Herero	her-NAM	R30	Möhlig (2002)
Holoholo	hoo-COD	D28	Coupez (1955)
Holu	hol-AGO	L12	Daeleman (2003)
Kalanga	kck-BWA	S16	Chebanne and Schmidt (2010)
Kande	kbs-GAB	B32	Grollemund (2006)
Kaonde	kqn-ZMB	L41	Wright (2000)
Kgalagadi	xkv-BWA	S31d	v.d Merwe and Schapera (1943)
Komo	kmw-COD	D23	Harries (1958)
Kota	koq-GAB	B25	Piron (1990)
Lamba	lam-ZMB	M54	Doke (1938)
Lenje	leh-ZMB	M61	Madan (1908)
Lingala	lin-COD	C30b	Meeuwis (2010)
Makonde	kde-TZA	P23	Kraal (2005)
Makwe	ymk-TZA	G402	Devos (2008)
Mambwe-Lungu	mgr-ZMB	M14-15	Bickmore (2007)
Mongo-Nkundu	lol-COD	C61	Hulstaert (1965)
Mpongmpong	mgg-CMR	A86	Lebika 2003)
Myene	mye-GAB	B11	Ambouroue (2007)
Ndali	ndh-MWI	M301	Wright (2000)
Ndengereko	ndg-TZA	P11	Botne and Schafer (2008)
Ngoni	ngo-MOZ	N12	Ngonyani (2003)
Nilamba	nim-TZA	F31	Johnson (1923)
Nyakyusa-Ngonde	nyy-MWI	M31	Persohn (2017)
Nyamwezi	nym-TZA	F22	Maganga and Schadeberg (1992)
Nyanja	nya-MOZ	N31a	Kiso (2012)
Ruund	rnd-AGO	L53	Nash (1992)
Sena (Malawi)	swk-MWI	N441	Kiso (2012)
Shambala	ksb-TZA	G23	Besha (1989)
Songe	sop-COD	L23	Samain (1923), Stappers (1964)
South-Central Kikongo	kng-COD	H14-16	Mfuwa (1995)
Southern Sotho	sot-ZAF	S33	Doko and Mofokeng (1957)
Sumayela Ndebele	nbl-ZAF	S408	Ziervogel (1959)
Totela	ttl-ZMB	K41	Crane (2011)
Tswa	tsc-MOZ	S51	Gadelii (1999)
Tswana	tsn-BWA	S31a	Cole and Mokaila (1962)
Tumbuka	tum-MWI	N21	Kiso (2012)
Umbundu	mnf-AGO	-	Schadeberg (1990)
Venda	ven-ZWE	S21	Poulos (1990)

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Table 22 – continued from previous page

Language	ISO-country	G. Zone	Source
Wawa	www-CMR	-	Martin (2012)
Yaka	iyx-COG	B73	Mouandza (2002)
Yansi	yns-COD	B85	Mayanga (1985)
Zimbabwean Ndebele	nde-ZWE	S44	Bowern and Lotridge (2002)

C Appendix: Data on NOT YET

Table 23: NOT YET

Language	ISO-country	NOT YET	Source
Bafia	ksf-CMR		Guarisma-Pupineau (1992)
Bemba	bem-ZMB	NEG-..-la-STEM-FV	Hoch (nd: 21)
Bena (Tanzania)	bez-TZA		Morrison (2011)
Bubi	buw-GAB		Mickala-Manfoumbi (2004)
Bukusu	bxk-KEN	SM-xa-STEM-FV NEG	Austen (1975: 183)
Bungu	wun-TZA	SM-ce-le SM-NEG-STEM-FV	Nurse and Philipson (2014)
Chokwe	cjk-AGO	kandá-SM-PERS-STEM kanda SM-STEM	Martins (1990: 85)
Chopi	cce-MOZ	SM-sanga-STEM-FV	Smyth (1902: 39)
Chuwabu	chw-MOZ	NEG-ná-STEM	Guerois (2015: 383)
Digo	dig-KEN	NEG-SM-dzangbwe-STEM-FV	Nicolle (2013: 157)
Gikuyu	kik-KEN	SM-NEG-STEM-ANT	Nurse (2008: 199)
Gitonga	toh-MOZ	NEG-SM-si-INF-STEM-NEG	Lanham (1955: 173)
Ha	haq-BDI	NEG-SM-raa-STEM	Nurse (2008: 198)
Haya	hay-TZA	NEG-SM-ka-STEM-ire	Kuijpers (1922: 33) Kaji (2000: 414)
Herero	her-NAM	NEG-SM STEM-ere	Mölig (2012: 85)
Holoholo	hoo-COD	SM-NEG-ali-STEM-é	Coupez (1989: 105)
Holu	hol-AGO		Daeleman (2003)
Ila	ilb-ZWE	NEG.SM na INF STEM-FV	Smith (1907: 165)
Kalanga	kck-BWA	a-SC-thu + past consecutive	Chebanne and Schmidt (2010: 107)
Kande	kbs-GAB	na-SM-STEM-FV	Grollemund (2006: 191)
Kaonde	kqn-ZMB		Wright (2007)
Kgalagadi	xkv-BWA	NEG ntse SM STEM-NEG	van der Merwe (1943: 71)
Continued on next page			

Table 23 – continued from previous page

Language	ISO-country	NOT YET	Source
Komo	kmw-COD	NEG-SM-STEM-imbe	Harries (1958: 279, 282)
Kota	koq-GAB		Piron (1990)
Koti	eko-MOZ	NEG-SM-ná-STEM-e	Schadeberg and Mucanheia (2000: 122)
Lala-Bisa	leb-ZMB		Madan (1906)
Lamba	lam-ZMB	NEG.SM-nga-STEM-FV NEG-SM-nga-STEM-FV	Doke (1938: 284)
Lenje	leh-ZMB	NEG-SM-ná-STEM	Madan (1908: 38)
Lingala	lin-COD		Meeuwis (2010)
Makhuwa	vmw-MOZ	NEG.SM-ná-STEM-e	Van der Wal (2009: 106)
Makonde	kde-TZA	SM-ka-nàa(va) INF-STEM-FV SM-ka-nàamba INF-STEM-FV	Kraal (2005: 242)
Makwe	ymk-TZA	NEG.SM-náamba INF.cl15-STEM-FV	Devos (2008: 341)
Mambwe-Lungu	mgr-ZMB	ala-a SM-ta-li SM-li-STEM-SUBJ	Bickmore (2007: 327)
Manyika	mxc-ZWE	NEG-SM-PST.NEG-ti + recent past participle	Stevick (1960: 171)
Matumbi	mgw-TZA	SM-ná-STEM-FV NEG	Odden (1996: 66)
Mongo-Nkundu	lol-COD	SM-tá-fo-STEM-FV SM-NEG.PRS-STEM-FV.SUBJ	Hulstaert (1965: 407)
Mpongmpong	mgg-CMR		Lebika (2003)
Mwani	wmw-MOZ	NEG-námba INF-STEM-FV	Floor (2010: 15)
Myene	mye-GAB	SM-IMPFV-pa-STEM-FV	Ambouroue (2007: 257)
Ndali	ndh-MWI		Botne and Schafer (2008)
Ndengereko	ndg-TZA		Ström (2013)
Ngoni	ngo-MOZ	NEG.SM-kona NEG-INF-STEM	Ngonyani (2003: 87)
Nilamba	nim-TZA	NEG-SM-la-STEM-FV SM-kali-STEM-SUBJ	Johnson (1923: 181)
Nsenga	nse-MOZ		Miti (2001)
Nyakneka	nyy-MWI	-ne-, (nkhele)...-ne-.... (nkhele)	Silva (1966: 25)
Nyakyusa-Ngonde	nym-TZA	SM-kaali AUG-INF-STEM-FV	Persohn (2017: 187)
Nyamwezi	nyk-AGO		Maganga and Schadeberg (1992)
Nyanja	nya-MOZ	NEG-SM-RECPST-STEM-SUBJ-be	Kiso (2012: 157)
Nyemba	nba-AGO	NEG.V nolo kanda V nolo	Zavoni (2003: 363)

Continued on next page

Table 23 – continued from previous page

Language	ISO-country	NOT YET	Source
Pedi	nso-ZAF	NEG-SM-ki SM-STEM-FV	Ziervogel (1954: 71)
Phende	pem-COD	gale	Gusimana (1972: 25)
Ruund	rnd-AGO	SM-STEM-PRS-NEG kal kand-kal SM-STEM	Nash (1992: 759)
Sena (Malawi)	swk-MWI		Kiso (2012: 217)
Shambala	ksb-TZA	NEG-SM-zati (V)	Besha (1989: 211, 274)
Shona	sna-ZWE	NEG-SM-satí	Carter and Kahari (1986: 37)
Soli	sby-ZMB	PST-NEG.PST-na-SM-STEM PST-SM-NEG-na-SM-STEM	van Eeden (1936: 25)
Songe	sop-COD	NEG-SM-bande + INF-STEM	Samain (1923: 106) Stappers (1964: 101, 112, 156)
South-Central Kikongo	kng-COD	NEG-SM-IMMED.PST-STEM-COMPL NEG	Mfuwa (1995: 459)
Southern Sotho	sot-ZAF	NEG-SM-es'o-STEM-FV	Doke and Mofokeng (1957: 213)
Sukuma	suk-TZA	SM-taali INF-STEM	Nurse (2008: 199)
Sumayela Ndebele	nbl-ZAF		Ziervogel (1959: 25)
Swati	ssw-SWZ	NEG-SM-sa-STEM-NEG.FV	Ziervogel (1952: 133)
Tawara	twl-MOZ	NEG-SM-cha-AUX SM-INF-STEM-FV	Dembetembe (1987: 101)
Tewe	twx-MOZ	NEG-sa-ti + past participle	Carter and Kahari (1979b: 41)
Tonga (Zambia)	toi-ZMB	NEG-SM-níngá-STEM-FV NEG-SM-ná-STEM-FV	Carter (2002: 61)
Totela	ttl-ZMB	NEG-SM-ini INF-STEM-FV	Crane (2011: 337)
Tsonga	tso-MOZ	NEG SM si STEM-FV	Ouwehand (1978: 108)
Tswa	tsc-MOZ	NEG SM.CONT ha STEM-NEG	Gadelii (1999: 22)
Tswana	tsn-BWA	NEG-SM-ísé + habitual subjunctive	Cole (1962: 130)
Tumbuka	tum-MWI		Kiso (2012)
Umbundu	mnf-AGO	NEG.PROG.PST-SM-la-STEM-FV	Schadeberg (1990: 43)
Venda	ven-ZWE	NEG-SM-athu-STEM-FV	Poulos (1990: 344)
Wawa	www-CMR	SM NEG STEM-NEG SM STEM-already-NEG.ANT	Martin (2012: 248)

Table 23 – continued from previous page

Language	ISO-country	NOT YET	Source
Xhosa	xho-ZAF	-ka- + verb in the negative	Kirsch et al. (1999: 205)
Yaka	iyx-COG	kini V NEG	Mouandza (2002: 435)
yansi	yns-COD	SM still INF-STEM NEG	Mayanga (1985: 131)
Yao	yao-MOZ	SM-kana-SM-STEM-e	Sanderson (1922: 56)
Zimbabwean Ndebele	nde-ZWE	NEG-SM-zake SM-STEM-SUBJ	Bowern et al. (2002: 45)
Zulu	zul-ZAF	NEG-SM-ka-STEM-NEG	Canonici (1996: 105)

D Appendix: Data on ALREADY

Table 24: ALREADY

Language	ISO-country	ALREADY	Source
Bafia	ksf-CMR		Guarisma-Pupineau (1992)
Bemba	bem-ZMB	apo pene	Hoch (nd: 51)
Bena (Tanzania)	bez-TZA		Morrison (2011)
Bubi	buw-GAB		Mickala-Manfoumbi (2004)
Bukusu	bxk-KEN	SM-a-STEM-FV	Mutonyi (2000: 63)
Bungu	wun-TZA		Nurse and Philipson (2014)
Chokwe	cjk-AGO	halapwila/harapwila	Martins (1990: 238)
Chopi	cce-MOZ	se-SM-STEM-PERF	Smyth (1902: 38)
Chuwabu	chw-MOZ	já SM-PRF-STEM	Guerois (2015: 363)
Digo	dig-KEN	V kare	Nicolle (2013: 154)
Gikuyu	kik-KEN		Nurse (2008)
Gitonga	toh-MOZ		Lanham (1955)
Ha	haq-BDI		Nurse (2008)
Haya	hay-TZA		Kuijpers (1922) Kaji (2000)
Herero	her-NAM		Mölig (2012)
Holoholo	hoo-COD		Coupez (1989)
Holu	hol-AGO		Daeleman (2003)
Ila	ilb-ZWE	kle	Smith (1907: 213)
Kalanga	kck-BWA		Chebanne and Schmidt (2010)
Kande	kbs-GAB		Grollemund (2006)
Kaonde	kqn-ZMB	kala	Wright (2007: 31)

Table 24 – continued from previous page

Language	ISO-country	ALREADY	Source
Kgalagadi	xkv-BWA	la + sala	van der Merwe (1943: 84)
Komo	kmw-COD		Harries (1958)
Kota	koq-GAB		Piron (1990)
Koti	eko-MOZ	SM-áz INF-STEM-FV	Schadeberg and Mucanheia (2000: 147)
Lala-Bisa	leb-ZMB		Madan (1906)
Lamba	lam-ZMB		Doke (1938)
Lenje	leh-ZMB		Madan (1908)
Lingala	lin-COD	SM-si SM-STEM-TM	Meeuwis (2010: 141)
Makhuwa	vmw-MOZ		Van der Wal (2009)
Makonde	kde-TZA		Kraal (2005)
Makwe	ymk-TZA		Devos (2008)
Mambwe-Lungu	mgr-ZMB	SM-áà-STEM-FV	Bickmore (2007: 237)
Manyika	mxc-ZWE		Stevick (1960)
Matumbi	mgw-TZA		Odden (1996)
Mongo-Nkundu	lol-COD		Hulstaert (1965)
Mpongmpong	mgg-CMR		Lebika (2003)
Mwani	wmw-MOZ		Floor (2010)
Myene	mye-GAB	SM-a-STEM-i + 'one time' SM-a-to-?-i	Ambouroue (2007: 216)
Ndali	ndh-MWI		Botne and Schafer (2008)
Ndengereko	ndg-TZA	pyaa	Ström (2013: 251)
Ngoni	ngo-MOZ		Ngonyani (2003)
Nilamba	nim-TZA		Johnson (1923)
Nsenga	nse-MOZ		Miti (2001)
Nyakyusa-Ngonde	nyy-MWI		Persohn (2017: 187)
Nyamwezi	nym-TZA		Maganga and Schadeberg (1992)
Nyaneka	nyk-AGO	lumue nga/lumwe, pahe pano	Silva (1966: 307)
Nyanja	nya-MOZ		Kiso (2012)
Nyemba	nba-AGO	V kale	Zavoni (2003: 362)
Pedi	nso-ZAF		Ziervogel (1954)
Phende	pem-COD		Gusimana (1972)
Ruund	rnd-AGO	V kal	Nash (1992: 476)
Sena (Malawi)	swk-MWI		Kiso (2012)
Shambala	ksb-TZA	pele SM-i-STEM-PST	Besha (1989: 202)
Shona	sna-ZWE		Carter and Kahari (1986)
Soli	sby-ZMB		van Eeden (1936)
Songe	sop-COD		Samain (1923) Stappers (1964)
South-Central Kikongo	kng-COD	kala	Mfuwa (1995: 395)

Table 24 – continued from previous page

Language	ISO-country	ALREADY	Source
Southern Sotho	sot-ZAF	SM se SM STEM-a	(Paroz 1946: 95)
Sukuma	suk-TZA		Nurse (2008)
Sumayela Ndebele	nbl-ZAF	sele, biyo	(Skhosana 2009: 330)
Swati	ssw-SWZ	(SM)-se SM-STEM-FV	Ziervogel (1952: 132)
Tawara	twl-MOZ		Dembetembe (1987)
Tewe	twx-MOZ		Carter and Kahari (1979b)
Tonga (Zambia)	toi-ZMB		Carter (2002)
Totela	ttl-ZMB		Crane (2011)
Tsonga	tso-MOZ		Ouwehand (1978)
Tswa	tsc-MOZ		Gadelii (1999)
Tswana	tsn-BWA	SM-sétsè verb in the present participle	Cole (1962: 130)
Tumbuka	tum-MWI		Kiso (2012)
Umbundu	mnf-AGO		Schadeberg (1990)
Venda	ven-ZWE	SM-PRF-no-STEM-FV	Poulos (1990: 342)
Wawa	www-CMR	SM STEM-tam-PRF	Martin (2012: 261)
Xhosa	xho-ZAF	sele/sel/se	Kirsch et al. (1999: 123)
Yaka	iyx-COG		Mouandza (2002)
yansi	yns-COD	SM-te-STEM	Mayanga (1985: 115)
Yao	yao-MOZ		Sanderson (1922)
Zimbabwean Ndebele	nde-ZWE	se-SM-STEM-PERF	Bowern et al. (2002: 51)
Zulu	zul-ZAF	se-SM-STEM-a	Canonici (1996: 95)

E Appendix: Data on STILL

Table 25: STILL

Language	ISO-country	STILL	Source
Bafia	ksf-CMR		Guarisma-Pupineau (1992)
Bemba	bem-ZMB	SM-ci-AUX SM-STEM-FV	Hoch (nd: 29)
Bena (Tanzania)	bez-TZA	SM-pí-STEM-FV pele SM-i-STEM-FV	Morrison (2011: 271)
Bubi	buw-GAB		Mickala-Manfoumbi (2004)
Bukusu	bxk-KEN	SM-si-STEM-FV	Austen (1975: 180)

Continued on next page

Table 25 – continued from previous page

Language	ISO-country	STILL	Source
Bungu	wun-TZA	SM-COP-sh-FV SM-STEM	Nurse (2008: 146)
Chokwe	cjk-AGO	FUT-SM-ci-STEM-FV	Nurse 2007
Chopi	cce-MOZ	SM-NEG-di SM-CONS-STEM	Smyth (1902: 38)
Chuwabu	chw-MOZ	naváno	Guerois (2015: 323)
Digo	dig-KEN	SM-chere-STEM-FV SM-chere INF-STEM-FV	Nicolle (2013: 158)
Gikuyu	kik-KEN	no-SM-PRG(?)-STEM	Nurse (2008: 197)
Gitonga	toh-MOZ		Lanham (1955)
Ha	haq-BDI	SM-chaa-STEM	Nurse (2008: 197)
Haya	hay-TZA	SM-kya-STEM-FV	Kuijpers (1922: 34)
Herero	her-NAM		Mölig (2012)
Holoholo	hoo-COD	SM-still-AUX-TM INF-?	Coupez (1989: 106)
Holu	hol-AGO		Daeleman (2003)
Ila	ilb-ZWE	SM chi STEM	Smith (1907: 140, 148)
Kalanga	kck-BWA	SM-tja-STEM-a	Chebanne and Schmidt (2010: 106)
Kande	kbs-GAB		Grollemund (2006)
Kaonde	kqn-ZMB	SM-(ka)-ki-STEM	Wright (2007: 32)
Kgalagadi	xkv-BWA	SM sha STEM-CONT SM sha STEM-CONT	van der Merwe (1943: 145)
Komo	kmw-COD	SM-photo-STEM-FV	Harries (1958: 278, 281)
Kota	koq-GAB		Piron (1990)
Koti	eko-MOZ		Schadeberg and Mucanheia (2000)
Lala-Bisa	leb-ZMB		Madan (1906)
Lamba	lam-ZMB	SM-ci-STEM	Doke (1938: 269)
Lenje	leh-ZMB	SM-chi-STEM SM-achi-STEM	Madan (1908: 35)
Lingala	lin-COD		Meeuwis (2010)
Makhuwa	vmw-MOZ		Van der Wal (2009)
Makonde	kde-TZA		Kraal (2005)
Makwe	ymk-TZA		Devos (2008)
Mambwe-Lungu	mgr-ZMB	SM-ci-lii-STEM-FV	Bickmore (2007: 184)
Manyika	mxc-ZWE		Stevick (1960)
Matumbi	mgw-TZA		Odden (1996)
Mongo-Nkundu	lol-COD		Hulstaert (1965)
Mpongmpong	mgg-CMR		Lebika (2003)
Mwani	wmw-MOZ	SM-ingari INF-STEM-FV	Floor (2010: 15)
Myene	mye-GAB	SM-IMPFV-pe-STEM-FV	Ambouroue (2007: 215)

Table 25 – continued from previous page

Language	ISO-country	STILL	Source
Ndali	ndh-MWI		Botne and Schafer (2008)
Ndengereko	ndg-TZA		Ström (2013)
Ngoni	ngo-MOZ		Ngonyani (2003)
Nilamba	nim-TZA		Johnson (1923)
Nsenga	nse-MOZ		Miti (2001)
Nyakyusa-Ngonde	nyy-MWI	SM-kaali SM-PRS-STEM-FV	Persohn (2017: 186)
Nyamwezi	nym-TZA		Maganga and Schadeberg (1992)
Nyaneka	nyk-AGO	nkhere/nkhele	Silva (1966: 25)
Nyanja	nya-MOZ	SM-PST.PFV-STEM-FV-be	Kiso (2012: 150)
Nyemba	nba-AGO	V luhwa	Zavoni (2003: 363)
Pedi	nso-ZAF	SM-sa-STEM	Ziervogel (1954: 62)
Phende	pem-COD		Gusimana (1972)
Ruund	rnd-AGO	SM-ci-STEM-CONT-FV	Nash (1992: 742)
Sena (Malawi)	swk-MWI		Kiso (2012)
Shambala	ksb-TZA	SM-ke-STEM	Besha (1989: 273)
Shona	sna-ZWE		Carter and Kahari (1986)
Soli	sby-ZMB		van Eeden (1936)
Songe	sop-COD		Samain (1923) Stappers (1964)
South-Central Kikongo	kng-COD	dyaka	Mfuwa (1995: 359)
Southern Sotho	sot-ZAF	SM sa STEM-a	(Paroz 1946: 96)
Sukuma	suk-TZA	SM-taali SM-IMPF-STEM-IMPF SM-taali SM-PRG-STEM	Nurse (2008: 198)
Sumayela Ndebele	nbl-ZAF	SM-sá-STEM-FV	Ziervogel (1959: 88)
Swati	ssw-SWZ	SM-sa-STEM-FV	Ziervogel (1952: 97)
Tawara	twl-MOZ	SM-sa-STEM-FV	Dembetembe (1987: 133)
Tewe	twx-MOZ	SM-cha-STEM-a	Carter and Kahari (1979b: 28)
Tonga (Zambia)	toi-ZMB		Carter (2002)
Totela	ttl-ZMB	SM-chi-STEM-FV	Crane (2011: 325)
Tsonga	tso-MOZ	SM ha TM STEM	Ouwehand (1978: 107)
Tswa	tsc-MOZ	SM ha STEM	Gadelii (1999: 22)
Tswana	tsn-BWA	SM-sántse SM-STEM-PART SM-sà-STEM"	Cole (1962: 121)
Tumbuka	tum-MWI		Kiso (2012)
Umbundu	mnf-AGO		Schadeberg (1990)
Venda	ven-ZWE	SM-kha-di-STEM-FV	Poulos (1990: 344)

Table 25 – continued from previous page

Language	ISO-country	STILL	Source
Wawa	www-CMR	SM FUT STEM-tsho-INF SM FUT STEM-INF tsho"	Martin (2012: 260)
Xhosa	xho-ZAF	SM-sa-STEM	Kirsch et al. (1999: 37)
Yaka	iyx-COG	kini V	Mouandza (2002: 435)
yansi	yns-COD	SM pen INF-STEM	Mayanga (1985: 111)
Yao	yao-MOZ	SM-AUX ?-FUT-STEM-FUT.FV	Sanderson (1922: 88)
Zimbabwean Ndebele	nde-ZWE		Bowern et al. (2002)
Zulu	zul-ZAF	SM-sa-(OM)-STEM-a	Canonici (1996: 101)

F Appendix: Data on NO LONGER

Table 26: NO LONGER

Language	ISO-country	NO LONGER	Source
Bafia	ksf-CMR		Guarisma-Pupineau (1992)
Bemba	bem-ZMB		Hoch (nd)
Bena (Tanzania)	bez-TZA		Morrison (2011)
Bubi	buw-GAB	SM-NEG-STEM-dó	Mickala-Manfoumbi (2004: 458)
Bukusu	bxk-KEN	NEG-SM-si-STEM-FV NEG	Austen (1975: 181)
Bungu	wun-TZA		Nurse (2008)
Chokwe	cjk-AGO	no info	Martins (1990)
Chopi	cce-MOZ		Smyth (1902)
Chuwabu	chw-MOZ	já NEG-SM-STEM-PRF	Guerois (2015: 363)
Digo	dig-KEN		Nicolle (2013)
Gikuyu	kik-KEN	NEG-SM-PRG-STEM ringi	Nurse (2008: 197)
Gitonga	toh-MOZ		Lanham (1955)
Ha	haq-BDI	NEG-SM-ki-STEM	Nurse (2008: 197)
Haya	hay-TZA	NEG-SM-kya-STEM-FV NEG-SM-ki-STEM-FV	Kuijpers (1922: 34)
Herero	her-NAM		Mölig (2012)
Holoholo	hoo-COD		Coupez (1989)
Holu	hol-AGO		Daeleman (2003)

Table 26 – continued from previous page

Language	ISO-country	NO LONGER	Source
Ila	ilb-ZWE		Smith (1907)
Kalanga	kck-BWA	FUT PROG: NEG-SM-NEG.FUT-AUX SM-STILL.FUT-AUX SM-STEM-FV PST PROG: SM-PRF-PST-AUX SM-PART-COND-STILL-STEM-PART.FV	Chebanne and Schmidt (2010: 111, 120)
Kande	kbs-GAB		Grollemund (2006)
Kaonde	kqn-ZMB		Wright (2007)
Kgalagadi	xkv-BWA		van der Merwe (1943)
Komo	kmw-COD		Harries (1958)
Kota	koq-GAB		Piron (1990)
Koti	eko-MOZ		Schadeberg and Mucanheia (2000)
Lala-Bisa	leb-ZMB		Madan (1906)
Lamba	lam-ZMB		Doke (1938)
Lenje	leh-ZMB		Madan (1908)
Lingala	lin-COD		Meeuwis (2010)
Makhuwa	vmw-MOZ		Van der Wal (2009)
Makonde	kde-TZA		Kraal (2005)
Makwe	ymk-TZA		Devos (2008)
Mambwe-Lungu	mgr-ZMB	SM-NEG-a-ci-STEM-FV	Bickmore (2007: 239)
Manyika	mxc-ZWE		Stevick (1960)
Matumbi	mgw-TZA		Odden (1996)
Mongo-Nkundu	lol-COD	SM-NEG.PRS-CONT-STEM-i	Hulstaert (1965: 423)
Mpongmpong	mgg-CMR	NEG V tel	Lebika (2003: 70)
Mwani	wmw-MOZ		Floor (2010)
Myene	mye-GAB	SM-IMPFV-NEG-ITER-?-NEG.FV	Ambouroue (2007: 263)
Ndali	ndh-MWI		Botne and Schafer (2008)
Ndengereko	ndg-TZA		Ström (2013)
Ngoni	ngo-MOZ		Ngonyani (2003)
Nilamba	nim-TZA		Johnson (1923)
Nsenga	nse-MOZ		Miti (2001)
Nyakyusa-Ngonde	nyy-MWI		Persohn (2017)
Nyamwezi	nym-TZA		Maganga and Schadeberg (1992)
Nyaneka	nyk-AGO		Silva (1966)
Nyanja	nya-MOZ		Kiso (2012)
Nyemba	nba-AGO		Zavoni (2003)
Pedi	nso-ZAF	NEG-SM-sa-STEM-NEG.FV	Ziervogel (1954: 70)
Phende	pem-COD		Gusimana (1972)

Table 26 – continued from previous page

Language	ISO-country	NO LONGER	Source
Ruund	rnd-AGO		Nash (1992)
Sena (Malawi)	swk-MWI		Kiso (2012)
Shambala	ksb-TZA		Besha (1989)
Shona	sna-ZWE		Carter and Kahari (1986)
Soli	sby-ZMB		van Eeden (1936)
Songe	sop-COD		Samain (1923) Stappers (1964)
South Central Kikongo	kng-COD	NEG-V dyaka NEG	Mfuwa (1995: 395, 459)
Southern Sotho	sot-ZAF	NEG SM sa STEM-a	(Paroz 1946: 95)
Sukuma	suk-TZA	SM-NEG-STEM-IPFV	Nurse (2008: 198)
Sumayela Ndebele	nbl-ZAF	NEG-SM-sá-STEM-NEG.FV	Ziervogel (1959: 88)
Swati	ssw-SWZ	NEG-SM-sa-STEM-NEG.FV	Ziervogel (1952: 102)
Tawara	twl-MOZ		Dembetembe (1987)
Tewe	twx-MOZ	NEG-SM-cha-STEM-FV	Carter and Kahari (1979b: 28)
Tonga (Zambia)	toi-ZMB		Carter (2002)
Totela	ttl-ZMB	NEG-SM-chi-(TM)-STEM-FV	Crane (2011: 327)
Tsonga	tso-MOZ	NEG SM ha TM STEM-NEG.FV	Ouwehand (1978: 107)
Tswa	tsc-MOZ		Gadelii (1999)
Tswana	tsn-BWA	NEG-SM-tlhòlé SM-STEM-PART	Cole (1962: 130)
Tumbuka	tum-MWI		Kiso (2012)
Umbundu	mnf-AGO		Schadeberg (1990)
Venda	ven-ZWE	NEG-SM-tsha-STEM-FV	Poulos (1990: 338)
Wawa	www-CMR		Martin (2012)
Xhosa	xho-ZAF		Kirsch et al. (1999)
Yaka	iyx-COG		Mouandza (2002)
yansi	yns-COD	NEG.SM-PROG-STEM NEG	Mayanga (1985: 131)
Yao	yao-MOZ		Sanderson (1922)
Zimbabwean Ndebele	nde-ZWE		Bowern et al. (2002)
Zulu	zul-ZAF	NEG-SM-sa-(OM)-STEM-NEG.FV	Canonici (1996: 101)