

Morphosyntactic features of universal quantifiers in isiZulu and Xitsonga: A comparative study



Authors:

Rivalani X. Masonto¹ 
Elliot M. Mncwango¹ 

Affiliations:

¹Department of General Linguistics, Faculty of Humanities, University of Zululand, Empangeni, South Africa

Corresponding author:

Rivalani Masonto,
MasontoR@unizulu.ac.za

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Due to their common roots within the Bantu language family, isiZulu and Xitsonga exhibit several shared linguistic features, notably the use of a noun class system. Yet, their distinct morphological rules differentiate them. This article examines the morphosyntactic features of quantifiers in Bantu languages, and then compares them using isiZulu and Xitsonga as its focus area. Transformational Generative Grammar (TGG) theory is used. Employing an interpretive qualitative approach, the study purposefully selected two Bibles and four language practitioners. The study demonstrates that universal quantifiers in both languages function as stems that attach to either prefixes or suffixes. The analysis indicates that the structural arrangement of universal quantifiers in relation to the nouns they modify typically places the nouns (headwords) before the quantifiers. Additionally, the findings reveal that the stems *'-onke'* and *'hinkw-'* as quantifiers both fulfill collective roles; however, *'wonke'* is also distributive. *'-onke'* and *'hinkw-'* mostly replicate the prefix of the nouns they quantify, exhibiting a robust agreement system, and can function as pronouns while modifying both plural and singular nouns. Nevertheless, it is noted that *'hinkw-'* does not appear with nouns from class 1. It is recommended that future research compares the morphosyntactic structures of quantifiers in other Bantu languages, comparing their agreement systems and their position in relation to nouns and other parts of speech.

Contribution: This article adds to linguistic scholarship, particularly within the study of Bantu languages. It enriches comparative analyses within this language family, shedding light on both shared and unique morphosyntactic features. It expands the understanding of the roles played by the two stems in agreement systems.

Keywords: universal quantifier; morphosyntax; prefix; suffix; isiZulu; Xitsonga.

Introduction

South Africa has 12 official languages: isiZulu, isiXhosa, siSwati, isiNdebele, Sesotho, Setswana, Tshivenda, Xitsonga, Sepedi, English, Afrikaans, and South African Sign Language. Although isiZulu and Xitsonga belong to different subgroups, they are nonetheless part of the Bantu languages family prevalent in South Africa. According to Herbert and Bailey (2002:50), isiZulu is classified as a Bantu language within the Nguni subgroup and belongs to the Niger-Congo language family. With 14613202 native speakers, accounting for 24.4% of the population, isiZulu is recognised as the most widely spoken language in the country, predominantly in KwaZulu-Natal (Statistics South Africa 2022). In contrast, Xitsonga, often referred to as 'Tsonga', is spoken by 2784279 individuals, representing 4.7% of South Africa's population (Stats SA 2022). Most Xitsonga speakers reside in the provinces of Limpopo, Mpumalanga and Gauteng, with Limpopo being the primary area of usage. IsiZulu and Xitsonga exhibit certain linguistic similarities, such as their subject-verb-object (SVO) structure and a complex agreement system (Keet & Khumalo 2017:131; Lee, Babane & Hlungwani 2022:2–4). Nevertheless, they also possess unique characteristics shaped by their distinct cultural contexts.

Substantial gaps remain in comparative studies of these languages' morphosyntactic structures, specifically in relation to universal quantifiers. Existing studies on these two languages looked at grammatical categories, such as verbalisation patterns for existential and universal quantification (Keet & Khumalo 2017) or syntactic structures such as pre-nominal DP modifiers and penultimate lengthening (Lee & Riedel 2021). While Zerbian and Krifka (2008) studied quantification in Bantu, they did not focus on Xitsonga. Therefore, comparative studies on the morphosyntactic behaviour of universal quantifiers in the two Bantu languages have received limited attention, despite these languages' complex and flexible agreement systems. It is posited that the intricate agreement systems of class nouns in both languages contribute to the development of universal quantifiers (Masonto 2024:150). This is because universal quantifiers agree with their head nouns in noun classes.

This article aims to analyse and compare the morphosyntactic features of isiZulu and Xitsonga and examine the functional roles and distribution of universal quantifiers within these languages. It sought to answer the following research questions: (1) How are universal quantifiers formed in these languages? (2) How do they function within phrases or sentences? (3) What are the morphological and syntactical similarities and differences between these universal quantifiers?

An overview of the universal quantifier in Bantu languages

Noun phrases (NPs) in Bantu languages display distinctive structural and syntactic characteristics. Typically, an NP consists of a head noun accompanied by various dependents, including possessives, demonstratives, adjectives, numerals and quantifiers. The arrangement of these elements can vary significantly among different Bantu languages. For instance, while many languages follow a structure where the head noun precedes its dependents, others may exhibit different patterns (Achiri-Taboh 2023:1; Lusekelo 2009:316; Rugemalira 2007:137). Radford (2004:34–35) characterises quantifiers as functional categories that do not provide explicit descriptive information and can modify any semantic noun class that is not constrained by grammatical rules. As a subset of determiners, quantifiers enhance noun phrases by conveying quantificational attributes. Zerbian and Krifka (2008) identify three groups of quantifiers, namely intersective, universal and the class of proportionality. Specifically, universal quantifiers modify nouns by co-occurring with them and other elements to signify totality (Cushman 2019:240; Zerbian & Krifka 2008:12). The application of universal quantifiers are examined by presenting various examples (see Examples 1-14). All abbreviations used in the universal quantifiers examples are explained in Box 1.

Example 1

Wa-toto w-ote wa-na-cheza inje.

CL2-childPPX2-all SC2-PRES-play outside

[All children are playing outside.]

In example 1, the universal quantifier *'wote'* co-occurs and succeeds the noun *'watoto'* to quantify it. It also agrees with

BOX 1: List of abbreviations used in Example 1 to Example 14.

CL	Class
FUT	Future tense
pst /PST	Past tense
PREP	Preposition
Sa/SA	Subject agreement
CONJPX	Conjunctive prefix
PPX	Pronominal prefix
PRES	Present tense
REL	Relative
SC	Subject concord

'watoto' by copying its prefix (*wa-*). In some Bantu languages, such as isiZulu, universal quantifiers typically precede nouns during quantification (Keet & Khumalo 2016:178). Quantification refers to the expression of quantity with language structure (Iordăchioaia 2019) as is presented in Example 2 (Keet & Khumalo 2014:5).

Example 2

Wonke amakhambi ngumuthi.

[All medicinal herbs are a plant.]

Conversely, Swahili also adopts a distinct system for universal quantifiers. The Swahili quantifier *'kila'* [every] consistently precedes the noun it modifies, yet it is notable for its disagreement with the noun's class features presented in Example 3 (Zerbian & Krifka 2008:12–14).

Example 3

'Kila mtoto anacheza na sesere yake'.

every CL1-child SC1-PRES-play PREP CL9.toy CL9-his

[Every child is playing with his/her toy.]

In this instance, *'kila'* is positioned before *'motos'* without altering its form to correspond with the noun class. In contrast, the Swahili universal quantifier *'ote'* [all] functions differently, following the noun and agreeing with it, as illustrated in Example 4.

Example 4

'Watoto wote wanacheza nje'.

CL2-childPPX2-all SC2-PRES-play outside

[All the children are playing outside.]

Here, *'ote'* adopts the prefix *'wa-* from *'watoto'*, modifying its form to align with the noun. Furthermore, Northern Sotho exhibits a pattern that is both similar and unique. The universal quantifier root *'ohle'* [all or whole] aligns with its head noun, reflecting its prefix as shown in Example 5 (Mojapelo 2007:110).

Example 5

'Lenao lohle'

[The whole foot]

'ohle' corresponds to the prefix *'lo-* from *'lenao'*. However, not all universal quantifiers in Northern Sotho adhere to this structure. The expression *'ka moka'* [all or whole] does not exhibit agreement with its head noun, akin to the usage of *'kila'* in Swahili, illustrated with Example 6.

Example 6

'Batho ka moka'

[All the people]

Furthermore, Zerbian and Krifka (2008:15) also contend that in Northern Sotho, *'every'* is communicated by the collective phrase *'ngwe le ngwe'* [a certain, some, other], in which the quantifier *'ngwe'* agrees with the quantified noun using both nominal and pronominal agreement. This is demonstrated with Example 7.

Example 7

'Ngwana yo *mo-ngwe le mo-ngwe* o a raloka'.

CL1.child PPX1 CL1-some CONJ PPX1 CL1-some SC1 PRES play

[Every child is playing outside.]

Moreover, the Loogori language quantifier '*vuri*' [every] is essentially distributive, while '*-oosi*' is not (that is it permits distributive or collective interpretations), like in Example 8 (Landman 2016:220).

Example 8

'*Vuri muundu a-geeng-i mudoga*'.

every 1-person 1sa-lift-pst car

[Every person lifted a car.]

'*vuri*' is distributive in nature, yet it is not collective. In instances where a collective reading is forced, the phrase is ungrammatical. This is illustrated in Example 9 (Landman 2016:221).

Example 9

'*vuri muundu a-geeng-i mudoga halla*'.

Every 1-person1sa-lift-pst car together.

Landman (2016:226) suggests that it is typical for '*vuri*' to combine with singular count nouns if they express characteristics of single entities. Semantic adjustment would lead to specific readings when the quantifier '*vuri*' pairs with plurals or mass nouns (which, by general assumptions, do not represent single entities). It is anticipated that '*vuri*' must appear before the noun, similar to Swahili '*-ote*' in the example above, given that the determiner phrase (DP) is head-initial, as phrase structures in Logoori generally are. '*Vuri*' may not co-occur with pronouns since they share the same position.

In the Kihehe language of Tanzania, the universal quantifier '*mbe-AGR2-li*' presents another fascinating variation. This quantifier serves both collective and distributive functions, consistently aligning with the noun according to its class (Cushman 2019:240). Whether it modifies a plural noun, as in '*vá-nu mbé-va-li*' [all people], or a singular noun, as in '*m-vili mbé-gu-li*' [a or the whole body], '*mbe-AGR2-li*' maintains agreement with the noun. The components '*mbe-*' and '*-li*' lack independent meaning; they only convey significance within the complete quantifier, like the role of '*moka*' in Northern Sotho's '*ka moka*'. This illustrates the essential nature of the prefix '*mbe-*' in '*mbe-AGR2-li*', which is grammatically incomplete without it (Cushman 2019:241).

In the cases of isiZulu and Xitsonga, universal quantifiers frequently display comparable patterns of agreement and positioning in relation to the nouns they modify. In isiZulu, the notion of 'all' or 'each' is conveyed through the stem '*-onke*', which is accompanied by a noun class marker as Example 10 illustrates (Keet & Khumalo 2017:11).

Example 10a

'*Wonke unkosikazi*'

[each wife]

Example 10b

'*Bonke onkosikazi*'

[all wives]

Here, the universal quantifiers are positioned before their respective nouns, yet they do not replicate the nouns themselves. Conversely, in Xitsonga, the universal quantifier stem '*hinkw-*' (all/the whole of/the entire) also succeeds the noun but does replicate its prefix, as illustrated in Example 11 (Lee & Riedel 2021:109).

Example 11

'*Va-nhu hinkwavo*'

[all people]

These constructions reveal a consistent pattern of agreement between universal quantifiers and their corresponding nouns. The differences observed among Bantu languages, particularly isiZulu and Xitsonga, emphasise the intricate nature of quantification, with each language adhering to its distinct set of rules and exceptions. This variety highlights the significance of examining these specific languages (isiZulu & Xitsonga).

Theoretical and conceptual frames

This study is grounded in Chomsky's (1957) Transformational Generative Grammar (TGG) theory, which explains the syntactic structures underlying natural language. The theory postulates that sentences are developed using a set of formal rules producing two syntactic levels of representation: the deep structure and the surface structure. The deep structure describes the underlying grammatical relationships, while the surface structure shows the spoken or written form (Perlmutter 1968:9). Transformational Generative Grammar describes the way in which transformations function in deep structures in order to produce acceptable surface sentences. This study adopts the concepts of 'deep structure' and 'surface structure' to describe how universal quantifiers are positioned and interpreted within phrases, clauses and sentences, particularly through transformational rules. In this case, syntactic elements such as quantifiers, especially universal quantifiers like *all* and *every* are generated in specific structural positions at the deep structure level and may undergo syntactic movement as the sentence transforms into its surface structure. This is illustrated in English with Example 12.

Example 12

All students went home.

In Example 12, the universal quantifier 'all' is part of the noun phrase 'all students', which functions as the subject of the sentence. At the deep structure level, this universal quantifier determines the scope of the noun it modifies. If this sentence were rephrased into a passive or cleft construction, such as 'It was all students who went home', the quantifier remains semantically linked to the noun 'students' despite the rearrangement of sentence elements. This illustrates how transformational rules affect surface structure, while preserving the syntactic and semantic relationships established in deep structure. The concept is also referred to

as ‘quantifier floating’ (Sportiche 1988). Quantifier floating is a syntactic phenomenon in which a quantifier is displaced from the noun phrase it modifies, while maintaining its semantic association (Al Khalaf 2019).

In the context of this study, the position and agreement of universal quantifier ‘-onke’ can be analysed through these principles. This is shown in Example 13.

Example 13a

B-onke abantu ba-ya-hamba.

CL2-all CL2-person SC2-PRES-go

Example 13b

Abantu b-onke ba-ya-hamba.

CL2-person CL2-all SC2-PRES-go

Example 13c

Ba-ya-hamba bonke abantu.

SC2-PRES-go CL2-all CL2-person

[All the people are going.]

At the deep structure level, sentences (Example 13a to Example 13b) originate from the same underlying proposition (all the people are going). The universal quantifier ‘bonke’ quantifies the noun ‘abantu’ [people], forming the quantified noun phrase ‘bonke abantu’ [all people]. However, the sentences differ in the surface structure, which reflects how the sentences are expressed after transformational rules (movement, reordering) have been applied. For instance, in Example 13a, the universal quantifier appears post-nominally. This is the canonical surface form and reflects the deep structure more directly; the quantified noun phrase remains intact. In Example 13b, ‘bonke’ appears post-nominally. This reordering is a surface phenomenon and does not alter the meaning. Example 13c demonstrates quantifier floating, ‘bonke’ appears dislocated from the noun it quantifies and is positioned after the verb phrase (*bayahamba*). This suggests that the quantified noun phrase (*bonke abantu*) has undergone movement, and the quantifier has been ‘floated’, while still semantically modifying ‘abantu’. This is also seen in the Xitsonga examples in Examples 14a and 14b.

Example 14a

Vanhu hinkwa-vo va famba.

CL2-person all-CL2 SC2 go

Hinkwa-vo vanhu va famba.

All-CL2 CL2-person SC2 go

Example 14b

Va famba vanhu hinkwa-vo.

SC2 go CL2-person all-CL2

[All the people are going.]

Similarly, sentences (Examples 14a and 14b) above all mean ‘all the people are going’, showing variations in the surface structure. In Example 14a, ‘hinkwavo’ succeeds its noun, while it precedes it in Example 14b. In Example 14c, the quantifier is floated, but still quantifies the noun ‘vanhu’ [people]. In both languages, despite surface variation, the deep structure

remains the same; the universal quantifier relates to the subject noun. These quantifiers are syntactically separated from their nouns, but they semantically modify them.

Methodology

This study followed an interpretive paradigm to collect qualitative data from Bibles and language practitioners. In line with the chosen research design, a comparative research design (Mello 2021) has been chosen to allow the researchers to analyse and contrast the structure and distribution of universal quantifiers across the two languages. This article drew on one isiZulu and one Xitsonga Bible translation, specifically the 2020 isiZulu version Ibhayibheli Elingcwele and the 2012 Xitsonga version Mahungu Lamanene translated from the English *Good News Bible*. It also used purposive sampling to intentionally select data from four language practitioners (two from isiZulu, two from Xitsonga) and two Bibles. Bible translations were chosen for their standardised language and accessibility, making it easier to identify universal quantifier forms and consistent examples of universal quantifiers in isiZulu and Xitsonga. These texts served as a starting point for isolating relevant quantifier constructions. Interviews were then conducted to explore the morphosyntactic structure of these quantifiers, focusing on how noun class systems, concordial agreement, and syntactic position shape their use in natural speech. Additionally, engaging with language practitioners allowed for the collection of further examples and expert insights, enriching the data with real-world usage and grammatical explanation.

Researchers deliberately searched for occurrences of the stems ‘-onke’ and ‘hinkwa-’ in the Bibles. Instead of selecting texts randomly, they focused only on Bible entries that contained words derived from these stems. Once the occurrences were identified, researchers extracted words, phrases, clauses and sentences that reflected universal quantifiers in isiZulu and Xitsonga. This method ensured a focused and in-depth analysis of universal quantifier positioning. Furthermore, four language practitioners were interviewed; these were purposely selected due to their language expertise and years of experience. Their profiles are outlined in Table 1.

During interviews, participants were presented with samples from the Bible, and asked to interpret the structures, meaning and requested to provide additional examples. The data from the Bible and interviews were then analysed through thematic analysis, and three themes emerged: the morphological

TABLE 1: Profiles of the participants.

Participant	Language	Years of experience	Highest qualifications
1	isiZulu	11	Doctor of Philosophy in Linguistics
2	isiZulu	5	Doctor of Philosophy in African Languages and Culture (isiZulu)
3	Xitsonga	16	Doctor of Philosophy in African Languages (Xitsonga)
4	Xitsonga	10	Doctor of Philosophy in Language Practice

variations of the universal quantifiers *'-onke'* and *'hinkw-'*; the morphological and syntactical structures of *'-onke'* and *'hinkw-'* and the co-occurrence restriction of *'-onke'* and *'hinkw-'*.

Ethical considerations

Ethical clearance was obtained from the University of Zululand Research Ethics Committee (UZREC) on 22 July 2022. The ethical clearance number is UZREC171110-030 PGD 2022/03. Researchers ensured informed consent by explaining the study's purpose and implications to all participants prior to their agreement to take part in the study. Confidentiality and anonymity were also ensured by not disclosing their names in the study. Regarding biblical texts, accurate citation was maintained.

Findings and discussions

This section presents the findings of the study on the morphological variations of the universal quantifiers *'-onke'* in isiZulu and *'hinkw-'* in Xitsonga. Three themes are discussed.

The morphological variations of the universal quantifiers *'-onke'* and *'hinkw-'*

The data from the isiZulu Bible indicate that there are at least seven forms of the stem *'-onke'*, which include *'wonke'*, *'bonke'*, *'yonke'*, *'lonke'*, *'sonke'*, *'zonke'*, and *'konke'*. Participants 1 and 2 confirmed that these forms denote 'all' when applied to plural nouns and 'every, the entirety of, the whole of' when used with singular nouns. Additionally, ten forms of *'hinkw-'* were identified from the Xitsonga Bible, namely, *'hinkwavo'*, *'hinkwenu'*, *'hinkwayo'*, *'hinkwaxo'*, *'hinkwaro'*, *'hinkwabyo'*, *'hinkwaswo'*, *'hinkwako'*, *'hinkwawo'*, and *'hinkwato'*. However, Participant 4 revealed *'hinkwadyo'*, from class 21, which is derogatory. The participant further explained that *'hinkwadyo'* can be used with nouns such as *'dyinhloko'* (big head), a term often used to ridicule someone whose head appears unusually big. Like *'-onke'*, *'hinkw-'* conveys the meaning of 'all' for plural nouns and 'the entirety, the whole of' for singular nouns.

Gil (1995:321) explains that universal quantifiers differ in terms of whether they express distributivity or not. Some universal quantifiers indicate actions or properties applied to the group as a single unit (collective), while others apply to each individual within the group (distributive). In this context, a distributive reading means that each member of the group is considered separately, whereas a collective reading treats the group as a whole. The data collected from Participants 1 and 2 reveals that *'onke'* is both distributive and collective. Participants highlighted that, while all seven quantifiers are collective, *'wonke'* appears distributive in some contexts. To illustrate this point, Participant 1 shared cases set as Examples 15a and 15b.

Example 15a

Umfula wonke u-gwele.

CL3-river CL3-whole CL3-is.full/flooded

[The whole river is full/flooded.]

Example 15b

Wonke umfundi wa-funda incwadi.

CL1-each CL1-student CL1.PST-read book

[Each student read a book.]

In sentence (Example 15a), the universal quantifier *'wonke'* refers to the entire river as a single entity. The predicate *'ugwele'* (is full or flooded) applies to the whole river, making this a collective reading. In contrast, sentence (Example 15b) uses *'wonke'* in a distributive sense. It means 'each', and the action of reading is carried out individually by every student. Therefore, sentence (Example 15b) reflects a distributive interpretation, where the event applies separately to each member of the group. Distinctively, data from Participants 3 and 4 reveal that all forms of *'hinkw-'* are collective. This means that all forms of *'hinkw-'* refer to either the whole, the entire or all. This is seen in the cases (Examples 16a and 16b) given by Participant 3.

Example 16a

Vanhu hinkwavo va famba.

CL2-person All-CL2 SC-2 Pres.go.

[All the people are going/Everyone is going.]

Example 16b

Xikolo hinkwaxo xi tshwile.

CL7-school whole/entire-CL7 SC-7 PST.burn.

[The whole/entire school is burnt.]

Sentence (Example 16a) expresses a collective action involving all the members of the group, stating that everyone is going together or as a group. The use of *'vanhu hinkwavo'* (all the people) and the plural subject concord *'va-'* highlight that the action is shared and carried out collectively. In contrast, sentence (Example 16b) does not refer to a group of individuals performing an action, but rather to a single entity *'xikolo'* [a school] that has undergone a change of state (being burnt). However, the universal quantifier *'hinkwaxo'* [the whole or entire] still implies collectivity, not to agents but to the parts making up the school.

Moreover, all participants stated that each of the universal quantifier forms in isiZulu and Xitsonga corresponds to specific noun classes, ensuring agreement with the nouns they modify. For example, *'wonke'* is applicable to class 1 and 3 nouns, whereas *'bonke'* pertains to class 2 and 14 nouns. Similarly, *'hinkwavo'* agrees with class 2 nouns, while *'hinkwato'* applies to class 10. The different forms convey the meaning of 'all' when associated with plural nouns and signify 'every', 'the entire' or 'the whole' when used with singular nouns. These forms are found in conjunction with the class nouns listed in Table 2. Table 2 presents a comparative analysis of the quantifiers *'-onke'* in isiZulu and *'hinkw-'* in Xitsonga, focusing on how they interact with noun class prefixes in each language.

From Table 2, it is observed that quantifiers *'-onke'* in isiZulu and *'hinkw-'* in Xitsonga systematically align the noun classes of isiZulu and Xitsonga, showing how the universal quantifiers

TABLE 2: Forms of *-onke* and *hinkw-*.

Noun Class	Prefix (isiZulu)	Example (isiZulu)	Quantifier (isiZulu)	Prefix (Xitsonga)	Example (Xitsonga)	Quantifier (Xitsonga)
1	<i>Umu-, um</i>	<i>Umuntu</i> [person]	<i>Wonke</i>	<i>mu-</i>	<i>munhu</i> [person]	-
2	<i>Aba-, ab-</i>	<i>Abafana</i> [boys]	<i>Bonke</i>	<i>va-</i>	<i>Vana</i> [children]	<i>Hinkwavo</i>
3	<i>Umu-, um</i>	<i>Umfula</i> [river]	<i>Wonke</i>	<i>mu-</i>	<i>Murhi</i> [tree]	<i>Hinkwawo</i>
4	<i>Imi-, im-</i>	<i>Imipentshisi</i> [peaches]	<i>Yonke</i>	<i>mi-</i>	<i>Mirhi</i> [trees]	<i>Hinkwayo</i>
5	<i>Ili-, i-</i>	<i>Ipentshisi</i> [peach]	<i>Lonke</i>	<i>ri-</i>	<i>Ribye</i> [stone]	<i>Hinkwaro</i>
6	<i>Ama-, ame-</i>	<i>Amapentshisi</i> [peaches]	<i>Onke</i>	<i>ma-</i>	<i>Maribye</i> [stones]	<i>Hinkwawo</i>
7	<i>Isi-, is-</i>	<i>Isoka</i> [young man]	<i>Sonke</i>	<i>xi-</i>	<i>Xikolo</i> [school]	<i>Hinkwaxo</i>
8	<i>Izi-, iz-</i>	<i>Izidakwa</i> [drunkards]	<i>Zonke</i>	<i>swi-</i>	<i>Swikolo</i> [schools]	<i>Hinkwaswo</i>
9	<i>Im-, in-, i</i>	<i>Ingwe</i> [tiger]	<i>Yonke</i>	<i>yi(n)-</i>	<i>Yindlu</i> [house]	<i>Hinkwayo</i>
10	<i>Izim-, izin-</i>	<i>Izimpondo</i> [horns]	<i>Zonke</i>	<i>ti(n)-</i>	<i>Tindlu</i> [houses]	<i>Hinkwato</i>
11	<i>Ulu-, u-</i>	<i>Uphondo</i> [horn]	<i>Lonke</i>	<i>ri-</i>	<i>Rirhandzu</i> [Love]	<i>Hinkwaro</i>
14	<i>Ubu-, uts-</i>	<i>Ubuhle</i> [beauty]	<i>Bonke</i>	<i>vu-</i>	<i>Vunene</i> [greatness]	<i>Hinkwabuyo</i>
15	<i>Uku-, uk-</i>	<i>Ukugeza</i> [to bathe]	<i>Konke</i>	<i>ku-</i>	<i>Ku famba</i> [to go]	<i>Hinkwako</i>
16	-	-	-	<i>ha-</i>	<i>Handle</i> [outside]	<i>Hinkwako</i>
17	<i>Uku-, uk-</i>	<i>Ukwindla</i> [autumn]	<i>Lonke</i>	<i>ku-</i>	<i>Kusuhi</i> [near]	<i>Hinkwako</i>
18	-	-	-	<i>mu-</i>	<i>Mundzhaku</i> [behind]	<i>Hinkwako</i>
21	-	-	-	<i>dyi-</i>	<i>Dyinhloko</i> [big head]	<i>Hinkwadyo</i>

modify to agree with different noun class prefixes. Another notable feature in the table is the agreement pattern between noun class prefixes and universal quantifiers in both languages. In Xitsonga, the universal quantifier suffix sometimes resembles some of the class noun prefixes, adapting to the noun class. This is highlighted in classes 2, 5, 7, 8, 9, 10, 11 and 21 in Table 2. Conversely, due to the variation in isiZulu noun class prefixes, which often begin with vowels such as 'u', 'i' or 'a', some universal quantifier forms reflect this by incorporating the segmental element (typically the second letter) of the noun class prefix. This pattern of morphophonological adaptation is particularly evident in quantifiers associated with noun classes 2, 5, 7, 8, 10, 11 and 14.

Morphological and syntactical structures of '*-onke*' and '*hinkw-*'

It was established that '*-onke*' allows prefixal agreement whereas '*hinkw-*' allows suffixal agreement. This distinction reflects the different morphological and syntactic rules governing the placement of affixes in relation to these universal quantifiers or stems. Furthermore, Participant 2 noted that the universal quantifier stem '*-onke*' can function as a free morpheme, as it conveys meaning independently without requiring affixation. In contrast, Participants 3 and 4 confirmed that '*hinkw-*' is a bound morpheme, as it necessitates the addition of suffixes to form a grammatically complete expression. Both '*-onke*' and '*hinkw-*' undergo the process of inflectional morphology, whereby they change form to express number. Participants provided the following presented as Examples 17a to 17d.

Example 17a

Ikhanda l-onke li-buhlungu.

CL5-head CL5-whole/entire SC5-painful

[The whole/entire head is painful.]

Example 17b

Amakhanda onke abuhlungu.

CL6-head CL6-all SC6-painful

[All the heads are painful.]

Example 17c

Xikolo hinkwa-xo xi thyakile.

CL7-school whole/entire-CL7 SC7 dirty

[The whole school is dirty.]

Example 17d

Swikolo hinkwa-swo swi thyakile

CL8-school all-CL8 SC8 dirty

[All the schools are dirty.]

The examples provided in (Examples 17a–17d) demonstrate how the universal quantifiers stems '*-onke*' and '*hinkw-*' undergo inflectional morphology to agree with the noun class and the number of the nouns they modify. In example (Example 17a), the singular noun '*ikhanda*' [head] belongs to class 5, and the quantifier '*-onke*' appears as '*lonke*', whereby the morpheme '*l-*' is attached to it, showing agreement with class 5 in both noun and subject concord. In (Example 17b), the plural noun '*amakhanda*' [heads] belongs to class 6, and '*-onke*' appears as '*onke*', again aligning with the class 6 noun and its plural subject concord '*abuhlungu*' [they are painful]. Similarly, in the Xitsonga examples, (Example 17c) shows the singular noun '*xikolo*' [school] from class 7, and the quantifier stem '*hinkw-*' takes the form '*hinkwaxo*', whereby the morpheme or suffix '*-xo*' is added, and it agrees with the noun class and the subject concord '*xi thyakile*' [it is dirty]. In (Example 17d), the plural noun '*swikolo*' [schools] belongs to class 8, and '*hinkw-*' appears as '*hinkwaswo*', matching the plural noun's prefix '*sw*' and subject concord '*swi thyakile*' [they are dirty]. These examples illustrate how both isiZulu and Xitsonga use morphological agreement to mark grammatical number and class through the inflection of quantifiers, maintaining internal grammatical consistency in the sentence structure.

Also, Participant 2 mentioned that structurally forms of '*-onke*' generally precede the noun they modify. This is demonstrated by Example 18.

Example 18

W-onke umuntu u-ya-gula.

CL1-every CL1-person SC1-PRES- sick

[Everyone is sick.]

Example 18 illustrates the use of the universal quantifier 'wonke' [every], which appears before the singular noun 'umuntu' [person], a class 1 noun. In this case, the prefix 'w-' in 'wonke' does not directly replicate the noun prefix 'umu-', but it aligns with class 1 agreement rules for singular nouns. This shows that the quantifier agrees with the noun class in meaning rather than copying the exact prefix form. In contrast, Participant 3 highlighted that forms of 'hinkw-' typically appear after the noun and agree with the noun's class. Participant 3 gave the following case as illustrated by Example 19.

Example 19

Ribye hinkwa-ro ri thyakile.

CL5-stone whole-CL5 SC-5 dirty

[The whole stone is dirty.]

In Example 19, the universal quantifier 'hinkwaro' includes the suffix '-ro', which mirrors the prefix of the class 5 noun 'ribye'. Again, the 'ri' in the predicate 'ri thyakile' [it is dirty] agrees with both 'ribye' [stone] and 'hinkwaro', reflecting their shared affix pattern.

Furthermore, data from Bibles revealed that '-onke' and 'hinkw-' also modify plural nouns, whereby they signify 'all'. This is illustrated with Example 20 (Zul, i-Eksodusi 1:22) and Example 21 (Xits, Genesa 10:21).

Example 20

B-onke abantu ne-zilwane.

CL2-all CL2-person CONJPX-animal

[All people and animals.]

Example 21

Vana hinkwa-vo va Ebere.

CL2-child all-CL2 SC2 Eber

[All the children of Eber.]

In Example 20, the universal quantifier 'bonke' precedes and agrees with the noun 'abantu' [people], while 'hinkwavo' in Example 21 appears after the noun 'vana' [children] and agrees and imitates the noun's prefix 'va-'. This means that both universal quantifiers agree and align with their nouns in the noun class system. Moreover, Participant 2 argued that the plural '-onke' can also appear post-nominal, whereby it succeeds its noun, as shown in Example 22.

Example 22

Ngibone umuntu w-onke.

1-PST-saw CL1-person CL1-all

[I saw every person.]

Participant 4 highlighted that when the plural quantifier 'hinkw-' appears in a pre-nominal position, it receives focal

emphasis rather than the noun it would typically modify as seen in Example 23.

Example 23

Hinkwa-vo va dya.

all-CL2 SC2 eat

[All of them eat.]

In Example 23, the quantifier 'hinkwavo' carries the main focus of the sentence. Here the quantifier functions independently, effectively taking the place of the noun or noun phrase. This demonstrates that in such constructions, 'hinkw-' can serve as a syntactic head within the noun phrase, indicating a shift in information structure where the universal quantifier, rather than the noun, becomes the primary referent and focus of the clause.

The findings from the Bible also exhibit that the universal quantifiers '-onke' and 'hinkw-' can act as functional heads or pronouns in cases whereby nouns are omitted. This is illustrated with Example 24 (IGenesi 41:57) and Example 25 (Genesa 3:1).

Example 24

amazwe onke = onke

CL6-country CL6-all

[All countries]

Example 25

swiharhi hinkwaswo = hinkwaswo

CL8-animal all-CL8

[All animals]

However, this is only possible when the nouns are already familiar to both the speaker and the listener.

Co-occurrence restriction of '-onke' and 'hinkw-'

Participants confirmed that, generally, '-onke' can occur with all nouns, both singular and plural. However, 'hinkw-' does not seem to occur with nouns from class 1, which refers to singular + human. This is illustrated Example 26 (ungrammatical sentence).

Example 26

munhu hinkwawo

CL1-person CL-entire of

[The entire person]

However, Participant 4 noted that Tsonga speakers from Mozambique use 'hinkwawo' with 'munhu' [person]. This variation may reflect processes of dialectal divergence and standardisation. In this case, 'every person' in Xitsonga is 'munhu un'wana na u'wana' [each and every person]. Participants 3 and 4 highlighted that 'un'wana na un'wana' could also be a universal quantifier, given that it expresses totality of inclusivity.

Also, data from Participants 1 and 2 revealed that singular forms of '-onke' cannot float as demonstrated in Example 27a–27c.

Example 27a

W-onke umuntu u-ya-dlala.

CL1-every CL1-person SC1-PRES-play

[Every person plays.]

Example 27b

Umuntu wonke uyadlala.

Example 27c

Uyadlala umuntu wonke.

In Example 27a 'wonke' appears before 'umuntu' [person]. This is the expected structure since, in singular form, 'wonke' functions as a determiner or universal quantifier that must precede the noun it modifies. However, in Examples 27b and 27c, the placement of 'wonke' after 'umuntu' is ungrammatical. In isiZulu, singular 'wonke' does not have the flexibility to be placed after the noun, unlike its plural form. This means the sentences are unacceptable. However, Participant 2 claimed that the plural forms of '-onke' can float. This is illustrated in Examples 28a–28c.

Example 28a

Bonke abafana ba-ya-hamba.

CL2-all CL2-boy SC2-PRES-go

[All the boys are going.]

Example 28b

Abafana bonke ba-ya-hamba.

CL2-boy CL2-all SC2-PRES-go

Example 28c

Ba-ya-hamba bonke abafana.

SC2-PRES- go CL2-all CL2-boy

In Examples 28a–28c, the universal quantifier 'bonke' is separated from the noun it modifies while retaining its semantic dependency. In the default structure, 'Bonke abafana bayahamba' [all the boys are going], the quantifier precedes the noun. However, in b, the universal quantifier appears in a postverbal position, while the noun has moved to the preverbal subject position. In c, it is bonke appears immediately after the predicate. This suggests that 'bonke' floats and still maintains agreement with its noun. However, unlike singular forms of '-onke', which are restricted, data from Participant 4 shows that 'hinkw-' can float in both singular and plural structures. This is shown in Examples 29a-29c and 30a-30c.

With singular noun

Example 29a

Xikolo hinkwa-xo xi humile.

CL7-school entire- CL7 SC7 out-PAST

[The entire school is out.]

Example 29b

Xi humile xikolo hinkwa-xo.

SC7 out-PAST CL7-school entire-CL7

Example 29c

Hinkwa-xo xikolo xi humile

entire-CL7 CL7-school SC7 out-PAST

With plural noun

Example 30a

Swikolo hinkwa-swo swi pfarile.

CL8-school all-CL8 SC8 close-PAST

[All schools are closed.]

Example 30b

Hinkwa-swo Swikolo swi pfarile.

All-CL8 CL8-school SC8 close-PAST

Example 30c

Swi pfarile Swikolo hinkwa-swo.

SC8 close-PAST CL8-school all-CL8

In singular noun constructions, the quantifier 'hinkw-' exhibits positional flexibility, occurring in pre-nominal, post-nominal and discontinuous structures. In Example 29a, 'hinkwa-xo' appears in a post-nominal position, following the noun 'xikolo' [school]. In Example 29b, the quantifier is right-dislocated, surfacing in a clause-final position after both the verb and noun. Conversely, in Example 29c, 'hinkwa-xo' occupies a pre-nominal position, preceding the noun it modifies. The grammaticality of all three structures indicates that 'hinkwa-xo' is not subject to strict adjacency constraints in singular noun phrases.

Similarly, in plural noun constructions 'hinkwa-swo' demonstrates the same syntactic flexibility. In Example 30a, it occurs in a post-nominal position, immediately following the head noun. In Example 30b, it is pre-nominal, preceding the noun it quantifies. In Example 30c, 'hinkwa-swo' appears in a clause-final position, following both the noun and the verb. This distributional variation suggests that in Xitsonga, 'hinkw-' functions as a floating quantifier, capable of appearing in various syntactic positions, while maintaining its semantic scope over the noun phrase.

Conclusion

This comparative study exposes the complex morphosyntactic patterns governing quantification in the two selected Bantu languages, specifically through the stems '-onke' and 'hinkw-'. While isiZulu uses prefixal agreement and restricts quantifier floating in singular forms, Xitsonga utilises suffixal agreement and permits more flexible positioning of quantifiers in both singular and plural constructions. The findings highlight the critical role of noun class agreement and demonstrate how universal quantifiers reflect both syntactic structure and semantic scope. This study significantly contributes to the field of African linguistics by addressing a gap in comparative morphosyntactic research, deepening our understanding of how agreement systems and quantifier behaviour manifest

across related languages. It is recommended that future research expand to include other Bantu languages, explore dialectal variations, such as those found in Mozambican Xitsonga, and investigate the semantic distinctions between distributive and collective quantification.

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