

Verb Stem Alternation in Tiv

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Abstract

This article investigates verb stem alternation in Tiv, a Benue-Congo language spoken primarily in Nigeria and parts of Cameroon. A descriptive analysis of alternation provides insights into the morphophonological rules governing Tiv and explains how various verb forms are derived to express grammatical categories for example tense, aspect, mood, and number. The study is framed on Halle & Marantz's (1993) distributed morphology theory, examining the interplay encompassing syntax, morphology, and phonology in the formation of verb stems. It identifies and categorizes the various types of verb stem alternations in Tiv, including their phonological and morphological triggers. Data were elicited from native speakers and analyzed to uncover the underlying patterns and rules. Findings reveal that Tiv utilizes both morphological and morphophonological processes in its verbal system alternation, contributing to the language's grammatical complexity. Significantly, verb stem alternation often occurring without affixation plays a central role in encoding tense, aspect, and mood. The study concludes that verb stem alternation is of significant grammatical value, reflecting the intricate structure of the Tiv verb system, which shares features with other Tivoid languages. The article recommends that verb stems in Tiv be approached alongside its tonal system, given their interrelated roles in conveying meaning.

Keywords: verb stem alternation; Tiv language; Benue-Congo; phonology; morphology; grammatical structure.

Abstract in Tiv: Ken kwaghngeren ne yô, m time sha itinekwagh i *verb stem alternation* (inja na yô, ka mgem u atiaka a tesen ieren ka a gema u tesen kwagh u ave ave, ken ijime, shin ken hemen yô. Zwa Tiv ka zwa u vesen kpishi je. Ka gbar u Zwa u Benue-Congo u i lamem ken tar u Nigeria man Cameroon yô. U tôvon sha kwagh ne ka a injia kpishi gadia ka a tese er atindi a Zwaa a eren tom yô. U seer tan iwanger sha kwagh ne yô, m tôô tiori i Distributed Morphology i Halle & Marantz (1993) u lun se tsar. Tiori ne ta se iwanger sha mzough u atindi a zwaa (syntax), m-mar u atiaka (morphology), man atindi a yilan kwagh (phonology). U zuan a vie-vie u kwagh ne yô, m tôv, sha u pinen ôn-Tiv mba lun a mkav sha kwagh ne, shi se hen ken ityakerada kpaa. Se mase kaven ser, mgem u atiaka a tesen ieren a gem ne doo u fan kwagh u a tsembelee sha er or a lam shin nana nger Zwa Tiv a gba ilyam yô.

Introduction

Verb stem alternation (VSA) contributes to the understanding of the morphologically complex nature of languages of the Niger-Congo family. Despite being well-documented in several languages within the Benue-Congo subfamily, research on its occurrence in Tiv remains sparse (Udu, 2025). As noted from previous literature (Nurse, et al, 2007; Blench, 2016; Safir & Bassene, 2017; Herce, 2021) many languages in this family of which Tiv is part, have verbs that are central to sentence construction and are subject to various morphological processes, including affixation, vowel harmony, and alternation of verb stems. Verb stem alternation depicts the systematic changes in the root or stem of a verb form to mark grammatical categories such as tense, aspect, mood (TAM), person, or number. Many studies (Creissels, 2005; Hyman, 2003; Nurse & Philippson, 2003) demonstrate that a large number of African languages exhibit the phenomenon on verb stem alternation. Nurse & Philippson (2003) survey verb morphology across Bantu languages and highlighted irregularities and alternations that defy expected morphological patterns.

In Yoruba, Akinlabi and Liberman (2000) present evidence that Yorùbá exhibits tone-based verb alternation. Tone shift on the verb stem indicates aspectual differences. Verb stem alternation contributes significantly to the nexus between syntax and phonology (Aboh, 2004). Furthermore, the interactions in deriving verb forms present a problem in linguistic scholarship. It poses challenges in description, theory, and typology. In Tiv language, verb stem alternation is an under-researched area despite its importance in shedding light on changes in vowel quality, consonant mutation, and contributing to tone shifts. In order to fill this knowledge gap, the present study explored the occurrence of verb stem alternation in Tiv by examining both its phonological and syntactic triggers so as to highlight its semantic and pragmatic functions. This study set out to first investigate the occurrence of verb stem alternation in the Tiv language and then to explain verb stem alternation forms in the Tiv language. Doing so serves many benefits in the area of syntax. Verb stem alternation contributes to our understanding of how grammatical relationships occur within a sentence. The various verb forms could interact with the subject of the sentence, the object of the verb, the complement or all its modifiers. Verbs particularly are known to change their forms to show tense, aspect, mood, voice, agreement, or argument structure. These morphological changes in the stem of the verb serve to also shed light on the interface between syntax and morphology.

The Tiv people and their language

Tiv is a language, a tribe, and the progenitor of the Tiv people (Udu, 2009). Tiv language is spoken mainly in North-central Nigeria and the Republic of Cameroon. There appears to be conflicting reports about the exact population of the Tiv speakers. The Joshua Project (2025) estimates the population of Tiv speakers in Nigeria to be 5,017,000 and those in Cameroon to be 1,900, suggesting that the population of the Tiv tribe is close to 6 million. In Nigerian, Tiv speakers are found in large numbers in the States of Benue, Cross River, Nasarawa, Plateau, Taraba, and the Federal Capital Territory, Abuja (Udu, 2019, 2025). In the Republic of Cameroon, the Tiv people have settled in Akwaya sub-division, Manyu, Southwest Province (Eberhard et al., 2024). Greenberg (1963) asserts that Tiv along with Bitare and Batu are Tivoid languages and are three of the seven co-ordinate branches of Bantu. Due to its widespread nature, Blench (2016) refers to Tiv as a major regional language in Nigeria. Tiv is one of the nine network languages broadcast on national radio stations in Nigeria. Others are Hausa, Igbo, Yoruba, Fulfulde, Efik, Edo, Izon and Kanuri. In compliance with the policy provision of the National Language Policy of Nigeria (NERDC, 2022) Tiv is also a language of instruction in the early grades for schools located in Tiv speaking areas. This makes Tiv language an important language culturally, educationally, and socio-politically.

Theoretical framework

The study was framed on Halle & Marantz's (1993) theory of distributed morphology (DM), which in generative linguistics integrates syntax, morphology, and phonology in the analysis of a particular phenomenon. The traditional belief that morphology is a separate component from syntax and phonology has been vehemently challenged by the DM theory, which instead proposes that word structure is built in the syntax while abstract morphemes are realized by vocabulary items. The proponents of the theory argue that morphological forms like verb tenses, number and aspect are determined by syntactic structures thereby illustrating the integrative nature of these grammatical components. The DM theory contributes to the understanding of the phenomenon of verb stem alternation in Tiv language in the sense that it plays a major role in explaining stem changes without positing irregular rules, meaning that all stem alternations are seen as systematic and syntactically motivated. Furthermore, by providing a unified analysis of regular and irregular morphology, the framework bridges syntax and morphology, explaining how morphosyntactic context determines verb form.

Many linguistic researchers have framed their studies on the distributed morphology theory. Kramer (2016) applies DM to Amharic to explain gender and number agreement, showing the model's adaptability to under-studied languages. Arregi and Nevins (2012) use DM to explain complex verb forms in Basque through morphophonological readjustment rules. Similarly, Embick (2010) shows how DM handles allomorph selection in both English and Latin, arguing that it accounts for variation in a principled way. It can thus be said that is suitable for explaining the phenomena like stem alternation, ablaut, and root-and-pattern morphology (common in Afroasiatic and some Niger-Congo languages), which are poorly treated in morpheme-based models. Although DM's strongly believes that all morphological structure is syntactic, Borer (2005) argues that not all morphological operations can or should be derived from syntactic structures. Doing so means that the autonomy of morphology has been undermined. Another argument is that allowing vocabulary items to be inserted based on partial feature matching may lead to ambiguity or overgeneration, making the model less predictive. That is why scholars like Harley & Noyer (1999) argue that competition among vocabulary items can be complex and sometimes theoretically underconstrained.

Literature review

What does the term verb stem alternation mean? In linguistics, **alternation is said to occur** when part of a word is pronounced or spelled differently because of the surrounding word elements. The concept '**verb stem,**' refers to the form of the verb that carries its basic meaning. According to Cao (2022, p. 699), a 'stem' refers to "any morpheme or combination of morphemes to which an inflectional affix can be added" or "any form to which an inflectional affix is attached, is a stem". If a word is dismembered and all inflectional affixes are taken apart, the portion left is called a 'stem'. For example, "girl" in "girls", "eat" in "eating." Cao (2022) further states that some stems have single root morpheme (e.g. "class" in "classes", "pick" in "picks" and "sweet" in "sweeter") while some may have two root morphemes (compound) formation (e.g. "classroom" in "classrooms" and "pickup" in "pickups"). There is yet another type of stem—that which has a root morpheme plus one or more derivational morpheme(s) (e.g. "handful" in "handfuls", "naturalize" in "naturalizing" and "understatement" in "understatements"). In this last example it can be called a derived stem.

Bedell et al. (2023) describe verb stem alternation (VSA) as the morphological variation of verb forms under complex morphosyntactic and pragmatic conditions. It can therefore, be said that VSA includes the non-affixal alternations in the phonological form of a morpheme that could occur in morphosyntactic contexts (Embick, 2010). These can take

place in the form of segmental or tonal alternations in a verb stem to signify function distinctions (e.g. indicative/subjunctive) (Prichard, 2018). It is appropriate to say that verb stem alternation could be either phonologically or morphologically triggered. According to Bedell et al., (2023), VSA presents learning difficulties partly because it affects large numbers of verbs and many aspects of morphosyntactic structure. It consists also of differences in vowel length and tone of words, which can be seen in the orthographies or dictionaries of some languages.

The study of verb stem alternation involves examining morphophonemic changes that take place in the verb. Sometimes, verb stem alternation is called *ablaut* (Peterson, 2003) or *vowel gradation* (Crystal, 1997), especially where the root vowel allows changes to express such differences as in singular and plural, or past and present tense. Verbs with ablaut effect includes verb classes that allow vowel mutation in some word or root to indicate a change of word meaning.

Extant studies reveal the occurrence of verb stem alternation in different natural languages. Mang (2006) finds out that verbs in K'Chò have two phonologically distinct forms, categorized stem I and stem II. These are reported to occur in different syntactic and pragmatic environments of the language. In another study, Davis (2017) identifies the phenomenon of VSA in Sizang Chin, a Northern Kuki-Chin, Tibeto Burman language, Davis (2017) identified two verb stem alternations called Stem I, which occurs in certain environments and Stem II in other environments. Davis (2017) found that verb stems may undergo a change of tone, coda, or vowel. In Kiranti language, Herce (2021) reports that stem alternations are found across the family with the alternations ranging from phonologically conditioned forms (common in eastern Kiranti languages) to more complex, morphological alternations in Western Kiranti languages. The phonological conditioning in East Kiranti often aligns with suffix structures, whereas West Kiranti shows more varied, morphologically-driven alternation patterns.

In another study on Pingwu Baima language, Chirkova & Tshering (2022) find out that verb stems alternate based on tense and aspect. Examples show that there are typically three stems: one for non-past tense, one for past tense, and another for the imperative mood. The alternation is associated with specific TAM (Tense, Aspect, and Modality) categories. A study by Gerber (2022) found that verb stem alternation in Gongduk is governed by both morphophonological rules and grammatical categories. The alternations also reflect historical morphological methods where some Gongduk verbs forms preserving derivational morphology related to valence and direction.

Embick's work (2010) delves into the broader theoretical debate on stem alternations, using both empirical and theoretical approaches. He reviews the tension between two primary theories: morphophonological theories, which posit that stem alternations (e.g., sang from sing) are derived by rules, and stem storage theories, which suggest that these alternants are stored as separate forms in memory. Embick (2010) further provided empirical support for morphophonological theories by showing that certain stem alternations, such as Spanish diphthongization, follow predictable phonological rules, suggesting the derivation of surface alternants from a single underlying form. However, he also highlights cases where morpheme-morpheme interactions seem to trigger alternations without reference to phonology, suggesting that some alternations may need to be stored as separate forms. His analysis emphasizes the importance of locality conditions in contextual allomorphy, where the proximity of morphemes influences whether an alternation occurs.

In the case of Niger-Congo verbal system, the study by Nurse et al. (2007) provide empirical bases for the description of the structure of verbs in these languages, including tense, aspect, and mood categories. Nurse et al.'s (2007) study does not focus specifically on vowel or stem alternations, it does emphasize the complexity of morphophonological structures in Niger-Congo languages, including verb serialization and the use of prefixes and suffixes that may affect vowel patterns in certain grammatical contexts. This empirical exploration across a wide language family provides comparative evidence that supports the broader applicability of Embick's (2010) findings on morphophonology and stem alternations.

A similar situation can be cited about the Yoruba verb system using Oke's (1968) study. In the study, Oke (1968) identified various aspects of the verb in Yoruba, including its syntactic and morphological functions, highlighting the distinction between auxiliary and full verbs and examines how verbal alternations are tied to tense, aspect, and negation systems. Although Oke's study doesn't focus exclusively on verb stem alternations, the work contributes to a deeper understanding of the Yoruba verb structure, especially through the identification of complex verb forms and auxiliary verb patterns that operate within the verbal phrase.

Describing the verbal morphology of Tiv, Blench (2016) alludes that Tiv like most Tivoid languages show complex tonal alternations in the verb system to mark tense/aspect. Is this true of Tiv language? If it is true, what patterns of tonal alternations in the verb system lead to tense/aspect markings? To what degree is the presence of alternation? These questions

formed the stimuli for the present study, which investigated verb stem alternation in Tiv. The reviewed studies demonstrate the diversity of verb stem alternation across languages and contribute to a broader understanding of verbal morphology in natural languages. In particular, the phenomenon of verb stem alternation is criss-crossing the core areas of morphology, phonology, and syntax. The Niger-Congo verb structures further illustrate the complexity of morphophonological processes across different language families.

Methodology

To achieve the aim of the study, the research adopted a qualitative research design. It employed descriptive and analytical approaches, focusing on identifying, classifying, and analyzing instances of verb stem alternation in spoken and written media in the Tiv language. Data collection method involved interviewing native speakers and analysing word lists containing given verb stems in various grammatical contexts (e.g., tense, aspect, mood, and negation). The native speakers interviewed were asked to provide explanations of the conditions under which certain alternations occur. Their responses provided insights into their awareness of the rules governing this phenomenon. Analysis of secondary data involved the close reading and of existing Tiv texts such as books, and religious texts. This was with a view to identifying patterns and provide data for comparative analysis with spoken language. Analysis of data based on the theory of distributed morphology offered by Halle & Marantz (1993) took into account phonological and morphological patterns by identifying and classifying these patterns.

The first step involved identifying verbs that exhibit stem alternation and classifying them into different types of alternations based on the context in which they occur. Phonological patterns took note of vowel changes, consonant alternation and morphological structures (affixation, reduplication, etc.). The second is analysis of phonological rules. Phonological rules governing the occurrence of alternation were analyzed with focus on vowel harmony, tone changes, or consonant gradation. These were compared with phonological processes in other Benue-Congo languages to determine if they follow similar patterns. On syntactic and Semantic Analyses, the work looked out for syntactic triggers. The study investigated how different syntactic constructions (e.g., tense, aspect, negation, subordinate clauses) influence verb stem alternation. The final syntactic analysis revealed how alternation is conditioned by sentence structure.

Data presentation and analysis

The phenomenon of verb stem alternation

The Data in (1) to (2) below contain evidence of a category of lexical verb forms that show tense and aspectual marking through the process of verb stem alternation. As used in this context, verb stem alternation (VSA) is a linguistic phenomenon that allows the root or stem of a verb to change its form in certain grammatical contexts, such as:

1. Tense (past, present, or future tense)
2. Aspect (imperfective, perfective, or progressive aspect)
3. Mood (indicative, imperative, or subjunctive mood)
4. Person (first, second, or third person)
5. Number (singular or plural).

For purpose of answering research question one and two, data in Tables 1 and 2 on verb stem alternation show how the changes occur due to the influence on tones. The data which highlights the stem alternation patterns due to the influence of the tone also contains the grammatical functions.

Verb stem alternation due to the influence of tone

Table (1)

S/N	Function	Example	Tone Pattern	Gloss
A	present simple	zé (zé kàsúá)	ˉ ˉ ˉ ˉ	He/she goes (to the market)
B	present progressive	zan (ngū zān kàsúá)	ˉ ˉ	He/she is going (to the market)
C	present perfect	vāndē zān	ˉ ˉ ˉ	had gone
D	Infinitive	ū zán	ˉ ˉ	to go
E	past tense	za (nyén zà)	ˉ ˉ	went (yesterday he/she went)
F	recent past	ze (zé yô)	ˉ ˉ	After he/she went
G	Perfect	vāndē zān	ˉ ˉ ˉ	(he had gone)

H	future tense) (simple	mé zā	ˉ -	I will go
I	future tense (progressive)	mé lú zān	ˉˉ -	I will be going
J	Imperative	Zá	ˉ	Go
K	Negative	zà gā	ˉ -	not go
L	Interrogative	ú zāā?	ˉ --	Did you go?
M	Habitual	zé (kēkē)	ˉ - -	goes always

Data in (1) contain evidence of verb stem alternation due to the influence of tones. This is significant because they present different grammatical meaning when tones are assigned correctly. For example, the verb ‘ze’ in (1) (a), (f), and (m). Furthermore, ‘zan’ (1) (b) as a progressive aspect is different from (1) (g) as a perfect tense and *zan* of future progressive in (1) (i). In examples (1) (j) and (m), it is noticed that the constructions are without subjects yet the constructions are grammatically correct with the verb as sole element. The subjects are implied. (1) (j) and (m) are examples of single-verb sentences in Tiv. (1) (j) is an order (imperative construction) while (1) (m) reports a habitual action. Ze (keke) (in English means *He/She goes always*). But notice that in the Tiv version, the pronoun subject (he/she) is absent. As already said, it is rather implied.

The data in (2) provides details of the occurrence of Type 1 and Type 2 past tense forms with their morphological changes.

Occurrence of Type 1 and Type 2 past tense verbs

Table (2)

S/N	Type 1	Gloss	Type 2	Gloss	Morphological changes
A	<i>M hēmbà</i> (LL)	I won	M hēmbé yô (MH) M hēmbē (MM)	after I won I won	final ‘e’ changes to ‘a’
B	<i>M kīlē</i> (MM)	I washed	kīl (M)	after I washed	final ‘e’ is severed from kile

(e) *nyúmē/nyūm* *Wan u I nyumun ishangen la* (The boy that was denied election victory)

**Wan u I nyumeun ishangen la.*

NB. It is to be noted that the ô with diacritic in Tiv orthography does not permit the assignment of tone marks. The particle ‘yô’ which appears in the example following Type 2 verb in (2) (a) carries a high tone.

The discussion focuses mainly on (a) occurrence of verb stem alternation and (b) types of verb stem alternation in Tiv. This follows the order of the study’s research objectives.

Occurrence of verb stem alternation

The study found that the feature of verb stem alternation is pervasive in Tiv, the commonest occurring in monosyllabic and di-syllabic verbs. These verb forms are highly productive as the analysis has shown. The morphology of the Tiv verb demonstrates that tone is key in determining difference in meaning in words with similar homographic and sometimes homophonic forms (eg. *er* (pull off) versus *er* (the reporting verb used in that-clause). after an extensive study of Tiv grammar had corroborated that tone is of paramount importance in establishing grammatical meaning in Tiv. A close observation of the phenomenon of verb stem alternation makes Tiv similar to other Tivoid languages like Ugare (Casetta & Cassetta, 1994; K’Cho and Lai Year (Badell et al., 2023). The classification of Tiv verb forms in the present study differs from the approach adopted by Abraham (1940). Abraham (1940) had classified Tiv verbs according to the tones and number or syllables of the past tense and came about Type A verbs, which are two-syllable verbs ending in a vowel. According to Abraham’s classification, Type B verbs occur in two-syllable verbs ending in consonants while Type C verbs are one-syllable verbs ending in consonant. Additionally, Type D verbs include all two-syllable verbs ending in a vowel, Type E being any one-syllable verb with the downward-glide indicated by an arrow. Then, Type F includes all two-syllable verbs ending in consonant, Type G includes three- syllable verbs ending in a vowel, and Type H, one-syllable verbs with mid tone. The present study focused on classifying the verb forms based on their morphosyntactic structure. The present approach offers new insight and introduces a new dimension to the subject which previous studies did not explore. In doing so, it has also opened new perspectives for further research on the tonality of Tiv verbs.

Types of verb stem alternation in Tiv

The study found that verb stem alternations give rise to the following realisations:

Type 1 and Type 2 verbs are useful in showing past time. Type 1 depicts general past tense while type 2 shows recent past. The study found that verbs that make up this category are mostly disyllabic verbs. The second element is that the verbs end with a vowel. Type 1 past tense has the same past tense form as the infinitive while type 2 verbs have the final vowel sound either severed (cut off) from the stem or it changes to another vowel to show past tense.

The high-level tone is usually more suitable for command verbs like *yem* (go), *va* (come), *tile* (wait), *de* (stop) etc.

A few verbs do not change their structure through the process of affixation. Instead, they indicate tense and aspect through tonal alternation. Example, *omon* (which can be used for present simple, past simple, and imperative).

Some verbs in Tiv indicate tense and aspect through the process of vowel mutation in the stem. Some verb stems starting and ending in consonants do not change their stems through the process of affixation to show tense. Observed patterns of alternations exemplify the complex nature of the Tiv verb system. The verb system of Tiv is similar in many respect with other Tivoid languages like Ugare (Casetta & Casetta, 1994) with regard to verb stem alternation. On the basis of the analysis, a conclusion was reached that the functions of tones as it relates to Tiv verbs are as follows:

1. Tone in Tiv is central in distinguishing meaning. The same word or phrase can convey different semantic or grammatical information if different tones are assigned.
2. Tone alternation can signal pragmatic information about the speaker and could convey essential non-verbal information like the mood of the speaker or his attitude
3. Tone alternation on verbs creates morphological contrasts that are essential in understanding the verb tenses and aspects of Tiv verb.
4. Tone alternation in Tiv is helpful in showing lexical contrasts in homophones. Homophones are words usually pronounced the same as other words but different in meaning.
5. Tonal alternations crisscrosses the different subfields of linguistics namely semantics, morphology, phonology, and syntax and the phenomenon greatly account for the complex nature of the verb system of Tiv. Studying the tonality of Tiv helps explains the grammatical relationships of the various linguistics

components. It can thus be said that a good knowledge of the tonal system of Tiv language is required in order to describe its verbal system.

The findings on tonal patterns and the functions of tones in Tiv verbal system support studies by Chingowe & Ismail (2022) on how Bantu languages use grammatical tones to mark tense and aspect. Similarly, Cox (2014) found that tonal contrasts in Iceve verbs is paramount in realizing tense-aspect-mood distinctions. Like in Tiv, tonal contrasts in Iceve verbs occur either on the affixes or on the stem of the verb. In the grammar of Ikaan language, Salffner (2009) found that tone operates at different levels of linguistic analysis, suggesting that it should be studied in detail. When operating as phonemes, tones facilitate context-specific meaning in minimal pairs and are subject to phonological rules. As morphemes, tones and tonal melodies convey context-specific meaning in inflection, derivation and reduplication. In the syntax, tones are helpful in the marking of phrase boundaries.

The main findings that have emerged from this study are reported in line with the research questions.

On occurrence of verb stem alternation in Tiv

In answering research question one, the researcher looked for evidence that verb stem alternation (VSA) occurs in Tiv. The study found that verb stem alternation is a pervasive feature of Tiv language. The commonest form of verb stem alternation is in monosyllabic and di-syllabic verbs. These verb forms are highly productive as the analysis has shown. The morphology of the Tiv verb shows that:

- (a) The changes that occur in the verb stems are largely inflectional. Many Tiv verb stems allow inflectional morphemes to be added to them for grammatical markings such as tense, aspect and mood. Example *ma, me, man; na, ne, nan; va, ve, van; pine, pin, pinen* etc.
- (b) Some verb forms show tense and aspect marking through the process of vowel mutation. Vowel mutation simply refers to the change in vowel quality to another in the same word-root to signal change in word meaning. In few examples, the final vowel is either clipped or it mutates. Sometimes ‘a’ mutates to ‘i’ etc. (pine, pin (pini))
- (c) A few classes of verbs beginning with vowel show zero changes as in *omon, ongo*, etc.

- (d) Tone is key in determining difference in meaning in words with similar homographic and sometimes homophonic forms (eg. *er* (pull off) versus *er* (the reporting verb used in that-clause)). Udu (2025) after an extensive study of Tiv grammar had corroborated that tone is of paramount importance in establishing grammatical meaning in Tiv.
- (e) Tiv has three verb tenses: present, past and future.
- (f) Tiv has perfective and progressive aspects. Tiv language makes use of the particles *vande* to show perfective aspect, *keke* to show habitual aspect, and the forms of the copula *ngu* and *lu* to show progressive aspect.

Types of verb stem alternations in Tiv to signal tense, aspect and mood?

The study found that verb stem alternations give rise to the following:

- (a) Type 1 and Type 2 verbs exist to show past time. Type 1 depicts general past tense while type 2 shows recent past. The study found that verbs that make up this category are mostly disyllabic verbs. The second element is that the verbs end in a vowel sound. Type 1 past tense has the same past tense form as the infinitive while type 2 verbs have the final vowel sound either severed (cut off) from the stem or it changes to another vowel to show past tense.
- (b) The high-level tone is usually more suitable for command verbs like *yem* (go), *va* (come), *tile* (wait), *de* (stop) etc.
- (c) A few verbs do not change their structure through the process of affixation. Instead, they indicate tense and aspect through tonal alternation. Example, *omon* (which can be used for present simple, past simple, and imperative).
- (d) Some verbs in Tiv indicate tense and aspect through the process of vowel mutation in the stem.
- (e) Some verb stems starting and ending in consonants do not change their stems through the process of affixation to show tense.
- (f) Observed patterns of alternations exemplifies the complex nature of the Tiv verb system.
- (g) The verb system of Tiv is similar in many respect with Tivoid languages with regard to verb stem alternation.

Conclusion

On the basis of the foregoing evidence, it can be concluded that verb stem alternation is pervasive in Tiv. Also, verb stem alternation is significant grammatically and semantically. Verb stem alternations signal tense, aspect and mood markings. The feature of tones significantly determines the meaning of words and express grammatical information essential to effective communication in Tiv. Tone alternation on the verb system is not only pervasive in Tiv, it crisscrosses the different linguistic levels namely semantics, morphology, phonology, and syntax and the phenomenon greatly account for the complex nature of the verb system of Tiv. Due to the seemingly similar nature of lexical verbs, it is recommended that individual Tiv verbs should be learned with their tones. To bring out context more clearly, tones should be annotated to lexical verbs in written Tiv.

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