



Siame, Linguistics Department, Faculty of Arts and Humanities, University of the Western Cape, Cape Town, South Africa.

E-mails: psiam@yahoo.com /
4010493@myuwc.ac.za

RESEARCH ARTICLE

Influence of Morphophonological Processes on the Verbal Structure of the Mambwe Language

Pethias Siame* & Felix Banda

Linguistics Department, Faculty of Arts and Humanities, University of the Western Cape, Cape Town, South Africa.

Abstract: Mambwe language is said to be from the ancestor language, the Fipa in Southern Tanzania. Guthrie (1948) classifies the Mambwe language as M15. This article aims to contribute to describing the verbal structure of Mambwe focusing on the influence of morphophonological processes. Using insights from comparative Bantu morphophonology, descriptive linguistics, elicitation, and direct observation data, the article outlines the prominent morphophonological processes which have an influence on the verbal structure of the language, which include; vowel lengthening, gliding, glide harmony, vowel hiatus, vowel and consonant harmony, vowel deletion, vowel maintenance, assimilation, internal change or zero modification and coalescence. The paper shows that the verbal structure in the prefix, subject, and object marker, and the root is influenced by either the palatal glide [y] or the bilabial glide [w] in the plural, glide maintenance, or glide interchange to harmonise the verbs. It is envisaged such a descriptive analysis will make it easier for curriculum developers to understand the verbal structure of the language and enable them to develop grammar as well as curriculum material.

Keywords: Influence, Mambwe, morphophonological processes, verbal structure

1. Introduction

Mambwe language is believed to be from the ancestor language, Fipa in Southern Tanzania (Nurse & Philipson, 1999). Guthrie (1971), classifies the Mambwe language or ciMambwe (henceforth, Mambwe) as M15 and is spoken in Mbala and Senga districts in the Northern Province of Zambia as well as in Southern Tanzania (Guthrie, 1948). Very few studies have been conducted on the Mambwe language. The language has not been given official status for use in government and business. However, Bemba has been designated the official language in the areas where Mambwe is spoken, despite not having high mutual intelligibility with each other. Therefore, Bemba is used as the language for initial literacy in Mambwe speech communities despite the vast verbal variations between the two languages. Nevertheless, there is a need for descriptive studies like the present one to outline the verbal structure of Mambwe if the language is to be used for teaching, learning, and language planning.

This paper aims to contribute to describing the verbal structure of the Mambwe language focusing on the influence of morphophonological processes. The above aim is achieved by answering the following research questions: What are the prominent morphophonological processes acting on the verbal structure of Mambwe languages? How do the prominent morphophonological processes influence the verbal morphology of Mambwe and language?



2. Literature Review

Mambwe and Lungu languages are closely related to such an extent that the two are often depicted as dialects of the same language. Mann and Kashoki (1977) claim that Mambwe and Lungu have a shared cognate rate of 92%. This would imply that the two languages are mutually intelligible. However, some linguists classify the two languages as dialects of a common language, rather than as two separate languages. Based on the above reasoning, the languages are sometimes written as Lungu-Mambwe or Mambwe-Lungu. On the contrary, literature shows that although linguists would classify the two 'languages' as dialects of one language, rather than as two separate languages, mother tongue speakers of the above languages can clearly distinguish between the two as there are several phonological, morphological, and lexical variations (Mann & Kashoki, 1977). It is thus not surprising that speakers see the languages as different languages (Siame and Banda, 2021). It is also important to state that some of the literature on Mambwe do not have adequate morphophonological descriptions which are palatable to speakers of the language as well as curriculum specialists to develop teaching and learning materials in the languages.

In terms of the existing linguistic literature on ciMambwe, Bickmore (2004) says the two most accessible sources are a very extensive dictionary of Mambwe written by Halemba (1994) and a small grammar (Rupya, 1962). Halemba must have been aware of the inadequacy of the 1994 dictionary, consequently, Halemba (2007) documented a Mambwe-English dictionary to which he attached a brief supplementary grammar of the Mambwe language. Other works on ciMambwe, such as Siame and Banda (2021) analysed tense, aspect, mood, polarity, subject, and object marking in ciMambwe.

3. Theoretical Framework

Theoretically and analytically, the article is informed by descriptive and analytical frameworks. The descriptive framing will also inform the analysis of the influence of morphophonological processes on the verbal structure of Mambwe. Descriptive study is a component of documentary linguistics that deals with languages that are less documented. The descriptive theory uses words and sentential expressions which are then analysed for what they are (Mutch, 2005). Sebastien (2016) argues that descriptive theory is a set of propositions that attempts to describe something, in this case, the verbal structure of the Mambwe language.

Gleason (1961) postulates that descriptive linguistics studies languages in terms of their internal structures and is more biased toward morphology. Descriptive grammar is, therefore, an approach that illustrates the grammatical structure of a language without making any evaluative judgments about its reputation in the community. It is necessary to state that the descriptive approach is widely used in linguistics as a standard to investigate a corpus and to describe its pattern in detail.

From the foregoing, the descriptive theory in this study is backed by the linguistic theory, that is, the comparative Bantu syntactic-morphophonology theory. According to Sapir (1921) and Bloomfield (1933), the linguistic theory combines the three linguistic forms, namely: a sound system called phonology, word formation called morphology, and the formation of sentences referred to as syntax. The descriptive theory is further strengthened by the basic linguistic theory (Dixon, 1997) to account for the Grammaticalisation of the languages under study. Dryer (1997) quotes Aissen (1999) by arguing that what Dixon (1997) calls "basic linguistic theory" serves as such a descriptive theory. Therefore, it can be argued that the Basic Linguistic Theory qualifies to be classified under descriptive theory as it deals with the description of the basic grammar of the language (Aissen, 1999).

We are mindful of sentiments by scholars such as Pollard and Sag (1994) who argue that the basic linguistic theory is inadequate as it does not adequately account for the Chomskyan generative work as an explanatory theory. However, combining descriptive theory with insights from comparative Bantu syntactic-morphophonology theory helps to alleviate the weaknesses of not using Chomskyan generative theory and strengthens the explanatory

power of the framework. Although Chomskyan generative theory is a powerful tool to use, non-linguists and curriculum developers, for example, who might need descriptive data on the structure of the Mambwe language, may find it difficult to understand it or the tenets of Optimality Theory.

4. Research Method and Materials

The study used the descriptive research design which was backed by the qualitative approach which is non-numerical and subjective (Brink & Wood, 1998). Data were collected from Northern Province in Mbala and Senga districts in Northern Province. Data were elicited from four informants during data collection and verification.

Being a descriptive study, the collected data were analysed thematically using descriptive and analytical skills to justify the influence of morphophonological processes on the verbal structure of the Mambwe language. Data analysis went hand in hand with data collection (Mugenda & Mugenda, 1999). Furthermore, the lead author, being a mother tongue speaker of the language, applied intuitive knowledge of his linguistic experiences to arrive at the influence of morphophonological processes on the verbal structure of Mambwe. In addition, the analysis of the linguistic experiences was subjected to meaning based on the researcher's perception, intuitions, and research objectives (Merriam, 1998).

5. Results and Discussions

The focus of the study is to address the influence of morphophonological processes of the verbal structure of the Mambwe language.

5.1 Verbal structure

Considering the overall verbal structure of Bantu languages concerning Mambwe, the following morphophonological processes and their influence on verbal morphology are discussed in this paper: vowel lengthening, gliding, vowel and consonant harmony, vowel hiatus, deletion, internal change or zero modification, assimilation and coalescence..

5.1.1 Vowel lengthening

This is a phonological process on verbal constructions which allows the doubling of vowels in the tense maker (TM) to denote a different tense. Let us first consider a short vowel in the TM:

- (1) *alamuma* [a-la-mum-a] 'He/she will beat him/her' (singular);
yalamuma [i-a-la-mum-a] 'They will beat him/her' (plural)

Based on example (1), it can be observed that the Mambwe language begins the verbal structure with the vowel [a-] 'he/she' to express the singular form while the morpheme [ya-] expresses the plural form. We observe that the language uses tense markers (TM) [-la-] in the verbal construction. Based on example (1), we argue that tense marking in Mambwe is done with a single vowel to express the future simple tense.

Let us consider constructions with long vowels in the TM [-laa-] and the object marker (OM) [-mu-] to determine the influence of vowel length on the future simple tense of Mambwe:

- (2) *alaamuma* [a-laa-mum-a] 'He/she will be beating him/her' (singular);
yalaamuma [i-a-laa-mum-a] 'They will be beating him/her' (plural)

In example (2), we can observe that lengthening of the vowel [-a-] in the TM [-laa-] demonstrates a future progressive tense instead of the future simple tense which is expressed by the short vowel in the morpheme [-la-] as shown in example (1). From the foregoing examples, we note that the effect of vowel lengthening in the Mambwe language is to change

the future simple verbs to the future progressive aspect which is thus formed by the affix [-laa-] in both singular and plural forms.

5.1.2 Vowel harmony

Vowel harmony is a phonological process that either deletes or assimilates the vowel in the TM to be the same as the suffix (cf. Bickmore, 2004). The example below illustrates the effect of vowel harmony in monosyllabic verbs in the Mambwe language:

- (3) *taa!* 'stop!' [ta-a] (singular form); *tiin!* 'stop!' [ti-i-ni] (plural form)
- (4) *lyal!* 'eat!' [li-a] (singular form); *lyini!* 'eat!' [li-i-ni] (plural form)
- (5) *mwa!* 'drink!' [mu-a] (singular form); *mwini!* 'drink' [mu-i-ni] (plural form)
- (6) *fwa!* 'die!' [fu-a] (singular form); *fwini!* 'die!' [fu-i-ni] (plural form)

The above examples express the imperative mood. Examples (3-6) are monosyllabic singular verbs that can be said to have violated the attested Bantu language minimality preference for bisyllabic verb roots. The prosodic stem minimality requirement in verb roots is only met in the plural forms in the Mambwe language (cf. Siame and Banda, 2021).

Examples (3-6) show that the verbs in the singular form in Mambwe only undergo gliding in which the vowel [-i-] in (4) glides to [y] and [-u-] in (5-6) glides to [w]. However, the influence of further phonological processes is noticed in the plural verbal formation. Firstly, in plural formation, the verbal form undergoes gliding, and secondly, vowel or consonant harmony. The manifestation of the suffix marker [-ni] in (3-6) plays a critical role in vowel harmony by changing a singular form to a plural. Therefore, vowel harmony in (3-6) is achieved by changing the final vowel [-a] in the singular form to [-i-] before the suffix marker [-ni].

We further argue that the surfacing of the plural suffix marker [-ni] in the plural forms in (3-6) transforms the verbal structure into bisyllabic or disyllabic constructions. The manifestation of the plural suffix marker [-ni] when changing singular to plural verbal forms is a common feature in Bantu languages. Comparatively, it is important to state that formations such as [*dya, *fa, and *mwa] are not acceptable in ciNyanja on their own without the surfacing of the prefix [i-] to form *idy!* 'eat!', *ifa!* 'die!' and *imwa!* 'drink' in the singular form, which satisfies the bisyllabic verb stem minimality requirement. However, in the plural form where vowel harmony takes place, ciNyanja is similar to Mambwe in that it also uses the suffix marker [-ni], which functions to satisfy the bisyllabic stem condition as in *dyani!* 'eat!' [di-a-ni], *fani!* 'die!' [f-a-ni] and *mwani!* 'drink' [mu-a-ni]. We observe that in the examples given above, the form [-ni] is used to express politeness in which the speakers modulate the tone in a less forceful and threatening manner that annoys and appeal to the positive faces and minds of the listeners or addressees (Siame & Banda, 2021).

5.1.3 Consonant harmony

This is a phonological process where a consonant assimilates the phonological features of another consonant in the root or radical of the verb to change from one tense to another as shown in the examples below:

- (7) *Vwanga* [vu-ang-a] 'talk' (present tense);
Vwanzile [vu-anz-ile] 'talked' (Past simple/past participle)

In (7), consonant harmony is illustrated. We argue that consonant harmony influences the change of the prenasalised velar sound /ŋg/ in the root of the present tense to prenasalised alveolar fricative sound /ŋz/ in the root of the past simple or past participle tense. We also argue that, during the morphophonological process of consonant harmony, the present verb

in example illustration (7) drops off the final vowel [-a] before taking on the suffix [-ile] in both singular and plural forms of the past simple and past participle in Mambwe language.

5.1.4 *Gliding*

A glide is a sound that is produced when a vowel comes after a semi-vowel. Gliding in the Mambwe language takes two forms. The first form happens with one vowel while the second one happens with two vowels following each other concurrently as can be observed in the analyses and illustrations in the subsequent sub-headings.

5.1.4.1 *Gliding with one vowel*

The process involves a glide or semi-vowel followed by a short vowel as demonstrated below:

- (8) *akwiz̩a* [a-ku-iz-a] 'he/she is coming' (singular);
 yakwiz̩a [ya-ku-iz-a] 'they are coming' (plural)
- (9) *wiz̩anga* [u-izang-a] 'he/she was coming' (singular);
 yiz̩anga [i-izang-a] 'they were coming' (plural)

Based on examples (8) for both singular and plural verbal forms as well as an example (9) for the singular verbal form, we can infer that the preceding vowel [-u-] in the (TM) is realised as the glide [w]. On the contrary, example (8) shows that in the plural form of Mambwe, when the preceding vowel is [-i-], it glides into [y]. We argue that in (8), there is form retention on the glided part of the tense marker both in singular and plural verbal forms.

However, example (9) shows that gliding influences the verbal structure of the Mambwe language. We argue that a high back vowel [u] which manifests as a pronominal morpheme is realised as a voiced bilabial glide [w] in singular form and changes to a high front vowel [i] which is realised as [y] when the verb is expressed in the plural form. This is a peculiar feature where a glide interchanges with another form of glide in the same position when changing from singular to plural to express the past progressive verb. We describe the above phonological situation during pluralisation in Mambwe as glide harmonisation which can be summarised as: [w] → [y].

5.1.4.1 *Gliding followed by long vowels*

Mambwe language portrays a peculiar characteristic in which two morphophonological processes happen simultaneously in a particular verbal form as illustrated below:

- (10) *akwaaɣwa* [a-ku-a-azu-a] 'he/she is helping' (singular);
 yakwaaɣwa [i-a-ku-a-azu-a] 'they are helping' (plural)

Example (10) shows that gliding and vowel lengthening are realised simultaneously in one verbal form in the Mambwe language. In the first place, the vowel glides into either [w] or [y]. Secondly, the language permits a glide to be followed by vowel lengthening. We argue that when a semi-vowel glides with the vowel, the same vowel is lengthened to make a long sound. We observe that in example (11), before vowel length was introduced to the TM [-kwa-] in the plural, the verbal form must have implied either a question as in *yakwaaɣwa?* 'Have they helped you?' or a statement as in: *yakwaaɣwa* 'they have helped you'. The above findings show that vowel lengthening after the glide influences the meaning of the verbal structure of the Mambwe language.

5.1.5 *Vowel hiatus*

While Mambwe employs the cross-linguistically common phonological processes of gliding and vowel deletion to resolve most instances of underlying VV hiatus (vowel followed by another vowel), there are many instances of surface VV hiatus (cf: Bickmore, 2004). Let us

now consider the illustrations below to determine the influence of vowel hiatus on the verbal morphology of the Mambwe language:

- (11) *umwau* [u-mu-a-u] 'to yawn once' (singular); *imyan* [i-mi-a-u] 'yawns' (plural)
 (12) *ukutiina* [u-ku-ti-in-a] 'to fear, to be afraid' → *ukutina* [u-ku-tin-a] 'to press'
 (13) *ukuluuuka* [u-ku-lu-uk-a] 'to miss home' → *ukuluka* [u-ku-luk-a] 'to vomit, plait, weave'

The analysis in shows that when the verbal morphology creates a VV sequence, the hiatus is repaired by an alteration of the first V in the sequence. We argue that if the vowel is high, it glides as in example (11) where a high back vowel [u] is realised as a voiced bilabial glide [w] and a high front vowel [i] is realised as a voiced palatal glide [y] in the plural form. We also argue that a high front vowel [i] in the plural form is used to repair the high back vowel [u], which seems to be in tandem with Mtenje-Mkochi (2018). This shows that vowel hiatus causes gliding to influence singular nouns to plurals as illustrated in (11). Vowel hiatus in the Mambwe language in example (12) influences the loss of a vowel through another morphophonological process called vowel deletion which changes the morphology and semantics of the second verb. The first TM in [-tii-] has vowel length which eventually loses a vowel [-i-] in the second part of the analysis and the TM remains [-ti-]. We note that a similar morphophonological process happens in (13) where the TM [-luu-] loses a vowel and remains [-lu-] in the second part. We argue that in examples (12-13), when deletion occurs, the verbs repair vowel hiatus (VV) by changing the form and meaning.

5.1.6 Coalescence

This is a situation in which two vowels following each other combine to form one sound. Coalescence is also called vowel fusion. During coalescence as a morphophonological process, there are many ways it affects the verbal morphology of the Mambwe language. Coalescence produces other morphophonological processes in the language, such as; gliding, assimilation, vowel maintenance, vowel deletion or loss, and internal change (Siame, 2019). Let us now consider the influence of coalescence on the verbal morphology of Mambwe in the example illustrations below:

- (14) *wiza* [u-iz-a] 'he/she has come' (singular); *yiza* [i-iz-a] 'they have come' (plural)
 (15) *ukusisya* 'to remove' + *ivikwi* 'dirt' (*ukusisya ivikwi* 'to remove dirt') → *ukusisiivikwi* 'to clean the place or something'
 (16) *ukuryala* 'to reproduce' + *umukazyana* 'girl child' (*ukuryala umwana* 'to reproduce a girl child') → *ukuryalumukazyana* 'to give birth to a baby girl'

Example (14) shows that the fusion of a high back vowel [u] and a high front vowel [i] in the singular form leads influences the glide formation of [w] and [y] respectively. We argue that the above process in (14) leads to glide harmonisation in the verbal form from a voiced bilabial glide [w] in the singular form to a voiced palatal glide [y] in the plural form. In example (15), we also argue that in Mambwe, coalescence has produced three other morphophonological processes. Firstly, the process of gliding has taken place in which the vowel [-i-] has glided to [y]. Secondly, the vowel [-a-] is deleted or lost. Thirdly, vowel lengthening has taken place which involves the vowel [-i-] realised as [y] and the initial vowel [-i-] in *ivikwi* 'dirty' to form [-ii-]. We also argue that example (15) is influenced by two morphophonological processes, namely; assimilation and vowel lengthening. The first is assimilation, where a low front vowel [a] changes to a high front vowel [i]. Thereafter, vowel lengthening takes place, where the final vowel [-i] in the first word fuses with the first vowel [-i] in the second-word form. Thus, the construction in the output can be represented as: [i]

+ [i] → /ii/, where coalescence as another morphophonological process influences vowel lengthening.

We note that in example (16), the final vowel [-a] in the verbal form of the construction *ukwiyala* ‘to reproduce’, is lost or deleted in Mambwe language. Therefore, we argue that vowel fusion influences the deletion or loss of a vowel in the verbal form. We further argue that in the examples (15-16), [-a] as a low front vowel deletes when it is followed by a strong high vowel such as a high front vowel [i] and a high back vowel [u] as observed in the mentioned examples.

6. Conclusion

The study has analysed the influence of morphophonological processes on the verbal structure of the Mambwe language with special reference to vowel lengthening; gliding; glide harmony; vowel hiatus; vowel and consonant harmony; vowel deletion; vowel maintenance; assimilation; internal change or zero modification and coalescence. We conclude that morphophonological processes influence the verbal structure of the Mambwe language. Vowel lengthening influences the change of tenses from one type to another, such as from future simple to future progressive. In addition, vowel lengthening converts nouns to verbs, such: *kuṣa* ‘rat’ (noun) → *kuuṣa* ‘to rub against something’ (verb). We also conclude that it is also possible in Mambwe for a morphophonological process like deletion to convert a verb to a noun through, such as *kuuṣa* ‘to rub against something’ (verb) → *kuṣa* ‘rat’ (noun). The other conclusion is that during gliding, the glides [w] and [y] interchange. The glide [w] is mainly used in singular verbal forms while [y] transforms the singular to plural verbs and as such promotes glide harmonisation. Gliding also promotes high tone marking on the glides which take the first position in the plural form as in (11). We also conclude that vowel harmony influences monosyllabic verbs which express the imperative mood through plural formation by making them bisyllabic, thereby obeying the minimality principle in the stem during plural formation. During vowel harmony in the plural form, the vowel [-i-] in the suffix marker [-ni] harmonises all the vowels in the root including the glide. We also conclude that vowel hiatus in Mambwe language influences other morphophonological processes, such as; gliding, deletion, and assimilation of vowels which promote the change of verbal forms from one state to another. Furthermore, coalescence influences the formation of other morphophonological processes which include; gliding in the verbs, zero modification or internal change when a singular verb changes to the plural as in (24), vowel lengthening, vowel maintenance, and assimilation. It is hoped that such a descriptive analysis of the influence of morphophonological processes on the verbal structure of the Mambwe language would be useful to curriculum specialists to enable them to develop standard grammar and related linguistic material in the Namwanga language.

References

- Aissen, J. (1999). Markedness and subject choice in optimality theory. *Natural Language and Linguistic Theory* 17: 673–711. (Reprinted in 2001. In: Geraldine Legendre, Jane Grimshaw, and Sten Vikner (eds.), *Optimality-Theoretic Syntax*, pp 61–96). Cambridge: MIT Press.
- Bickmore, L. (2004). *Cilungu phonology*. Stanford: CSLI.
- Bickmore, L. (2007). *Stem tone melodies in Cilungu- SOAS Working Papers in Linguistics Vol. 15*. Albany: University at Albany.
- Bloomfield, L. (1933). *Language*. New York: Holt.
- Brink, P. & Wood, M. (1998). *Qualitative research*. London and New York: Continuum.
- CSO (2010). *Population and housing (Zambia): National analytical report, Volume 11B*. Lusaka: Central Statistical Office.
- Dixon, R. M. W. (1997). *The rise and fall of languages*. Cambridge: Cambridge University Press.



- Dryer, M. S. (1997). Are grammatical relations universal? In: Joan Bybee, John Haiman, and Sandra Thompson (eds), *Essays on language function and language type*, pp 115–143. Amsterdam: John Benjamins.
- Fox, A. (1995). *Linguistic reconstruction: An introduction to theory and method*. New York: Oxford University Press.
- Gleason, H. A. (1961). *An introduction to descriptive linguistics*. U.S.A: Holt eta el Inc.
- Guthrie, M. (1948). *The classification of the Bantu languages: International African Institute*. London: Oxford University Press.
- Guthrie, M. (1967-71). *Comparative Bantu: An introduction to comparative linguistics and pre-history of Bantu languages*. Farn Borough: Gregg International Publishers. Vol. 1-4.
- Halembe, A. (1994). *Mambwe - English dictionary*. Ndola: Mission Press.
- Halembe, A. (2007). *English -Mambwe dictionary and Mambwe grammar*. Poland: Oxford University Press.
- Hyman, L. M. (1991). *Cyclic phonology and morphology in ChiBemba*. Ms. Berkeley: University of California.
- Hyman, L. M. & Mtenje, A. (1999). Prosodic morphology and tone: The case of Chichewa. In: R. Kager, H. Van der Hulst, & W. Zonneveld, (Eds.). *The prosody-morphology interface*, pp. 90-133. Cambridge: Cambridge University Press.
- Hyman, L. M. & Ngunga, A. (1994). On the non-universality of tonal association 'conventions': Evidence from Ciyao. *Phonology* 11(01): 25 – 68.
- Kadenge M, & Simango R. (2014). Comparing vowel resolution in Cinsenga and Chishona: An optimality theory analysis. *Stellenbosch Papers in Linguistics Plus* 44: 105–127.
- Katamba, F. (1993). *Morphology-modern linguistic series*. New York: St. Martin's Press.
- Lungu, B. (2020). *The pragmatic significance of Namwanga person nouns* (MA Dissertation). Lusaka: UNZA.
- Mann, M. & Kashoki, M.E. (1977). *Language in Zambia: Grammatical sketches* (Volume 1). Lusaka: Institute for African Studies, University of Zambia.
- Merriam, S. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey Bass.
- Mkochi, W. (2017). Resolving verbal reduplication paradoxes in Malawian Tonga. *Stellenbosch Papers in Linguistics Plus*, 52: 101-127.
- Mtenje-Mkochi, A. A. (2018). 'Repair' strategies of vowel sequences in Cindali. *South African Journal of African Languages*, 38:3, 327-335.
- Mtenje-Mkochi, A. A & Mtenje, A. (2019). Verbal reduplication in Cisukwa, Cindali, and Cilambya. In: F. Banda (ed), *Theoretical and applied aspects of African languages and culture* (Festschrift in honour of Professor Mildred Nkolola-Wakumelo), pp. 133- 146. Cape Town: CASAS/UWC Book.
- Mugenda, O. M. & Mugenda, A. G. (1999). *Research methods: Qualitative and quantitative approach*. Nairobi: African Centre for Technology Studies.
- Mutch, C. (2005). *Doing education research: A practitioners' guide to getting started*. Wellington: NCZER Press.
- Nkolola, M.M. (1997). *An analysis of the applied, causative, and passive extension in Tonga* (PhD Thesis). Lusaka: University of Zambia.
- Nurse, D. & Philipson, G. (1999). *Towards a historical classification of East African Bantu languages*. New York: Routledge.
- Pollard, C. & Sag, I. (1994). *Head-driven phrase structure grammar*. Chicago: University of Chicago Press.
- Rupya, J. (1962). *Cimambwe Grammar*. Lusaka: London Mission Society (Northern Rhodesia and Nyasaland Publications).
- Sapir, E. (1921). *Language: An introduction to the study of speech*. New York: Harcourt.
- Sebastien, Z. (2016). The status of normative propositions in the theory of scientific change. *Descriptive Theory: Encyclopedia of Scientonomy* 1, 1-9. Retrieved from:

<https://www.scientojournal.com/index.php/scientonomy/article/view/26947>.
06/06/2023.

Accessed:

Siame, P. (2019). *Towards writing a comprehensive grammar of the Mambwe language* (Published MA Dissertation). Lusaka: University of Zambia (UNZA).

Siame, P. & Banda, F. (2021). A morphological sketch of the ciMambwe verbal structure. In: A. Chebanne and A. Lusekelo (eds), *African languages linguistic, literary and social issues* (A Festschrift in honour of Professor Herman Batibo), pp. 322- 345. Cape Town: CASAS.