




Headedness and structure of Xitsonga compound words

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Compound words, formed by combining two or more morphemes, play a significant role in Xitsonga's lexicon. This study employs a descriptive qualitative approach to examine how the head and modifier(s) interact to contribute to the overall structure and meaning of compound words in Xitsonga. Data were collected through unobtrusive measures from secondary sources. The Construction Morphology and Pragmatic Theory framework underpins this study. This article has established three types of compound words in Xitsonga distinguished by headedness: endocentric, copulative and exocentric. The left-headedness of endocentric compounds, the equal contribution of constituents in copulative compounds, and the elusive nature of exocentric compounds highlight the versatility and complexity of Xitsonga compound word formation. The study also found that the richness of Xitsonga compounding lies in the intricate relationship between semantics and culture, as it creates categories by combining morphemes from various lexical categories, including nouns, verbs, adjectives, ideophones and adverbs. These findings prove that compounding is a productive process for creating new vocabularies in Xitsonga.

Contribution: This study significantly enhances the understanding of Xitsonga morphology by systematically classifying compound words into endocentric, copulative and exocentric types based on headedness. It elucidates the equal and hierarchical roles of constituent morphemes, thereby highlighting the versatility and complexity of compound word formation in Xitsonga. The study also demonstrates the intricate relationship between semantics and cultural factors in the compounding process, showcasing how various lexical categories interact to create a rich and nuanced vocabulary.

Keywords: compound words; headedness; morphology; semantic; endocentric; copulative; exocentric.

Introduction

Xitsonga is a Bantu language spoken primarily in South Africa, Mozambique, Zimbabwe and Eswatini (Mabasa 2023). It belongs to the family group S.50 as classified by Guthrie (1948) (Hlungwani 2003). This language is one of the 12 South African official languages. It falls under the category of minority languages, characterised by a limited number of speakers, academic research and linguistic resources (Mlambo, Matfunjwa & Skosana 2022). According to Statistics South Africa (2022), Xitsonga has 4.7% of language speakers nationwide and is primarily located in the provinces of Limpopo, Mpumalanga and Gauteng. Despite its official status, Xitsonga continues to face challenges in terms of visibility, representation in mainstream media and incorporation into formal education curricula. The limited availability of teaching materials, digital tools and scholarly publications in Xitsonga contributes to its marginalisation in both academic and public domains.

Like other languages, Xitsonga adopts a variety of morphological processes that facilitate the formation of new words and their meanings. Examples of word formation processes include compounding, affixation, borrowing, blending, clipping, back-formation and conversion (Christianto 2020; Harley 2006). Understanding these processes provides insights into the characteristics of languages and their adaptation to meet the evolving requirements and expressions of their users. This study focusses on compounding which is one of the productive processes that involves the formation of new words in Xitsonga. According to Plag (2003), compounding is a morphological process in which two or more independent words are combined to create a new word with a distinct meaning. This phenomenon is pervasive across various languages and serves as a fundamental mechanism for expanding a language's lexicon. Additionally, compounding is a component of the widely accepted and applied derivational morphology, which is used to increase the vocabulary of any language (Fromkin, Rodman & Hyams 2011). The forms and traits of compound words vary based on the language they belong

to and their morphological structure. They are composed of words originating from diverse word categories.

Scholarly works on Xitsonga have delved into the formation of compound words, aiming to analyse elements of both morphology and semantics. Noteworthy contributions in this domain are from Nkondo (1981), Shilubane et al. (1986), Mkhari and Shikwambana (1987), Mushwana and Ndhlovu (1988) and Marhanele (1987, 2004, 2017). They identified compound word combinations and patterns such as verb + noun, verb + adverb, noun + noun, noun + adjective, verb + verb, verb + pronoun, and noun + possessive in Xitsonga. The scholars also emphasised the importance of incorporating nominal prefixes into certain combinations to create fully formed compound words. However, the literature on Xitsonga compounding notably lacks detailed descriptions of the relationships between the head and modifier(s) of compounds. As a result, a significant research gap exists in the analysis of these relationships within Xitsonga compound words. The lack of in-depth studies in this field impedes a deeper understanding of the Xitsonga linguistic structures of compound words. Hence, the objective of this research is to address this deficiency by examining the morphological and semantic dimensions that elucidate the relationships between the head and modifier(s) within Xitsonga compound words. The analysis of these relationships within compound word formation in this language will give insight into the underlying linguistic processes and uncover the meanings embedded within the lexical structures. This study also enhances previous research on the types, forms and meanings of compound words in Xitsonga, which did not examine the headedness of the compounds. Headedness refers to the criteria for identifying the 'head' word in a compound, which provides its primary meaning or denotation, often serving as a hypernym (Nóbrega & Panagiotidis 2020; Palmer 2023).

This study is systematically divided into six sections, including the introduction. In Section 2 literature review is discussed. Section 3 deals with the research methodology. In Section 4, the theoretical framework is described. The presentation and analysis of the data are covered in Section 5. The conclusion and future research are drawn in Section 6.

Literature review

Musehane (2004) explored the structure of compound nouns in Tshivenḁa, emphasising how distinct structures, such as noun + noun, root + noun, noun + root, and root + root compounds, exhibit different morphological patterns. In noun + noun compounds, each noun retains its prefix, creating a novel compound noun. For example, *jiiḁha* [pigeon] and *thavḁha* [mountain] combine to form *jiiḁhathavḁha* [rock pigeon]. In this case, *jiiḁha* acts as the head, while *thavḁha* serves as the modifier, showcasing a left-headed structure in Tshivenḁa. In root + noun compounds, the root of the initial noun adopts a new noun class prefix, while the second noun maintains its original prefix. For instance, the root /-ḁdzi/, derived from the noun *miḁodzi* [tears], takes on the class 7 prefix /tshi-/ and combines with the noun *mare* [saliva] to

form *tshiḁodziḁmare* [weeping]. In this process, the original class 4 prefix /mi-/ of *miḁodzi* shifts to the class 7 prefix /tshi-/. This exemplifies how the noun class system in Tshivenḁa is flexible, adapting according to the compounds' structural needs. Musehane (2004) further illustrated the complexity of noun + root and root + root compounds, where one element may lose its prefix, as seen in *nungupfa* [porcupine quill] and *musimbiri* [ironwood tree]. For instance, the head of the compound *nungupfa* is left-headed, with *nungu* serving as the head, while the root /-pfa/ acts as the modifier without a prefix. In the compound *musimbiri*, both nouns lose their noun class prefixes, and the first noun adopts a new prefix. For instance, the noun *tsimbi* [iron] with a class 9 prefix combines with the noun *muri* [tree] with a class 3 prefix, creating the compound *musimbiri* [ironwood tree]. The new prefix of the compound *musimbiri* is /mu-/. This structural variability shows the richness of compound word formation in Tshivenḁa. Musehane's findings highlight how compound nouns in Tshivenḁa often undergo morphophonological changes that reflect both syntactic and semantic relationships. Changes in prefixes and the retention of certain roots demonstrate the flexibility of noun classes, a common feature among Bantu languages, though with variations in specific forms. However, a limitation of Musehane's study is its limited exploration of headedness and how compound structures influence meaning derivation, which may impact comprehension during language processing. Nevertheless, the study effectively explains prefix attachment and modification; it leaves room for further investigation into the semantic motivations behind these structural changes.

Ilonga (2016) conducted a comparative study between Ruhaya and Indo-European languages, exploring how lexical features impact compound formation. The study focussed on endocentric and exocentric compounds in Ruhaya, analysing their lexical properties, the position of headwords, the semantic relationship between headwords and modifiers as well as the semantic classification of noun + noun compounds. It drew comparisons with other Bantu languages (Kiswahili, Bemba and Northern Sotho) on the aspects and extended the analysis to Indo-European languages, such as English, Dutch and French. In Ruhaya, left-headed compounds like *kashwa-bazimu* [winged termite] consist of the head noun *kashwa* [winged termite] and modifier *bazimu* [spirits], a structure also found in Kiswahili and Bemba, suggesting a common Bantu pattern. Ilonga (2016) contrasted this structure with right-headed compounds in English and Dutch, such as 'schoolboy' in English and *kook pot* [cooking pot] in Dutch, where 'boy' and 'pot' function as the heads of the compounds. This cross-linguistic comparison highlights the typological diversity of compound word formation. Ruhaya compounds were also found to share similarities with Kiswahili and French in their left-headed structure. For instance, in Kiswahili, *garimoshi* [train] has *gari* [car] as the head and *moshi* [smoke] as the modifier. Similarly, in French, compounds like *un wagon-restaurant* follow a left-headed pattern, with *un wagon* as the head, demonstrating shared morphological structures across these languages.

Additionally, Ilonga's study also noted differences, such as in Northern Sotho, where the prefix of the left-most word in a compound can act as the head, as seen in the prefix /mo-/ in the words *motho-sebata* [a person who looks like a carnivore] and *mogopo-kgomoa* [big wooden bowl]. This exception underscores the diversity within Bantu languages, as certain grammatical elements like prefixes which assume head positions in compound words, diverging from the more typical noun-based headedness observed in other languages.

Mokoaleli (2020) and Maboja (2022) examined compound formation in Sesotho and Sepedi (the Sotho languages group), focussing on headedness and the semantic contributions of compound elements. Mokoaleli (2020) explored the formation of Sesotho compounds, recognising various combinations including noun + noun, noun + root, noun + adjective, and noun + adverb. The study classified these compounds into three categories: endocentric, exocentric and coordinate. In Sesotho, most compounds are left-headed, such as *bukantsoe* [dictionary], where *buka* [book] functions as the head and *ntsoe* [word] as a modifier. However, right-headed compounds also occur, such as *mochanapula* [little rain], where *pula* [rain] serves as the head and *mochana* [nephew] acts as a modifier. Similarly, Maboja (2022) found that Sepedi compounds feature endocentric, exocentric and copulative types, depending on the role of the head in the compound. For example, the endocentric compound *setlwaedimpsha* [new normal] derives its meaning from *setlwaedi* [custom], while the copulative compound *sebaramakoti* [brother-in-law] equally incorporates both *sebara* [brother-in-law] and *makoti* [bride] in its meaning. The findings from Sesotho and Sepedi underscore the nuanced role of headedness in these languages' compound word formation, where meaning and structure are interwoven. The variability in headedness across these languages offers a valuable perspective on how syntactic elements can assume different roles depending on linguistic and cultural context.

Budiarta (2016) investigated compounds in the Dawan language, revealing five distinct structures: noun + noun, noun + verb, verb + noun, verb + verb, and noun + adjective combinations. This flexibility in compounding suggests that Dawan employs a wide range of morphological strategies to form new words. For example, *nui-nakaf* [skull] is a noun + noun compound, while *fua-tulu* [worship] exemplifies a verb + verb compound. Budiarta (2016) also categorised compounds into compound nouns or noun headwords, compound verbs or verb headwords, and compound adjectives or adjective headwords. Compound nouns are created by merging nouns with nouns as well as verbs with nouns; for instance, the compound *mais-oni* [sugar] was created by combining the nouns *mais* [salt] and *oni* [sweet], with the noun *oni* serving as the head. While Budiarta provided a comprehensive breakdown of the morphological combinations, the study did not investigate the semantic consequences of these structures. For instance, in noun + adjective compounds like *bia-meto* [caribou], how does the combination of a noun and an adjective affect the semantic transparency of the newly formed compound word?

Understanding these nuances could provide more insight into how meaning is constructed in Dawan compounds.

Libben, Gagné and Dressler (2020) provided an overarching analysis of compound words, particularly focussing on English compounds. Their exploration of semantic transparency, where compounds range from fully transparent such as 'mountaintop' to fully opaque like the compound word 'humbug', highlighted the cognitive processes involved in understanding compounds. The authors noted that the concept of headedness, particularly the distinction between endocentric and exocentric compounds, enriches the discussion on English morphological structures. Endocentric compounds have a clear internal structure where one element functions as the head, such as a 'housecat' (a type of cat). Exocentric compounds, such as 'egghead', have a less transparent relationship between the elements, where the compound meaning is not derived from its parts. Gagné, Spalding and Nisbet (2016) also examined semantic transparency in English compound words, revealing that compounds with more transparent constituents, such as 'blueberry', are processed faster than opaque compounds like 'hogwash'. This study categorised compounds into four types: transparent + transparent, transparent + opaque, opaque + transparent, and opaque + opaque, depending on how easily the meaning of the compound could be derived from its components. This research provided essential insights into the cognitive processes behind compound word comprehension. However, these studies could be enhanced by providing examples from a broader range in the language to illustrate the universality or variability of these phenomena.

From the consulted scholarly work, it is evident that compounding as a productive word formation process has been studied in many languages in terms of morphological structures, their semantic aspects and cognitive processing. The reviewed studies provide essential insights into the types and structures of compounds across languages, revealing commonalities and differences in how languages handle compounding. Notably, they also explore the relationship between the head and modifiers within compounds. However, the literature on Xitsonga compounding lacks a detailed analysis of this head-modifier relationship. Therefore, this study aims to address that gap by examining how the interaction between the head and modifiers shapes the structure and meaning of Xitsonga compound words, thereby contributing to the existing body of knowledge.

Research methodology

The study adopts a descriptive qualitative approach to explore the relationship between the head and modifiers in the formation of compound words in Xitsonga. This approach involves studying phenomena in their natural conditions and aims to describe them based on collected data without the intention of generalising the findings (Lambert & Lambert 2012; Nassaji 2015). Xitsonga compound words were collected through unobtrusive measures, sourcing data from secondary materials such as books, articles, theses, dissertations,

dictionaries and online resources (Kubayi 2009). The researchers applied convenience sampling, which allowed them to select accessible and relevant data that addressed the research problem. Data analysis was conducted using thematic analysis, which involved identifying, analysing and reporting patterns within the data (Sovacool, Iskandarova & Hall 2023). This method facilitated the categorisation of recurring themes in compound word formation, specifically examining the structural and semantic relationships of endocentric, copulative and exocentric compounds based on head-modifier dynamics.

Theoretical framework

The theoretical framework for analysing the intricate relationships between the head and modifier(s) within compound words in Xitsonga draws upon the principles of the Construction Morphology (CM) theory and the Pragmatic Theory (PT) framework. Geert Booij developed the CM theory to study word formation and compound structure in the early 2000s, with significant publications appearing around 2005, while PT, influenced by pragmatics, semantics and discourse analysis, was contributed by scholars like Paul Grice (1975), Herbert Clark (1985) and Erving Goffman (1981). The CM theory is characterised by the assumption that word-formation patterns are articulated by constructional schemas that motivate properties of existing complex words and specify how new complex words might be constructed (Booij 2010). The two primary components of CM are form and meaning. Construction Morphology accounts for the systematic form and meaning relationships between words, using constructional schemas (Park 2019). Meanwhile, based on the PT, the relationship between components of a compound word is comprehended by interpreting the compound word's meaning, a comprehension derived from pragmatic knowledge about the world (Kolobe 2014). Pragmatic Theory accentuates the contextual significance of comprehending compound words, contending that they encapsulate substantial information within a concise linguistic structure, even if direct relationships between constituents are not always present (Kolobe 2014, 2016). In other words, PT asserts that world knowledge, including sociocultural language nuances, is crucial for accurately interpreting compound words. The combined application of these two approaches enriches the understanding of compound words from both a structural and functional perspective in Xitsonga. The present study uses the CM theory and the PT framework to contextualise the intricate relationships between head and modifier(s) in compound words in Xitsonga, focussing on endocentric, copulative and exocentric structures.

Data presentation and analysis

This section examines the formation and meaning of Xitsonga compound words. The discussion focusses on three categories of compound words based on the semantic relationships between the head and modifier(s). These categories are endocentric, copulative and exocentric compounds. Compound words are written with or without hyphens,

depending on the language's structure. In this study, the researchers adopted the Xitsonga spelling and orthography rules (PanSALB 2019), which do not hyphenate compound words. The researchers also used tree diagrams to demonstrate the internal structures of compound words.

Endocentric compounds

Okoye (2016:33) described an endocentric compound as 'a type of compound in which one of the constituents identifies the class to which the entire word belongs'. Similarly, Haspelmath and Sims (2010:327) defined an endocentric compound as 'a compound that consists of a head and a dependent where the meaning of the semantic head is a hyponym of the meaning of the entire compound'. This implies that endocentric compounds are compounds that contain two or more distinct morphemes, one acts as the head and the other as the modifier(s) of the compound word. Ningsih and Rosa (2013:16) asserted that the word 'endocentric' denotes that one of a construction's parts or the category of the entire syntactic or morphological construction is identical. In Xitsonga, such compounds are created from words or morphemes that fall into either the same or different lexical categories as shown in Figure 1a and Figure 1b.

From the tree diagram in Figure 1a, the word *mimpfindlopfu* [hornet] is a compound noun that is formed by two words, *mimpfi* [wasp] and *ndlopfu* [elephant]. Both words belong to the same lexical category, which is a noun. These words combine to form the new compound word *mimpfindlopfu*, which refers to the largest species of wasps rather than denoting a real elephant. The noun *mimpfi* serves as the head of the compound, while *ndlopfu* functions as a modifier that expresses size. In Figure 1b, *sekwamhala* [goose] is a compound word, which was created by conjoining the two nouns *sekwa* [duck] and *mhala* [impala]. According to Van Niekerk and Wolvaardt (2019), a goose is classified as a waterfowl within the Anatidae family, which encompasses ducks and swans. Basically, *sekwamhala* is a kind of duck. In terms of headedness, *sekwa* functions as the main component, serving as the head, while *mhala* plays the role of a modifier within the compound word. Thus, *mimpfindlopfu* and *sekwamhala* are left-headed endocentric compound words because their constituents' semantic relationship is predictable. These formations of Xitsonga compound words conform to the CM theory that suggests that endocentric compounds are formed by merging smaller constructions, with the meaning of the whole compound being predictable from its parts. This notion is also supported by Rahadiyanti (2017), who alluded that the identification of endocentric compound words can be found in the meaning conveyed by the head.

Endocentric compounds in Xitsonga can also be formed by different lexical categories. In this case, the left-positioned nominal prefix acts as the head of the compound, and other basic components in the middle and right positions serve as modifiers. This occurs when the compound's middle and

right position elements cannot express a complete meaning without a class prefix, as illustrated in Figures 3a and 3b.

Morphologically, the compound word *madyelakhwirini* [spendthrift] has been formed by incorporating the morphemes /ma-/ indicating a class 6 prefix, the verb stem *dyela* [deprive], and a locative adverb *khwirini* [in the stomach], as illustrated in Figure 2a. The verb stem *dyela* is formed through an applicative verbal extension from the root *dya* [eat] by adding the applicative suffix /-el-/ and the final vowel /-a/. Similarly, the locative adverb *khwirini* is derived from the noun *khwiri* [stomach] by attaching the locative suffix /-ini/. In Figure 2b, the compound word *vuhumadyambu* [east] is constructed by combining the class 14 prefix /vu-/, the verb stem *huma* [come out], and the noun *dyambu* [sun]. Both *madyelakhwirini* and *vuhumadyambu* are categorised as endocentric compounds, expressing a semantic relationship between the head and the modifying elements. The left-position morphemes for each compound, namely the nominal prefixes /ma-/ and /vu-/, function as the head, while the words *dyela*, and *khwirini* in *madyelakhwirini*, and *huma*, and *dyambu* in *vuhumadyambu* serve as modifiers of the compounds. A nominal prefix becomes the head when it inherits the semantic properties of the compound word, including meaning, number and lexical category (Ilonga 2016; Lusekelo 2019; Maboja 2022; Mphasha 2006). Similarly, the nominal prefixes /ma-/ and /vu-/ have inherited the semantic properties of the compounds *madyelakhwirini* and *vuhumadyambu*. These words cannot be recognised as compound nouns without prefixes; instead, they will be regarded as verb phrases. Jimmi and Sidauruk (2020) also emphasised that the meaning of the endocentric compound comes from the headword of the compound. Therefore, the meanings of *madyelakhwirini* and *vuhumadyambu* indicate that the morphemes on the left-hand side of each compound determine the meaning and the lexical category. Based on the examples, it is noted that the head of an endocentric compound word in Xitsonga is located on the left-hand

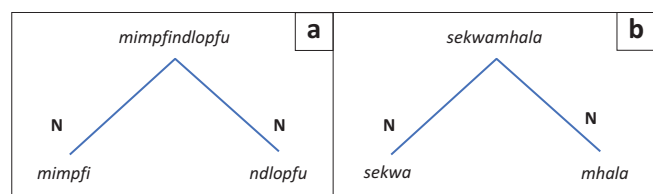


FIGURE 1: Examples of endocentric compounds in Xitsonga created from words that fall in the same lexical category. (a) Nominal compound *mimpfindlopfu* and; (b) nominal compound *sekwamhala*.

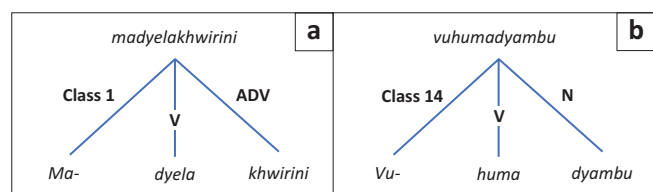


FIGURE 2: Examples of endocentric compounds in Xitsonga created from words that fall in different lexical categories. (a) Nominal compound *madyelakhwirini* and; (b) nominal compound *vuhumadyambu*.

side of the compound and can either be a word or a prefix. Other examples of endocentric compound words are presented in Table 1.

The headwords of these endocentric compounds *nhlampfincila* [barbel fish], *xitlakulandzhwalo* [crane], *mukhomelanandzu* [scapegoat] and *xirhandzatiko* [patriot] are the morphemes *nhlampfi*, /xi-/, /mu-/ and /xi-/ on the left-hand side of each compound word respectively. It is also observed that the headwords are either nominal prefixes or words. The modifiers of endocentric compounds, on the other hand, are only words and are in the middle and right-hand positions when a headword serves as a class prefix. However, when the headword is a full word, the modifier is only situated on the right-hand side of the compound.

Copulative compounds

The formation of copulative compounds involves two or more morphemes that contribute equally to the meaning of the newly formed word. Novitri (2021) defined copulative compounds as words that are created when two or more morphemes that have coordinate relations are combined to produce words with new meanings. Delahunty and Garvey (2010) also described copulative compounds as two-headed morphemes that both contribute equally to the overall meaning of the word. In other words, copulative compounds have two or more heads that share equal status without the presence of a modifier. Copulative compounds in Xitsonga can be formed from similar word categories as presented in Figures 3a and 3b.

In Figure 3a, the word *phephahungu* [newspaper] is identified as a compound noun, composed of two constituent elements, both falling under the noun category. The component *phepha* [paper] refers to a thin material produced from wood pulp or fibres, commonly used for writing, printing or packaging, while *hungu* [news] signifies information related to recent events or developments. The compound word *phephahungu*, a newspaper, is a regularly published document comprising large paper sheets folded together, containing news

TABLE 1: Examples of endocentric compounds.

Combination	Compound words	New meaning
<i>nhlampfi</i> (N) [fish] + <i>ncila</i> (N) [tail]	<i>nhlampfincila</i>	Barbel fish
<i>xi-</i> (class 7 prefix) + <i>tlakula</i> (V) [carry] + <i>ndzhwalo</i> (N) [burdens]	<i>xitlakulandzhwalo</i>	Crane
<i>mu-</i> (class 1 prefix) + <i>khomela</i> (V) [pardon or forgive] + <i>nandzu</i> (N) [fault]	<i>mukhomelanandzu</i>	Scapegoat
<i>xi-</i> (class 7 prefix) + <i>rhandza</i> (V) [love] + <i>tiko</i> (N) [nation or state]	<i>xirhandzatiko</i>	Patriot

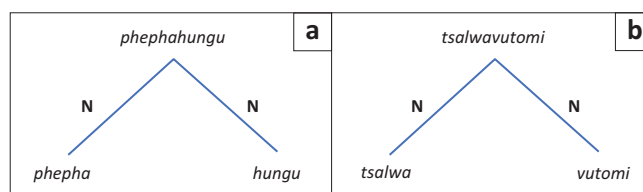


FIGURE 3: Examples of copulative compounds in Xitsonga created from words that fall in the same lexical category. (a) Nominal compound *phephahungu* and; (b) nominal compound *tsalwavutomi*.

reports, articles, photographs and advertisements (*Cambridge Dictionary* n.d.). In Figure 3b, the copulative compound *tsalwawutomi* [biography] is formed by merging the nouns *tsalwa* (book) and *vutomi* (life). The combined meaning refers to a life's narrative written by another person. Maboja (2022) asserted that the constituent words in copulative compounds play an equal role in establishing both the lexical category and the semantic relationship. Thus, *phephahungu* and *tsalwawutomi* are considered copulative compounds in Xitsonga, with all elements contributing equally to the semantic context. This category can also encompass compounds formed across different lexical categories, as illustrated in Figures 4a and 4b.

Figure 4a illustrates that the word *mpimohansi* (minimum) is a compound noun formed by merging two lexical items, namely *mpimo* (measurement) and *hansi* (underneath). These words originate from different lexical categories, namely a noun and a locative adverb. The noun *mpimo* is derived from the verb stem *pima* (to measure) and carries the class 3 prefix allomorph /m/, from the basic prefix /mu-/. The fusion of *mpimo* and *hansi* results in the compound *mpimohansi*, which denotes the smallest possible amount, value or degree. Although the compound is syntactically headed by the initial noun *mpimo*, its meaning is shaped equally by both components, with neither assuming dominance in terms of semantic contribution. Lastly, in Figure 4b, the compound noun *nawumbisi* (bill) is presented, consisting of two-word elements, the noun *nawu* (law) and the adjectival stem *mbisi* (raw). The resulting compound *nawumbisi* refers to a proposed law drafted and presented for discussion in parliament, merging the meanings of its constituent words. Both *mpimohansi* and *nawumbisi* are identified as copulative compounds, as their foundational components equally contribute to the semantic context of the compound words. Additional examples of copulative compound words in Xitsonga are detailed in Table 2.

Table 2 shows examples of copulative compounds in Xitsonga. Rumiyati (2015) asserted that when a copulative compound word is created, its constituent words should have equal status, and the meaning should not be considered figuratively or metaphorically. All the compound words in

TABLE 2: Examples of copulative compounds.

Combination	Compound words	New meaning
<i>ndzetelo</i> (N) [guidance] + <i>vutivi</i> (N) [knowledge]	<i>ndzetelovutivi</i>	Workshop
<i>hiko</i> (N) [full stop] + <i>mbirhi</i> (ADJ stem) [two]	<i>hikombirhi</i>	Colon
<i>vaaki</i> (N) [society] + <i>ndhawu</i> (N) [place]	<i>vaakindhawu</i>	Community
<i>yinhla</i> (N) [angle] + <i>nharhu</i> (N) [three]	<i>yinhlanhharhu</i>	Triangle
<i>hanci</i> (N) [pig] + <i>nhova</i> (N) [veld]	<i>hancinhova</i>	Warthog

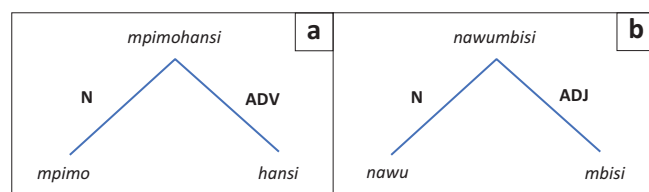


FIGURE 4: Examples of copulative compounds in Xitsonga created from words that fall in different lexical categories. (a) Nominal compound *mpimohansi* and; (b) nominal compound *nawumbisi*.

Table 2 are composed of two or more words, which contribute equally to the semantic content of the newly formed compound. These copulative formations also align with the CM theory, where both elements of the compounds retain their semantic independence, creating new meaning through synthesis rather than subordination (Booij 2010; Maboja 2022).

Exocentric compounds

Pratiwi (2018) described an exocentric compound as a kind of compound word without a component serving as the semantic head, which is subsequently transformed by a constituent referred to as the non-head. According to Okoye (2016), exocentric compounds are a specific form of compound whose meaning does not emanate from the meaning of any of the constituent words. In other words, it is intricate to predict the meaning of an exocentric compound. The nuance of exocentric compounds was observed by scholars such as Plag (2003), Benczes (2005), Vierke (2012), and Maboja (2022), who consider these compounds as metaphorical word constructions since it is difficult to deduce meaning from their constituents. This indicates that to determine the meaning of an exocentric compound, one must be conversant with the culture and norms of the language. Thus, the understanding of the Xitsonga exocentric compound relates to the PT framework because speakers of the language contextualise the meaning of the compound rather than merely adopting it literally. They are also formed by pairing words from several lexical categories. The predominant existence of exocentric compounds in Xitsonga is perhaps due to the wide use of figurative language as presented in Figures 5a and 5b.

In Figure 5a, the compound word *mbutimahlanga* [stray cat] is an exocentric compound formed by combining the nouns *mbuti* [goat] and *mahlanga* [reeds]. The semantic meaning of the compound can only be understood by people who are familiar with Vatsonga socio-cultural traits because its basic constituents *mbuti* and *mahlanga* do not contribute to its actual meaning. This compound word refers to a stray cat, rather than a type of goat or reed. In Figure 5b, the compound word *sasankambana* [index finger] was formed by merging the verb *sasa* (to speak euphemistically) and the noun *nkambana* (earthenware bowl). It is noted that the meaning of the newly formed compound word *sasankambana* does not originate from its constituents. This compound word does not refer to speaking euphemistically or to a kind of earthenware bowl, but refers to the finger most often used for pointing. The compound *sasankambana* was derived from the action of using the index finger to wipe away food scraps from the bowl after eating, leaving the bowl clean. Therefore, the words *mbutimahlanga* and *sasankambana* are classified as exocentric compounds since their meaning cannot be determined by their basic constituents. Alternatively, exocentric compounds in Xitsonga can also arise when class prefixes are integral components of the basic elements that constitute the newly formed compound as presented in Figure 6a and Figure 6b.

In Figure 6a, the compound word *matlhomanyangweni* (a payment required before the initiation of *lovola* negotiations), is constructed by merging the class 6 prefix /ma-/ with the verb stem *tlhoma* [insert] and the locative adverb *nyangweni* [in the doorway]. The locative adverb *nyangweni* is derived from the noun *nyangwa* [door] by replacing the final vowel /-a/ with the locative suffix /-eni/. In Figure 6b, the compound word *xihontlovila* [a giant or stout man] is formed by combining the class 7 prefix /xi-/ , the ideophone *hontlo!* [abundance], and the verb stem *vila* [boil]. All these compounds are exocentric, despite using prefixes in their formation, as none of their basic constituents contribute directly to the new meaning or function as the head or modifiers. This perspective aligns with the views of Booi (2005), Delahunty and Garvey (2010), Lusekelo (2019), and Maboa (2022), who argued that exocentric compound words have their semantic head positioned beyond the literal meaning of their basic constituents, emphasising the external influence on the compound's overall semantic interpretation. Table 3 shows other examples of exocentric compounds in Xitsonga.

From Table 3, it is evident that all the Xitsonga words presented are examples of exocentric compounds. The compound word *xivatlankombe* [cobra] was coined based on the snake's behaviour when threatened. The compound is made up of the class 7 prefix /xi-/ , the verb stem *vatla* [carve out] and the noun *nkombe* [wooden spoon]. It reflects the cobra's tendency to raise the anterior part of its body off the ground and flatten its neck into a hood, resulting in a shape like a wooden spoon. The compound word *nyokahansi* (treacherous person) is formed by combining the noun *nyoka* [snake] with the locative adverb *hansi* [underneath]. Snakes are commonly viewed as hazardous reptiles due to their ability to move

discreetly and escape unnoticed. These attributes are bestowed on an individual who is deceitful, untrustworthy or disloyal and treacherous, posing a threat to others. Hence, the compound word *nyokahansi* emerged from the perilous conduct exhibited by individuals. Lastly, the compound *mphasamhala* (wild tree with thorns) was created by merging the class 3 prefix /mu-/ , which experienced vowel reduction, resulting in /m-/ as an allomorph (after omitting the vowel /u/), with the verb *phasa* [ensnare] and the noun *mhala* [impala]. From this compound, it is difficult to deduce the meaning based on its constituents because they do not contribute to the actual meaning. The compound word was coined based on the socio-cultural use of the tree in which its thorny branches are used to cover water wells, which often results in animals being entangled. Therefore, the meanings of the exocentric compounds *xivatlankombe*, *nyokahansi* and *mphasamhala* depend on the deep understanding of the language, culture and context in which they are coined. This analysis is in harmony with the perspective of PT, which emphasises that meanings of exocentric compounds are interpreted beyond their morphemic components. The PT framework highlights the importance of context, cultural understanding and pragmatic inference in constructing and interpreting these compounds, where the literal meanings of the constituents are not enough to capture the full essence of the word (Kolobe 2016). This theory is key in understanding how Vatsonga rely on shared social knowledge and context to communicate effectively using compound words.

Conclusion

The study has discussed compounding as a productive word-formation process in Xitsonga. The analysis revealed a nuanced understanding of the language's structure and semantics by focussing on three types of compounds in terms of headedness, namely endocentric, copulative and exocentric. An exploration of these compounds was conducted, and it was established that they are formed from either identical or different lexical categories. Endocentric compounds are formed from distinct morphemes where one acts as the head and others as modifiers. It was also ascertained that the left-hand side of endocentric compound words contains either a prefix or a word as the headword. Meanwhile, the analysis of copulative compounds revealed that constituent words play equal roles, with no word being viewed as the head that dictates the entire meaning of the compound, thereby jointly determining both the lexical category and semantic relationship of the compound. The study also established that meanings of exocentric compounds cannot be deduced from their basic constituents as their interpretation relies on a deep understanding of Xitsonga culture and norms. The richness of Xitsonga compound word formation processes and its ability to convey nuanced meanings were also highlighted. It was demonstrated that compounding as a morphological word formation process is key to expanding vocabularies. This research provides an understanding of the structure and meaning involved in the formation of Xitsonga compound words. Future research should investigate

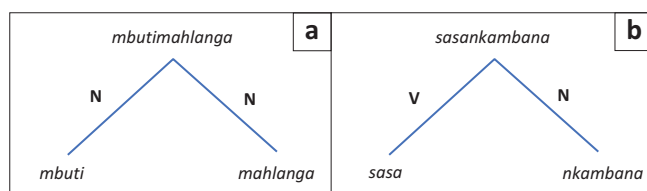


FIGURE 5: (a) Nominal compound *mbutimahlanga* and; (b) nominal compound *sasankambana*.

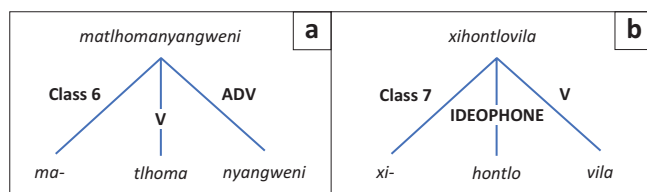


FIGURE 6: (a) Nominal compound *matlhomanyangweni* and; (b) nominal compound *xihontlovila*.

TABLE 3: Examples of exocentric compounds.

Combination	Compound words	New meaning
xi- (class 7 prefix) <i>vatla</i> (V) [carve out] + <i>nkombe</i> (N) [stick spoon]	<i>xivatlankombe</i>	Cobra
<i>nyoka</i> (N) [snake] + <i>hansi</i> (ADV) [underneath]	<i>nyokahansi</i>	Treacherous person
mu- (class 3 prefix) + <i>phasa</i> (V) [ensnare] + <i>mhala</i> (N) [impala]	<i>mphasamhala</i>	Wild tree with thorns

semantic transparency to determine how effectively the meanings of Xitsonga compound words can be inferred from the meanings of their constituents.

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References

- Benczes, R., 2005, 'Metaphor and metonymy-based compounds in English: A cognitive linguistic approach', *Acta Linguistica Hungarica* 52(2–3), 173–198. <https://doi.org/10.1556/ALing.52.2005.2-3.3>
- Booij, G.E., 2005, *The grammar of words: An introduction to linguistic morphology*, Oxford University Press, Oxford.
- Booij, G.E., 2010, 'Construction morphology', *Language and Linguistics Compass* 4(7), 543–555. <https://doi.org/10.1111/j.1749-818X.2010.00213.x>
- Budiarta, I.W., 2016, 'Compound words in English', *LLT Journal: A Journal on Language and Language Teaching* 23(1), 27–36. <https://doi.org/10.24071/llt.v23i1.2030>
- Clark, H.H., 1985, 'Language use and language users', in G. Lindzey & E. Aronson (eds.), *Handbook of social psychology*, pp. 179–231, Harper and Row, New York.
- Delahunty, G.P. & Garvey, J.J., 2010, *The English language: From sound to sense*, Parlor Press LLC, Anderson, SC.
- Fromkin, V., Rodman, R. & Hyams, N., 2011, *An introduction to language*, Cengage Learning, London.
- Gagné, C.L., Spalding, T.L. & Nisbet, K.A., 2016, 'Processing English compounds: Investigating semantic transparency', *SKASE Journal of Theoretical Linguistics* 13(2), 2–22.
- Goffman, E., 1981, *Forms of talk*, University of Pennsylvania Press, Philadelphia.
- Grice, P., 1975, 'Logic and Conversion', in P. Cole & J. Morgan (eds.), *Syntax and Semantics*, pp. 41–58, Academic Press, New York.
- Guthrie, M., 1948, *The classification of Bantu Languages*, Oxford University, London.
- Harley, H., 2006, *English words: A linguistic introduction*, 7th edn., Blackwell, Oxford.
- Haspelmath, M. & Sims, A.D., 2010, *Understanding morphology*, 2nd edn., Hodder Education, London.
- Hlungwani, M.C., 2003, 'Xitsonga in South Africa today', in K. Prah (ed.), *Silenced voices studies on minority languages of Southern Africa*, pp. 41–57, CASAS, Cape Town.
- llonga, E., 2016, 'A comparative study of headedness in Ruhaya compounds', *Journal of Education, Humanities and Sciences* 5(1), 89–100.
- Jimmi, J. & Sidauruk, J., 2020, 'Mastering compound word for teachers and learners of English', *Wanastra: Jurnal Bahasa dan Sastra* 12(1), 32–42. <https://doi.org/10.31294/w.v12i1.7514>
- Kolobe, M., 2014, 'Exocentric compound words and their usage in Southern African newspapers', PhD thesis, English Language and Linguistics, National University of Lesotho.
- Kolobe, M., 2016, 'How words relate to one another', *US-China Foreign Language* 14(5), 329–332. <https://doi.org/10.17265/1539-8080/2016.05.001>
- Kubayi, S.J., 2009, 'The ideophone in Xitsonga: A morphosemantic analysis', MA dissertation, Translation Studies and Linguistics, University of Limpopo.
- Lambert, V.A. & Lambert, C.E., 2012, 'Qualitative descriptive research: An acceptable design', *Pacific Rim International Journal of Nursing Research* 16(4), 255–256.
- Libben, G., Gagné, C.L. & Dressler, W.U., 2020, 'The representation and processing of compounds words', in V. Pirrelli, I. Plag & W.U. Dressler (eds.), *Word knowledge and word usage: A cross-disciplinary guide to the mental lexicon*, pp. 336–352, De Gruyter Brill, Berlin.
- Lusekelo, A., 2019, 'Endocentric and exocentric compounds in Kiswahili', *SKASE Journal of Theoretical Linguistics* 16(4), 22–47.
- Mabasa, N.D., 2023, 'A descriptive analysis of Xitsonga contemporary music', *South African Journal of African Languages* 43(3), 285–291. <https://doi.org/10.1080/02572117.2023.2294605>
- Maboa, R.M., 2022, 'The morpho-semantics of compound words in Sepedi', MA dissertation, Translation Studies and Linguistics, University of Limpopo.
- Marhanele, M.M., 1987, *Xingulana Xa Ririmi*, Van Schaik Publishers, Pretoria.
- Marhanele, M.M., 2004, *Xingulana xa Ririmi*, Van Schaik Publishers, Pretoria.
- Marhanele, M.M., 2017, *Xingulana xa Ririmi*, Sasavona Publishers and Booksellers, Giyani.
- Mkhari, N.B. & Shikwambana, J.M., 1987, *Ririmi ra manana*, Shuter & Shooter, Pietermaritzburg.
- Mlambo, R., Matfunjwa, M. & Skosana, N., 2022, 'Contrastive analysis of word-formation strategies in the translated South African Constitution', *Literator* 43(1), a1861. <https://doi.org/10.4102/llt.v43i1.1861>
- Mokoaleli, M.A., 2020, 'Sesotho compounding', MA dissertation, Linguistics and Language Practice, University of the Free State.
- Mphasha, L.E., 2006, 'The compound noun in Northern Sotho', PhD thesis, Department of African Languages, University of Stellenbosch.
- Musehane, N.M., 2004, 'Root compound nouns in Tshivenda', *South African Journal of African Languages* 24(4), 236–244. <https://doi.org/10.1080/02572117.2004.10587240>
- Mushwana, S.E. & Ndhlovu, M.M., 1988, *Ririmi Ra Manana: Ntanga 10*, Shuter & Shooter, Pietermaritzburg.
- Nassaji, H., 2015, 'Qualitative and descriptive research: Data type versus data analysis', *Language Teaching Research* 19(2), 129–132. <https://doi.org/10.1177/1362168815572747>
- Ningsih, A.W. & Rosa, R.N., 2013, 'Types and processes of compound words used in headline news columns in "The Jakarta post" newspaper', *English Language and Literature*, Universitas Negeri Padang.
- Nkondo, C.P.N., 1981, *Xiletelo xa Xitsonga*, University of the North, Sovenga.
- Nóbrega, V.A. & Panagiotidis, P., 2020, 'Headedness in exocentric compounding: A new approach to exocentricity', *Word Structure* 13(2), 211–249. <https://doi.org/10.3366/word.2020.0168>
- Novitri, L., 2021, 'Analysis compound word found in the political issues news of the jakarta post online newspaper', PhD thesis, English Language Education, Universitas Islam Riau.
- Okoye, A.N., 2016, 'Blending in Etulo compound words', *Mgbakoigba: Journal of African Studies* 5(2), 32–47.
- Palmer, R., 2023, *Compound in linguistics | overview, types & examples*, viewed 13 September 2024, from <https://study.com/academy/lesson/compound-in-linguistics-overview-types-examples.html>.
- Pan South African Language Board, 2019, *Milawu ya Mapeletelo na Matsalelo ya Xitsonga*, PanSALB, Arcadia.
- Park, S., 2019, 'A construction morphology analysis of old English Bahuvrihi adjectival compounds', *Studies in English Language & Literature* 45(2), 287–306. <https://doi.org/10.21559/aelk.2019.45.2.014>
- Plag, I., 2003, *Word-formation in English*, Cambridge University Press, Cambridge.
- Pratiwi, M.D., 2018, 'English compound nouns in short story "the star-child" by Oscar Wilde', *Humanis* 22(2), 425–432. <https://doi.org/10.24843/JH.2018.v22.i02.p21>

- Rahdiyanti, I.P., 2017, 'Compound words in political articles of strategic review magazine', Unpublished thesis, Sanata Dharma University, Yogyakarta.
- Rumiyati, A., 2015, 'A morphological analysis of compound words used in novel "the single girl's to-do list" by Lindsey Kelk', PhD thesis, Universitas Muhammadiyah Surakarta.
- Shilubane, B.B.R., Nkuzana, K.J., Mawela, C.N. & Mhangwana, N.M., 1986, *Xitsonga xa vagingiriki: Ntangha 8*, Kagiso Publishers, Pretoria.
- Sovacool, B.K., Iskandarova, M. & Hall, J., 2023, 'Industrializing theories: A thematic analysis of conceptual frameworks and typologies for industrial sociotechnical change in a low-carbon future', *Energy Research & Social Science* 97, 1–36. <https://doi.org/10.1016/j.erss.2023.102954>
- Statistics South Africa, 2022, *Census 2022 results*, viewed 27 October 2023, from https://census.statssa.gov.za/assets/documents/2022/P03014_Census_2022_Statistical_Release.pdf
- Van Niekerk, T. & Wolvaardt, J., 2019, *Oxford South African concise dictionary*, Oxford University Press, Cape Town.
- Vierke, C., 2012, 'Mafumbo: Considering the functions of metaphorical speech in Swahili contexts', in R. Michael, N.B. Marlo, C.R. Adams, M.M. Green & M.P. Tristan (eds.), *Selected Proceedings of the 42nd Annual Conference on African Linguistics*, MD, Cascadia Proceedings Project, Somerville, June 10–12, 2011, pp. 278–290.