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LEXICAL VERBS EXPRESSING MODALITY IN BANTU LANGUAGES: THE CASE OF RUNYAMBO AND LUGURU

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Abstract

This paper provides novel documentation and description of the verbal modal system in Great Lakes Bantu languages. Runyambo (E21/JE21) is compared with Luguru (G35). The paper builds on Bostoen et al. (2012) and Kawalya et al. (2014, 2018) to revisit Runyambo data and add data from Luguru to re-examine findings in the Great Lakes Bantu Languages. This study is the first to discuss necessity modality in Rutara languages and the very first description of modality in Luguru. The study was conducted in Karagwe and Kyerwa Districts of Kagera Region and Morogoro Rural and Mvomero Districts in Morogoro Region. The field work that involved 10 informants included collection of written texts and in-depth dialogues and interviews for collecting oral texts. The study presents the modal baas- 'be able' as the only modal verb for expressing possibility in Runyambo language. Moreover, the modal baas- in Runyambo as opposed to dah- 'be able/capable/permitted' in Luguru, has both modal and lexical functions. We demonstrate further that the modal verb *teekw*- 'must/ought to' is used to express both weak and strong necessity in Runyambo. The modal *teekw*- modifies all verb types and it requires the auxiliary verb to either refer to the past or future. The modal verbs *dah*- 'be able/capable/permitted' and bamigw- 'must/ought to' in Luguru express possibility and necessity respectively. It is fascinating to identify that in both languages the modal verb for necessity requires both progressive formative and subjunctive form of the immediate verb. Lastly, we demonstrate that in the two languages the modal verbs interact with different tense and aspect formatives.

Key words: Modality, Runyambo, Luguru, Modal verbs, Languages

1. Introduction

This article is a purely descriptive paper that provides novel documentation and description of the verbal modal system in one of the Great Lakes Bantu languages, Runyambo (E21/JE21)[1] in comparison with Luguru (G35)[2]. According to Porter (2009), modality is a linguistic phenomenon where grammar allows one to say things about or based on the situation, which is not necessarily real. Though the description of TAM in different Bantu languages has been somewhat well documented (see, Botne & Kershner, 2008; Nurse 2008; Nurse & Philippson 2006; Seidel 2008, among other references), as

[1] Runyambo is a part of Rutara subgroup of Lacustrine Bantu Languages spoken by 653,046 people in Karagwe and Kyerwa Districts in Tanzania (LOT, 2009). The attempts of classifying Runyambo dialects are based on different linguistic features. Different scholars (e.g., Rugemalira, 2005; Gordian, 2011; Mpobela, 2012) agree that there are two dialects, Marungu (name for wildness) and Migongo (name for highlands).

[2] Luguru is spoken by about 692,000 Bantu people of the hills of Uluguru mountains and coastal plains of East-Central Tanzania mainly South-East of Morogoro Region. Luguru is grouped among the Great Ruvu Languages (Nurse & Philipson, 2003; Petzell & Hammarström, 2013). Luguru has two main dialects, which have been named differently by different scholars. These include Highland and Lowland dialects (Mkude, 1974), West and East dialects (David et al., 1979), and Mgeta and Matombo dialects (Godian, 2018; Nyinondi, 2013).

opposed to tense and aspect, modality has received relatively little attention in Bantu studies. This article is therefore geared toward addressing that gap.

The study of Runyambo and Luguru modality was motivated by several factors; first, this study is the first to discuss necessity modality in Rutara languages and the first description of modality in Luguru. Second, this paper addresses the relationships between lexical and modal verbs in the two languages, as it was observed by Gluckman and Bowler (2020, p. 1) that modal verbs in Logoori have a synchronic "double life". Finally, Bostoen *et al*., 2012; Kawalya, *et al*. 2014; Kawalya, *et al.*, 2018 revealed that markers of possibility manifest different degrees of grammaticalization among Great Lake languages. Thus, the study of modality in Runyambo is an expansion of coverage in the expression of possibility in the Great Lakes Languages while the study in Luguru is an extension of expression possibility beyond the Great Lake Languages.

2. Literature Review

The section provides a brief review of the conceptualization of modality. It also presents a review of empirical studies on modality in Bantu languages.

2.1 On the Conceptualization of Modality

The term 'modality' is perceived differently by different scholars. According to some scholars (e.g. Dahl, 1985; Givón, 2001; Lyons, 1977; Stockwell, 1977) modality is a cognitive function that refers to expressions of the speaker's attitude to a proposition or to its truth-value. It relates an event to the truth-value in different possible worlds, worlds in which the assertion is true (indicative), might be true (possibility), could be true (ability), must be true (necessity) and the like (Stockwell, 1977, p. 39).

On the other hand, Bybee and Fleischman (1995) and Nuyts (2006) see modality as a semantic subdivision within the wider TAM domain. According to these authors, modality is a semantic domain pertaining to elements of meaning that the languages express and that it covers a broad range of semantic nuances 'jussive, desiderative, intensive, hypothetical, potential, obligative, dubitative, hortatory, or exclamative' whose common denominator is the addition of a supplement or overlay of meaning to the most neutral semantic value of the proposition of an utterance, namely factual and declarative.

Although scholars admit that the concept is difficult to define, they maintain that it can be expressed in a variety of ways in a language: morphological, lexical, syntactic, or via intonation that can be subdivided into semantic/pragmatic categories (see, Bybee & Fleischman, 1995; Dahl 1985; Mastop 2005; Wymann 1996; Yukselen 2012, among other references). In the current study, although we are not dwelling much on the theoretical issues and classification of modality, the discussion includes terms such as deontic modality to mean expressions that are considered necessary or required relative to an agent (typically the speaker) or set of norms (like laws). The term 'epistemic modality' expresses the degree of probability of the state of affairs, which on scalar terms ranges from certainty to fairly possibility (Nuyts, 2006).

Furthermore, the current study uses the term 'participant-inherent' similar to 'participant-internal'; it refers to possibilities or necessities that are "inherent" to some participant in the event (Van der Auwera & Plungian, 1998). 'Participant-imposed' is for Van der Auwera and Plungia's definition of 'participant external': an external environment

to event participant in which the state of affairs is possible or necessary. The paper presents modality in terms of possibility and necessity as defined by Van der Auwera and Plungian (1998) and adopted in Gluckma *et al*. (2017) and Gluckman and Bowler (2020). Therefore, possibility includes all expressions that describe ability, permission and the speaker's judgment of the world in which they believe that it is possible that the scope proposition is true. Necessity, on the other hand, includes all expressions considered to be necessary, obligatory and desired.

2.2 Previous Studies on Modality in Bantu Languages

A couple of recent studies have dealt with realisation of modality in the verbal domain and using modal verbs in Bantu languages (see, Bernander, 2017; Lusekelo, 2013; Ngonyani, 2013; Persohn, 2017 and references therein). The coverage of the expression of modality in the many grammar books for Bantu languages is limited.

Bernander (2017) reveals that Bantu grammar books give very little information on the etymology of both modal verbs and modal domains. In addition, Gluckman and Bowler (2020) observe that the modal systems of African languages are relatively under-described. However, there are few studies that have focused on modality. For example, Bernander (2017) gives the description of mood and modality in Manda, where he demonstrates that mood is expressed by affixes and modality by modal auxiliaries. The author identifies three moods in Manda, namely subjunctive, marked with front vowel. -*i*, future obligative, marked by prefix -*a*- in TAM1 and the -*ayi* suffix in final TAM2, and itive mood, marked on the verb by -*ka*- in the TAM1 and the -*ayi* suffix in TAM2. On modality, Bernander (2017) identified one modal verb for possibility, -*hotol*-, three modal verbs for necessity; -*lond*-, -*londek*-, and -*yenelek*-, and two non-modal verbs (adverbs) namely *kwáli (*maybe) and *manyayi* (perhaps), used in expressing epistemic possibility.

Other studies that guided the current article include Gluckman and Bowler (2020), Bostoen et al. (2012), and Kawalya, *et al.* (2014, 2018). Gluckman and Bowler (2020) provide a theoretical description of modality in Logoori, a Luhya language spoken in East Africa. The study provides both theoretical and typological ideas on how to describe modality by adopting Kratzer's (1981) theory of force and flavour and Van der Auwera and Plungian's (1998) classification of modality. The authors identified three modal verbs used for modality, namely, *nyal*- (possibility), *eny*- (weak necessity) and *dok*- (strong necessity). The study of Logoori modality was relevant in the current study in two ways; first, the study highlights the concept of weak necessity and 'double life'. In this article, we test lexical roles performed by the identified modal verbs. Furthermore, Gluckman and Bowler's (2020) study has paved the way in the terminology used in expressing modality in Runyambo and Luguru Languages.

Bostoen *et al.* (2012), in an attempt to study modality in Great Lakes Languages, studied the expression of possibility in Kirundi. They identify four markers, for possibility namely, *bâsh*- 'to be active' and *shóbor*- 'to be able to cope with', *shóbok*- 'be possible', and the pre-verb TAM affix -*oo*-. The study observes that these four markers of possibility manifest different degrees of grammaticalization. They maintain that the modal *bâsh*- is restricted to the expression of participant-inherent dynamic possibility and participant-imposed dynamic possibility. On the other hand, *shobor*- includes situational dynamic possibility and deontic possibility.

Kawalya, *et al.* (2014) examined the semantic evolution of the modal verb *sóból-* 'be able/capable' in Luganda. In their examination, although they acknowledge the presence of other modal makers for possibility, they argue that *sóból-* is the most prominent of all. They compared the modal verb *sóból-* with the Kirundi *shóbor-* and found that the former does not express epistemic possibility. Kawalya, *et al.* (2018) compared the expression of possibility in West Nyanza Bantu Languages. They reveal that *sóból-* 'be able', which is attested in all West Nyanza and other Great Lakes Bantu Languages is the oldest modal verb. They further maintain that the existence of *sobor-* in Runyambo is questionable. These studies raised two important questions in the expression of modality in the two languages under study. First, since Rugemalira (1993, 2002) contains *sobor-* as verb for possibility in Runyambo and Kawalya, *et al* (2014, 2018) does not; does Runyambo have *sobor-* as a modal verb that forms a cognate with Luganda and Kirundi? What are the modal makers that Runyambo and Luguru use to express possibility and necessity modality? The answers to these questions are given in section 4 where lexical markers that are used in the expression of modality in both languages are discussed.

3. Methodology

The study was conducted in Karagwe and Kyerwa Districts of Kagera Region and Morogoro Rural and Mvomero Districts in Morogoro Region. In Karagwe and Kyerwa Districts, the target areas of this study were Ihembe and Kibingo administrative wards respectively. As for Morogoro Rural, the target study area was Matombo ward and for Mvomero District, the study targeted Mgeta administrative ward. In these areas, the languages are spoken throughout at home and in all socio-cultural activities. Ten (10) native speakers of the languages provided the data as informants, who reside in the identified administrative wards in the study area. The data were collected in July to September 2018. The fieldwork included the collection of written and oral texts. In-depth dialogues and interviews were employed to collect oral data. Two consultants were involved with the Luguru data collection and transcription. For the Runyambo data, the first author who is a native speaker constantly checked for the accuracy of the data.

4. Results and Discussion

This section presents and discusses the ideal modal verbs in expression of modality in Runyambo and Luguru languages. This section deals with mainly two aspects, the first aspect is to establish the existing modal verbs for expressing possibility in the languages under study and the second is to present modal verbs for expressing necessity in both Runyambo and Luguru languages.

4.1 Possibility in Runyambo

4.1.1 The Modal *báas-*

The modal verb *báas-* 'can/may', 'be able to/capable of' is used to denote ability, capacity and possibility. According to Kawalya *et al.* (2018), this modal form is cognate with Runyankore *báas-* 'be able, may/can' and Kirundi, *básh-* translated as 'be active; to have a strong health'. The modal requires the infinitive form of the main verb (1). The use of *báas-* ranges from dynamic, deontic to epistemic possibility as defined by Nuyts (2006). Also, in (1), the modal expresses that the participants were able to meet despite Rwabitomize's busy schedule.

1 Nyakato asemerirwe kuba Rwabutomize a**báas-**ize kujira akânya nawe.

Nyakato	a-semerirw-**e**	ku-ba	Rwabutomize
Nyakato	3SG-Happy- PERF	INF- be	Rwabutomize
a-**báas**- ize[3]	ku-jir-a	a-kâ-nya	na-we
3SG-MOD-PERF	INF-have-FV	AUG-CL12-time	with-3SG (her)

'Nyakato became happy because it was possible for Rwabutomize to have time with her.'

The modal verb, depending on the external circumstance, expresses both capacity and possibility. In (2), given the health condition of the mother, the modal is used to express ability. And since the initial negative particle is introduced, it requires the infinitive before the verb root in present tense construction. This means the ability to help is determined not by the participant but by her health condition.

2 Cónka máawe taku**báasa** kubajuna burikanya aharwesonga amagárage tigarije.

Cónka	máawe	ti-a- ø-ku-**báas**-a
But	Mother	NEG-3SG PRS-INF-MOD-FV
ku-ba-juna	buri-ka-nya	a-ha-ru-e- ø-songa
INF-3PL-help	each-CL12-time	AUG-CL16-CL11-AUG-CL9- reason
a-ma-gára-ge	ti-ga-ri=je[4]	
AUG-CL6-strength-hers	NEG-3SG-be=good	

'But mother cannot help each time, because her health is not very good.'

[3] The *-ire* formative in Runyambo is used for perfective and recent past marking. It has different surface realization depending on the final consonant of the verb stem, the quality of the vowel, and the size of the stem (Rugemalira, 2005, p. 73)

[4] *-je* is a commonly used clitic to refer to good or well.

In example (3), given the condition that their father who used to pay for their school fees from his employment salary and now has no job, the modal expresses that the possibility of paying the school fees is limited.

3 Isebo taku**báasa** kubasasurira aharweensonga taciine emirimo.

ise- bo	ti-a- ø-ku-**báas-**a		ku-ba-sasur-ir-a
Father- their	NEG-3SG PRS-INF-MOD-FV		INF-3PL-pay-APL-FV
a-ha-ru-e- ø-songa		ti-a-ci-ine	e-mi-rimo
AUG-CL16-CL11-AUG-CL9-reason		NEG-3SG-CL7-have	AUG-CL4-work

'It is not possible for their father to pay for them as he no longer has the work.'

Báas- is also used to express deontic possibility. As given in (4), the speaker gives permission to the first participant and thus allows the situation encoded in the verb phrase to hold.

4 Kakumara kukóra emirimoye na**báasa** kuzana.

Ka-ku-mar-a	ku-kór-a	e-mi-rimo-ye	n-a-**báas-** a
If-INF- finish-FV	INF-do-FV	AUG-CL4-work-his	PROG-3SG-MOD-FV
ku-zan-a			
INF- Play-FV			

'Once he is done with his work, he may play (on the street).'

Furthermore, *báas-* is used to denote epistemic possibility. This means the verb conveys the speaker as being relatively uncertain about the truth of the state of affairs expressed. For example, in (5), the speaker is uncertain of the situation of his family with regard to the monster. Thus, he thinks the monster might have eaten his wife as well.

5 Orukooko rumazireho ente zanje rwita abaana banje, na mkanje nim**báas**a butamsangaho.

o-ru-kooko	ru-maz-ire=ho	ø-ente	z-anje
AUG-CL11-monster	3SG-finish-PERF=LOC	CL10-cow	CL10-mine
ru-it-a	a-ba-ana	ba-anje	na
CL11-kill-FV	AUG-CL2-child	CL2-mine	and
m-ka- anje	ni-n-**báas**- a	o-bu-ta-m-sang-a=ho	
CL1-wife-mine	PROG-1SG-MOD-FV	AUG-CL14-NEG-CL1-find-FV=LOC	

'The monster has consumed all my cattle. It has also killed and eaten up my children. It is possible; I may not find my wife.'

The modal verb *báas-* is inflected with hypothetical *-káá-* to express possibility. In (6), the verb indicates that the possibility of the mother talking through the phone was there

but she did not talk to them through the phone. And maybe she talked to them after a physical visit. The hypothetical formative takes high tone as demonstrated in (7a). The meaning yielded by this formative is similar to that formed by future formatives, i.e. F1 -*raa*- and F2 -*ri*- (7b). However, the two differ in the degree of certainty. The -*káá*- formative is used when the speaker is uncertain whereas the future formatives -*raa/-ri*- are opted when the speaker is somewhat certain.

6 Nyina tiiteekwa kuba ariho, akáá**báa**si**z**e kugániraho kace nabaana ahasimu.

Nyina	ti-iteekw-a	ku-ba	a-ri=ho,
Her mother	NEG-must-FV	INF-be	AUG-be=LOC
a-káá-**báas**-ize	ku-gánir-a=ho	ka-ce	
3SG-PHp-MOD- PERF	INF-talk-FV=LOC	CL12- little	
na-ba-ana	a-ha-simu		
with-CL2-child	AUG-CL16-phone		

'Her mother does not have to be there, she could say a few words to the children over the phone.'

7a Tukáá**baas**a kugamba nawe.

Tu-káá-**báas**- a	ku-gamb-a	na-we
3PL- PHp--MOD-FV	INF-speak-FV	with-3SG (her)

'We might be able to speak to him (today or tomorrow)'

7b Turáá**baas**a kugamba nawe./ Turibáasa kugamba nawe.

Tu-ráá/ri-**báas**- a	ku-gamb-a	na-we
3PL-F1/F2-MOD-FV	INF-speak-FV	with-3SG (her)

'We will (possibly) be able speak to him (but not now, certainly tomorrow or day after).'

Further, the modal verb interacts with noun class 14 to form a state of being able to do something. This noun is always widely used in the negative construction to mean inability as demonstrated in the proverb in (8).

8 Obutee**báas**a bukazweka embwa oruhu.

O-bu-ta-e-**báas**-a	bu-ka-zwek-a	e-ø-mbwa
AUG-CL14-NEG-REFL-MOD-FV	CL14-P3-dress-FV	AUG-CL9-dog
o-ru-hu		
AUG-CL11-skin		

'Inability dressed the dog on skin (i.e., not being able to solve your own problems makes you suffer).'

According to Declerck *et al*. (2006), modal verbs are used in combination with lexical verbs. A test was carried out to find out whether the modal *báas*- has lexical[5] usage. As demonstrated in examples (9a & b), it was revealed that the modal verb can stand alone as lexical verb usage, which will be interpreted as 'be up to/equal to some challenge'. In (9a), the speaker doubts if the person carrying out an activity is capable as the activity appears to be beyond his capacity, while in (9b), the speaker expresses that the police manage the person's behaviour.

9a Ecisisi eco noocibaasa?

e-ci-sisi	e-co	ni-o-ci-**baas**-a
AUG-CL7- calabash	AUG- CCL7(that)	PROG-2SG-CL7-MOD-FV

'Can you carry the calabash? (I have doubt, it may be too heavy for you)'

9b Akaba yaaturemeise nobusuma; abeiserikare bakamutubaasiza.

a-ka-ba	ya-a-tu-reme-is-e	na-o-bu-suma
1SG-P3-be	1SM-P1-OBJ-hard-CAUS-PERF	with-AUG-CL14- theft
a-ba-iserikare	ba-ka-mu-tu-**baas**-iz-a	
AUG-CL2- police	3PL-P3-OBJ1-OBJ2-MOD-APPL-FV	

'He had become too much of his nuisance with his stealing; the police fixed him up.'

The modal *báas*- accommodates all the tenses and aspects in Runyambo. When the immediate, recent or remote past formatives are inflected on the modal verb *baas-,* the statement becomes a fact as presented in example (10a-c). This is similar to the fact captured with the perfective -*ire* (10d)[6]. Although we have seen the modal *baas*- expresses both ability (be strong enough to/ manage to) and possibility, when the immediate past formative -*a*- or the recent past -*ire* or remote past -*ka*- is used, the modal verb expresses a non-modal role. This role can be defined as 'manage'.

10a Twabaasa kugamba nawe.

Tu-a-**baas**-a	ku-gamb-a	nawe
3PL-P1-MOD-FV	INF-speak-FV	him

'We managed to speak to him (today).'

10b Tubaasize kugamba nawe.

Tu-baas-**ize**	ku-gamb-a	nawe
3PL-MOD-P2	INF-speak-FV	him

'We managed to speak to him (yesterday).'

[5] According to Declerk *et al*. (2006), lexical verbs are verbs whose meaning is denotational rather than grammatical. That means, they have ability to refer to situations types of different kinds and can combine with auxiliaries but can also do without them.

[6] Nurse and Philippson (2006) argue that the meaning -*a*- past is most plausibly derived from older forms with anterior ("perfect") reference.

10c Tukabaasa kugamba nawe.

Tu-**ka**-baas-a	ku-gamb-a	nawe
3PL-P3-MOD-FV	INF-speak-FV	him

'We managed to speak to him (then).'

10d Twaagambire nawe.

Tu-a-gamb-**ire**	Nawe
3PL-P1 -speak-PERF	him

'We have spoken with him already'.

Table 1: Summary of modal and non modal use of the possibility modal verb *báas-*

Modal verb	Modal use	*-káá-*	*-ráá-/ri-*	Lexical uses
báas-	Ability Permission possibility	low certainty	Neutral certainty	Be up to/equal to some challenge. Manage

4.1.2 The Modal *sobor-*?

The assumption is that Rutara languages share lexical, syntactic, morphological, and semantic aspects. As Muzale (1998, p. 10) observes, any study, regardless of the aspect covered, will lead to that conclusion. Based on this assumption, the current study explored modal verbs that other Rutara languages use in the expression of modality.

To express possibility modality, all the Rutara languages seemed to employ the verb *sobor-* 'be able/capable' and the cognate *sobol-* 'be able/capable', or *shobor-* to be able to cope with' (Kawalya *et al*., 2018). Narrowing the area into South Rutara languages, which include Ruhaya and Runyambo, Muzale (2018) identified *shobor-* and *baas-* as modal verbs for expressing possibility in Ruhaya. The author maintains that the two modal verbs whose meaning is 'be able to' are synonymous. Similarly, Rugemalira (1993, 2002) identified *sobor-* and *baas-* as modal verbs for Runyambo. Also, Bostoen *et al*. (2012) identified among others the modal auxiliaries *bâsh-* and *-shóbor-* as the markers for possibility modality in Kirundi (one of the Great Lakes Languages). Although in Rugemalira (1993, 2002) the modal verb *sobor-* is listed for Runyambo, this was not obtained by Kawalya *et al*. (2018) and we did not find it either in the field.

The existence of the modal verb in early studies could be argued for. We argue that *sobor-* in Runyambo has been grammaticalized. Accordingly, we argue in support of Kawalya's *et al.* (2018) observation that *sobor-* is being eroded. Originally, the modal verb *sobor-* was used to express possibility and ability in the language as evidenced by data from Rugemalira (1993, 2002) but at early stage of grammaticalization the verb gained a semantic extension which resulted into nouns whose meaning was related to ability and

power. Such nouns include: *obusobora* 'ability, authority' *Musobozi* 'personal name (lit. a person with ability/power'), *Rugasobora* 'personal name' (lit. a person who manages things), and *Omusobora* 'someone with power'. At a late stage of (secondary) grammaticalization, the original modal meaning disappeared leaving nouns' meaning that were formed at the early stages. Thus, in this article, we present the available modal verb *baas-* as the verb for possibility in Runyambo as explained in detail in the subsequent section.

4.2 Necessity in Runyambo: The Modal *teekw-*

The other commonly analyzed notion of modality is the expression of necessity. Previous studies of modality in the Great Lake Languages (see Bostoen *at el*., 2012; Kawalya *et al*., 2014, 2018) focused on the expression of possibility notion of modality and none focused on the verbs or markers for necessity. Furthermore, Muzale (2018) and Rugemalira (1993, 2002) do not contain the modal verb for necessity. Thus, as far as we are aware, this study is the first to analyze and present modal verb for necessity in the Rutara languages. The study identifies the modal verb *teekw-* 'must/have to' as a commonly used verb denoting necessity in Runyambo.

Traditionally, the necessity function in Runyambo is performed by the modal verb *teekw-* 'must/ought to', but because of Kiswahili influence on the language, *teekw-* is commonly replaced by the Kiswahili word *lazima* 'must/ought to'. There was even a big debate among the Migongo dialect informants as to whether the modal verb *teekw-* was found in Runyambo or Runyankore-Ruciga[7]. However, later it was concluded that the modal verb is attested in Runyambo because of the existence of the noun counterpart *iteeka* "a law/order". We argue that the modal verb *teekw-* was formed by passivization. Both *iteeka* 'a law/order' and *teekwa* 'must/ought to' originate from the root *téek-* 'put'. The *téek-* 'put' is a lexical verb which refers to move something or someone into the stated place, position, or direction (11).

11 Omukazi akatéeka obutuzi omucibo.

O-mu-kazi	a-ka-téek-a	o-bu-tuzi
AUG-CL1-woman	3SG-P3-put-FV	AUG-CL14-mushroom
o-mu-ci-bo		
AUG-CL18-CL7-basket		

'A woman put mushrooms in a basket.'

Through passive formation the verb *teekwa* 'be put' was formed. Passive in Runyambo is formed by *-w-* attached to the stem (Rugemalira, 2005) i.e. *teek+w*. The passive form *teekwa* underwent a semantic broadening to cover the current meaning 'must/obliged/ought to.

The verb is restricted in two morpho-syntactic environments. In the positive construction, the verb requires inflection of a progressive marker (*ni-)* as illustrated in (12).

[7] Runyankore-Ruciga is a Northern Rutara language spoken in the extreme southwest of Uganda. It is often defined as two separate languages: Runyankore (JE 13) and Ruciga (JE 14). The languages neighbour the Marungu dialect of Runyambo.

12 Nyakato aine abaana bashatu na**teekw**a kubatejeka buri kanya.

Nyakato	a-ine	a- ba- ana	ba-shatu
Nyakato	3SG-has	AUG-CL2-child	CL2- three
ni-a-**teekw**-a	ku-ba-tejek-a	buri	ka-nya
PROG-3SG- MOD-FV	INF-CL2-order-FV	each	CL12-time

'Nyakato has three children and she is required to command them each time.'

Apart from the progressive aspect, the verb also requires an infinitive *-ku-* (13a) or the subjunctive form of the subsequent verb (13b).

13a Noreeba, akabana**teekw**a **ku**tumanyisa okuaracéérererw-a

ni-o-reeb-a,	a-ka-ba-ni-a-**teekw**-a.
PROG-2SG-see-FV	3SG-P3-be-PROG-3SG-MOD-FV
ku-tu-many-is-a	o-ku-a-ra-céérererw-a
INF-1PL-know-CAUS-FV	AUG-INF-CL1-F1-late-FV

'You see, he was supposed to notify us that he was going to be late.'

13b Máawe agambire niiteekwa tweye ebisenje byeitu.

máawe	a-gamb-ire	ni-iteekw-a	tu-ey-**e**
Mother	3SG-tell-P2	PROG-MOD- FV	3PL-clean-SBJ
e-bi-senje	bi-eitu		
AUG-CL8-room	CL8-ours		

'Mummy said, it is a must, we clean our rooms'

The modal verb *teekw-*, depending on the context, is also used to demonstrate a weak necessity. As in (14), in an animal story, the wild dog looks at the crow and comments on the feather. And in (15), a man was expected to be home as always after work, the wife is now complaining that he should have informed them that he would be late. In that context the modal is used to express expectation rather than necessity.

14 Amoya gaawe nigareebekaje kandi nigaenjerera, nio**teekw**a kuba nioyereebereraje.

A-ma-oya	ga-awe	ni-ga-reeb-ek-a=je
AUG-CL6-eather	CL6- your	PROG-3PL-look-STV-FV=good
kandi	ni-ga-enjerer-a	ni-o-**teekw**-a
and	PROG-CL6-shine-FV	PROG-2SG-MOD-FV
ku-ba	ni-o-ye-reeb-erer-a-je.	
INF-be	PROG-2SG-REFL-look-APPL-FV=good	

'Your feathers look beautiful and shining. You (possibly) must be taking good care of yourself.'

15 Yaaba na**teekw**a kuba yaaizire omuka akanya aka.

Y -aa-ba	ni-a-**teekw**-a	ku-ba	y-aa-iz-ire
3SG-P1-be	PROG-3SG-MOD-FV	INF-be	3SG-P1-come-PERF
o-mu-ka	a-ka-nya		a-ka.
AUG-CL10-home	AUG-CL12-time		AUG-CL12

'He should (was supposed to) be back home at this time.'

To refer to past or future, the modal *teekw-* is preceded by the auxiliary verb *ba* 'be', on which tense is marked. In example (15) above, the construction is the near past (P1) while in (16) the verb takes remote past (P3).

16 Noreeba, akabanateekwa kutumanyisa okuaricéérererwa.

ni-o-reeb-a	a-ka-ba-ni-a-teekw-a
PROG-2SG-see-FV	3SG-P3-be-PROG-3SG-MOD-FV
ku-tu-many-is-a	o-ku-a-ri-céérererw-a
INF-1PL-know-CAUS-FV	AUG-INF-3SG-F2- late-FV

You see! he was supposed to notify us (then) that he would be late'.

The presence of past or future formatives before modal verb *teekw-* decreases the degree of necessity. Thus, we argue that Runyambo employs past and future formatives to express weak necessity.

Table 2: Summary of use for necessity modal verb *teekw-* in Runyambo

Modal Verb	modal use	PROG *ni-*	INF *ku- or SBJ*
teekw-	necessity (both strong and weak)	Compulsory inflected before the modal verb	Compulsory form of the immediate verb after *teekw-*

As observed by Rugemalira (2005, p. 51-53), there is syntactic restriction on the possible combination of the extension. For example, he categorically states that the combination of PASS and APPL and PASS with CAUS is impossible in Runyambo. Based on this fact, the modal verb *teekw-* which was formed through passive process cannot be combined with other derivational suffixes.

To summarize for the modal verbs in Runyambo, this study has presented the modal *baas-* 'be able/strong enough to' as the only modal verb for expressing possibility in the language. The modal *baas-* is capable of occurring in different environments and demonstrates a different level of certainty. The modal also has a non-modal role. Further, we have demonstrated that the modal verb *teekw-* 'must/ought to' is used to express both strong and weak necessity in Runyambo. We revealed that weak necessity is either determined by context or created with the uses of past or future tense formatives.

4.3 Possibility in Luguru: The Modal *dah-*

The study of modalities in Luguru is new. In the previous studies by Kawalya *et al.* (2014, 2018) and Bostoen *et al.* (2012), Luguru was not covered. Therefore, the coverage in this section of the current study provides novel results. In establishing relatedness to other Bantu languages, comparison with facts from Runyambo is provided.

The modal verb *dah-* indicates ability or capacity in Luguru. In illustration (17), the modal verb *dah-* expresses internal ability (as well as inherent capacity) of the agentive noun. The verb also expresses the possibility of the subject or agent in doing something (18). Based on these two examples, we argue that the modal verb *dah-* works almost similar to other modal verbs attested in Great Lakes Bantu Languages (see Kawalya *et al.*, 2014, 2018) as it covers potential subcategories of modality.

17 Mai ko**daha** kukala ghoya na iwaana kubita Mwenda.

mai	ka-o-**dah-**a	ku-kal-a	ghoya	na
Mother	3SG-PROG-MOD-FV	INF-stay-FV	better	and
i-wa-ana	ku-bit-a	Mwenda		
AUG-CL2-child	INF- surpass-FV	Mwenda		

'The mother can cope better with children than Mwenda.'

18 Lekeni mai ng'o**daha** ukwapfila matswa ghose kwaapfila lukuli lwake ng'alukalileghoya.

lekeni	Mai	ng'-a-o-**dah-a**	u-kw-apfil-a
but	Mother	NEG-3SG-PROG-MOD-FV	AUG- INF-help-FV
ma-tswa	gha-ose	baye	ku-a-apfil-a
CL6-day	CL6-all	not	INF-OBJ-help-FV
lu-kuli	lw-ake	ng'a-lu-kal-ile	ghoya
CL11-health	CL11-her	NEG-CL11-stay-PERF	better

'It is not possible for the mother to help each time , because her health is not very good.'

Based on the examples above, two restrictions of the modal verb *dah-* are provided. Firstly, morpho-syntactically, the verb requires a compulsory infinitive form of the subsequent main verb (17). In the case of (17), the modal also expresses the internal induced ability of the participant to do something. In this case, the mother is more capable of enduring child care than Mwenda.

Secondly, the Luguru modal verb *dah-*, depending on the external circumstances, denotes possibility, which is determined by the external environment, similar to Runyambo. For instance, in the Luguru example (18), the modal verb expresses the ability

of doing an action, which is determined by the external environment. The condition provided in (18) is similar to the condition provided Runyambo example 2 above.

Moreover, the modal verb *dah-* is used in giving permission in Luguru, as illustrated in (19), similar to Runyambo (see section 4.1.1). In example (19), we obtain deontic possibility where the external circumstance depends particularly on some socially created situation (Bernander, 2017). In the example (19), the speaker imposes permission on the first participant and thus allowing the situation encoded in the verb phrase to hold.

19 Ng'abamigw-e baye kukala ukaye sideke ko**dah**a kughenda kudawala.

ng'-a-bamigw-e	baye	ku-kal-a	u-kaye	sideke
NEG-3SG-must-SBJ	not	INF-stay-FV	AUG- home	too much
ka-o-**dah**-a	ku-ghend-a	ku-dawal-a		
3SG-PROG-MOD-FV	INF-go-FV	INF-play-FV		

'He doesn't need to stay at home too much; he may go to play (on the street).'

This modal verb also conveys speaker's attitude as being relatively uncertain about the truth of the state of affairs expressed (20).

20 Mwenda kamwidika; mai wangu ghumtsuho ng'aghu**daha** baye kuwa tayari ghung'ali gh-pilusigwa kwa nusu saa.

Mwenda	ka- ø-mu-idik-a;	mai
Mwenda	3SG-P1-OBJ-reply-FV	mother
wa-angu	ghu-m-tsuho	ng'-a-ghu-**dah**-a
of-mine	AUG-CL3-soup	NEG-PROG-CL3-MOD-FV
Baye	ku-wa	tayari
Not	INF-be	ready
ghu-ng'ali	ghu-pilus-igw-a	kwa
CL3- still	CL3-boil-PASS-FV	for
Nusu	ø- saa	
Half	CL5-hour	

'Mwenda answered: – My (dear) mother, it's not possible for the soup to be ready, it has been boiling only for a half an hour.'

When the modal verb *dah-* is negated, the meaning remains the modal use. In other words, the negative marker indicates a state of not being able to do something (21).

21 Mai wake ng'obamigwa yawe haho, ko**daha** kulonga cidogomna isimu.

mai	wa-ake	*ng'-o-bamigw-a*	*ya-we*
mother	of-her	NEG-PROG-must-FV	3SG-be
ha-ho,	ka-o-**dah**-a	*ku-long-a*	*ci-dogo*
CL16- there	3SG-PROG-MOD-FV	INF-speak-FV	CL7-small
m-na	i-ø-simu		

CL18-in AUG-CL9-phone
'Her mother does not have to be there, she could say a few words to the children over the phone.'

A lexical test of the modal has revealed that *dah-* cannot stand alone in a sentence to convey a lexical meaning. The absence of lexical uses with the modal *dah-* in Luguru can be argued for. We argue that lack of lexical usage is a result of semantic narrowing that took place on the modal verb. A historical-comparative approach to reconstruct the origins of Luguru's modal verb for possibility, *dah-* had shown that in the 1880s languages in the Guthrie's Bantu G group (Guthrie, 1967-71; Maho, 2009) had the word *daha* with several meaning and were placed in various word classes, including adjective *daha* 'able', modal *daha* "be able, have', noun *daha* 'order' and verb *daha* 'dare' (Last, 1886). In the current study, however, only the modal meaning was obtained. It is clear from the Luguru data that there occurred semantic narrowing where the today's *daha* has remained as a modal verb expressing possibility and permission in the language. This appears to be the case for the Bantu languages in Guthrie's G group as Petzell (2008, p. 211) lists the verb *daha* 'be able' for Kagulu (G12), another neighbouring Bantu language in Morogoro Region.[8]

The modal *dah-* interacts with both past and future tenses. The presence of the past tense formative is restricted to expression of ability, (22), as it is for future with possibility, (23). The progressive aspect and the present tense are used to express both ability and possibility, as illustrated in (20 & 21) above.

22 Ipinga wake hayebiligwe imnzehe ayatsokaghanzika ng'ani tsakapfikitsa tsang'o**daha** kukala bilapinga.

i-ø-pinga	wa-ke	ha-ye-bil-igw-e
AUG-CL1-wife	of- his	COND-REFL-steal-PASS-SBJ
i-m-nzehe	a-ya-tso-kaghanz-ik-a	*ng'ani*
AUG-CL1-oldman	CCL1-go-F2-sad- STV-FV	much
tsa-ka-pfikits-a	tsa-ng'-o-**dah**-a	*ku-kal-a*
P2-3SG-feel-FV	P2-NEG-CCL1-MOD-FV	INF-stay-FV
bila	ø-pinga	
without	CL1-wife.	

'When his wife was kidnapped, the old man was saddened very much; he felt he could not live without her.'

23 Tutsodaha kulonga ilipfi

tu-tso-dah-a	ku-long-a	naye	ilupfi
1PL-FUT-MOD-FV	INF-speak-FV	him	tomorrow

[8] Research on the expression of modality in the languages of Morogoro and neighbouring regions, e.g. Gogo (G11), Kagulu (G12), Pogolo (G51), Ndamba (G52), Sango (G61) and Hehe (G62), is required. The outcome of such research will help to illuminate not only the current research outcome but also the investigation reported in Petzell (2012) and Petzell and Hammarström (2013).

'We will (possibility) speak to him tomorrow'

Table 3: Summary of use of the possibility modal verb *dah-*

Modal verb	Modal use	*Lexical use*
dah-	Ability Permission Possibility	None

4.4 Necessity in Luguru: The Modal *bamigw-*

The verb *bamigw-* 'must/ought to', which is a modal verb used in the language to express necessity, is a result of passive formation of the verb *bam-* 'want' (24a)[9]. A non-passive form of the verb *bama* 'want' can also be used (24b) (Marten & Ramadhani 2001).

24a Bibi ko**bam**a kuwaangilagha.
bibi ka-o-**bam**-a ku-wa-angil-agh-a
grandmother 3SG-PROG-want-FV INF-CL2-see-HAB-FV (our field data)
'Grandmother wants to visit them.'

24b Wasehe wom**bam**a imwanafunzi asome ichitabu.
wazee wa-o-m-**bam**-a imwanafunzi a-som-e ichitabu
elders 3PL-PROG-OM1-want-FV student 3SG-read-IMP book
'The elders wanted the students to read a book.' (Marten & Ramadhani 2001, p. 11)

The passive in Luguru is formed by adding a passive formative *-igw-* (Mkude, 1974). The formed passive structure whose original meaning was 'be wanted', underwent a semantic shift towards the current meaning. The modal takes a default final vowel and is followed with the subjunctive mood of the main verb. The verb agrees with all persons (1st, 2nd and 3rd) and can be inflected for subject, object and tense. For example, in (25), the modal *bamigw-* in the first clause is inflected for both 1PL and near future tense while in the second is inflected for 1SG and near future tense.

25 Yesu kawedika, two**bamigw**a tughende kune ipfijiji pfingi ipfili habehi amo no**bamigw**a niwapetele iwanu imbuli inoghile.
Yesu ka-w-edik-a, tu-o-**bamigw-a** - tu-ghend-e
Jesus 3SG-CL2-explain-FV 1PL-PROG-MOD FV 1PL-go-SBJ

[9] It appears that *bam-* 'want' is attested as main and auxiliary verb in Luguru (see Marten & Ramadhani 2001). In the field, we found that the verbs *bam* 'want' takes the progressive aspect marker and infinitive form of the main verb. The progressive aspect however denotes generic function instead of continuation of the event. As observed by Gluckman and Bowler (2020) the verb equivalent WANT in Logoori expresses universal quantification over possible worlds (that are compatible with the subject's desires), the *bam-* in Luguru expresses the desire of the subject participant toward the event. Also, the verb requires an infinitive if the agent is the same between the one who wants and who acts/sees.

ku-ne	i-pfi-jiji	pf-ingi	**i-**pfi-li
CL17-in	AUG-CL8-village	CCL8-many	AUG-CL8-be
ha-behi.	amo	n-o-**bamigw**-a	ni-wa-petel-e
CL16-next	There	1SG-F1-MOD-FV	1SG-CL2-preach-SBJ

i -wa-nu	i- ø- mbuli	i -nogh-ile,
AUG-CL2-people	AUG-CL9-news	CCL9-good-PERF

'Jesus explained to them, we must go to the next villages; there, I am supposed to preach them the good gospel.'

There are restrictions on the occurrence of the modal *bamigw-* in Luguru, partly similar to the morpho-syntactic restrictions which are attested for the Runyambo modal *teekw-* (see section 4.2 above). The modal *bamigw-* requires inflection of the obligatory progressive aspect formative *-o-* when in a positive construction, (26). Alternatively, it requires the subjunctive form of the main verb when affirmative, (27).

26 Mwenda kana waana wadatu kobamig**w**a yaweng'e ngupfu cipindi cose.

Mwenda	ka-na	wa-ana	wa-datu	ka-**o-**bamigw-a
mweda	3SG-has	CL2-child	CCL2-three	3SG- **PROG**-MOD-FV

ya-weng'-e	ø- ngupfu	ci-pindi	ci-ose
3SG-give- SBJ	CL10-power	CL7-time	CCL7-all

'Mwenda has three children and she ought to command them all the time.'

27 Na ingoma aino haitowigwa, ughali wa libondo wobamigwa wabikigwe na tsimbogha au wadagala.

na	i-n-goma	a-i-no	ha-i-tow-igw-a
and	AUG-CL9-drum	AUG-CCL9-this	CL16-CCL9- beat-PASS-FV

u-ghali	wa- li-bondo	u-o-bamigw-a	wa-bik-igw-**e**
CL3-gali	of- CL5-cassava	CL3-PROG-MOD-FV	CCL3-cook-PASS-**SBJ**
na	tsi-mbogha	au	wa-dagala
with	CL7-vegetable	or	CL2- sardine

'And when this dance is played, it is a must that ugali from cassava be cooked and served with vegetables or sardine (*dagaa*).'

The study adopted Vander Klok and Hohaus's (2019) tests to check if *bamigw-* expresses both weak and strong necessity. The first test was a conjunction of two strong necessity statements with *bamigw-*. As demonstrated in (28), it cannot simultaneously be the case that Mwenda should stay home and go out. This infelicity condition shows that *bamigw-* is stronger than possibility.

28 #Ko**bamigw**a kukala ukaye na ko**bamigw**a kughenda kudawala.

k-o-bamigw-a	ku-kal-a	u-kaye	
3SG-PROG-MOD-FV	INF-stay-FV	AUG-home	
na	k-o-bamigw-a	ku-ghend-a	ku-dawal-a
and	3SG-PROG-MOD-FV	INF-go-FV	INF-play-FV

'You should stay at home and you must go to play (on the street).'

The modal *bamigw-* is compatible with a weak necessity reading by being able to be conjoined with a possibility modal: 'can go and you ought to,' (29a) and being infelicitous when conjoined with a strong necessity modal: 'ought to go and must', (29b).

29a Iwana waadodo wodaha waghende wakawase lakini wobamingwa kumbeta aba wao yatse.

i-wa-ana	wa-dowado	wa-o-**dah**-a	
AUG-CL2-child	CL2-child young	CL2-PROG-MOD-FV	
wa-ghend-e	wa-ka-was-e		lakini
3PL-go-SBJ	3PL-MOD-sleep-SBJ		but
wa-**bamigw**-a	ku-m-bet-a	aba wao	ya-ts-e
3PL-MOD-FV	INF-OBJ-wait-FV	father their	3SG-come-SBJ

'Small children can go to sleep but they ought to wait for their father to come!'

29b #Iwana waadodo wobamigwa waghende wakawqse na wobamingwa kumbeta aba wao yatse.

i-wa-ana	wa-dowado	wa-o-**bamigw**-a	
AUG-CL2-child	CL2-child young	CL2-PROG-MOD-FV	
wa-ghend-e	wa-ka-was-e		na
3PL-go-SBJ	3PL-MOD-sleep-SBJ		and
wa-**bamigw**-a	ku-m-bet-a	aba wao	ya-ts-e
3PL-MOD-FV	INF-OBJ-wait-FV	father their	3SG-come-SBJ

'Small children must go to sleep and ought to wait for their father to come!'

A further test with *bamigw-* in the place of 'should' shows that *bamigw-* does not have the same (strong) meaning as the word for 'have to' as it was felicitous for someone to say: "You don't have to tell us if you are going to be late, but you should", (30).

30 Ng'**abamigw**e baye yalonge ka ka-tso-kaw-a, lakini yobamigwa

ng'-a-bamigw-e	baye	*ya-long-e*	*ka*

NEG-3SG-MOD-PERF no 3SG-speak-SBJ COND
Lakini ka-o-bamigw-a
But 3SG-PROG-MOD-FV
'You don't have to tell us if you are going to be late, but you should.'

With regard to the modal verb *bamigw-*, the passive formative had some restrictions of co-occurring with other verbal derivational suffixes, similar to Runyambo. Although Mkude (1974, p. 85) observes that the order in which derivational suffixes will occur cannot be pre-determined with absolute certainty, he demonstrates that no derivational suffix can occur after the passive process.

Similar to other modal verbs, the modal *bamigw-* also interacts with different tenses and aspects in the language. When the modal interacts with the remote past or future, it expresses weak necessity. For example, in (31), the woman is complaining of the husband not notifying her of his late coming. The modal in this context is not expressing strong necessity instead it expresses a desire to have been informed.

31 Kwa k-ona, maa-tsa-ka-bamigw-a ya-long-e ka ka-tso-kaw-a

Kwa k-ona, maa**-tsa**-ka-bamigw-a ya-long-e ka
For 3SG-see already **P2**-3SG-MOD-FV 3SG-speak-SBJ COND
ka-tso-kaw-a
3SG-FUT-delay-FV
'You see, he ought to have told us, if he was going to be late.'

Table 1: A summary of necessity modality *bamigw-* in Luguru

Modal Verb	modal use	PROG *-o-*	*SBJ*
bamigw-	necessity (both strong and weak)	Compulsory inflected before the modal verb	Compulsory form of the immediate verb after *bamigw-*

To summarize, we revealed that Luguru employs the modal verbs *dah-* and *bamigw-* to express possibility and necessity modalities respectively. We have also revealed that both modal verbs interact differently with tense and aspect. Moreover, we have shown that the modal verb *bamigw-* expresses strong or weak necessity depending on tense or the context in which it is being used. Lastly, we have demonstrated that the modal verb for possibility *dah-* has a no lexical role while it was not the case with necessity modal.

5. Conclusion

This paper presented the usages of the modal verbs in two Bantu languages spoken in Tanzania, namely Runyambo and Luguru. Building on Bostoen *et al.* (2012) and Kawalya *et al*. (2014, 2018), we argue that the modal *baas*- as it was attested in the expression of possibility in Runyambo and in other Great Lakes Bantu Languages is a new development in modality; and that the modal *sobor*- is getting eroded in Runyambo. We have seen that in Runyambo the modal verb *baas*- demonstrates both modal and lexical functions as opposed to *dah*- in Luguru, which expresses only the modal functions. Also, both *baas*- (Runyambo) and *dah*- (Luguru) have the ability to express possibility. Since previous studies in the Great Lakes Bantu Language did not cover the domain of necessity, in this paper, we have expanded the expression of modality to include necessity. We found that the modal verb *teekw*- expresses all the domains of necessity (strong and weak) in Runyambo as it were for *bamingw*- in Luguru. Furthermore, it was fascinating to identify that in both languages the modal verb for necessity requires both progressive formative and subjunctive form of the immediate verb.

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List of Abbreviations

1PL/2PL/3PL	First/Second/Third Person Plural	1SG/2SG/3SG	First/Second/Third Person Singular
ANT	Anterior	AUG	Augment
APPL	Applicative	ASP	Aspect
AUX V	Auxiliary Verb	CAUS	Causative
CL	Class	CCL	Class Concord
COND	Conditional	CVC	Consonant, Vowel, Consonant
ET	Event Time	F1	Near Future
F2	Remote Future	FV	Neutral Suffix
HAB	Habitual	INF	Infinitive
		IMP	Imperative Mood

LOT	Languages of Tanzania	MOD	Modal Marker
NEG	Negative Marker	NPs	Noun Phrases
NPX	Noun Prefix	OBJ	Object Marker
P1	Intermediate Past	P2	Recent Past/remote Past (Luguru)
P3	Remote Past	PASS	Passive
PB	Proto-Bantu	PBT	Pioneer Bible Translation
PERF	Perfective	PF	Post Final
PL	Plural	POSS	Possessive
Post-SM	Post Subject	PR	Proto-Rutara
PROG	Progressive	PRV	Persistive
R	Reference Time	REL	Relative Marker
REFL	Reflective Marker	S	Speech Time
SG	Singular	S/N	Serial Number
SM	Subject Marker	SBJ	Subjunctive
STV	Stative	T	Tense
T/A	Tense and/or Aspect	TAM/TMA	Tense, Aspect and Mood
#	Word Boundary	PHp	Hypothetical

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