

VERB TONE IN TIV: A FOCUS ON TENSE AND ASPECT



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ABSTRACT

This paper examines verb tone in Tiv, a language spoken in Nigeria. The study focuses on the tonal patterns and variations in Tiv verb forms, examining the grammatical role of tone in shaping tonal outputs. The paper utilises data collected through systematic elicitation of paradigmatic data from native Tiv speakers to provide an in-depth analysis of the verb tone system in Tiv, shedding light on this complex aspect of the language. The study demonstrates that grammatical tone is significant in understanding verbal inflectional morphology, particularly in its impact on tense and aspect. Verb tone is distinct from segmental morphemes and can be substantially influenced by surface phonology. The comprehensive study of the Tiv verbal tonal system requires substantial material, including the logically possible combinations of morphemes with distinct input tones that mark various grammatical distinctions.

Keywords: Tiv, tone, verbs, tense, aspect, downstep.

1. INTRODUCTION

Tone is a defining characteristic of many African languages, serving not merely as a lexical feature but as a fundamental grammatical device. In tonal languages such as Tiv, a Southern Bantoid language spoken predominantly in Nigeria, tone plays a central role in structuring verb morphology and in expressing key grammatical categories, including tense and aspect (Hyman, 2016). This paper examines the tonal system of Tiv verbs, focusing on how tonal patterns function as grammatical markers and interact with morphological structures to form a complex, layered linguistic system.

Tiv exhibits a tonal inventory of three phonemic-level tones - High (H), Mid (M), and Low (L), as well as contour tones such as rising and falling. These tonal distinctions are not merely phonetic but are structurally encoded into the language's grammar. Processes such as tone spreading, tone doubling, and downstep further complicate the tonal landscape, contributing to the complex realisation of verbal forms (Pulleyblank, 1988; Arnott, 1964). Tone in Tiv, therefore, operates both within and beyond the lexicon, interfacing deeply with syntactic and morphological processes.

In Tiv verbal morphology, certain affixes are often described as inflectional markers. However, closer examination reveals that such suffixes may perform different grammatical roles depending on context. This variability raises important questions about the mechanisms that govern verbal inflection in Tiv. Existing studies have not sufficiently accounted for what triggers these functional shifts, leaving aspects of verbal formation and interpretation underexplored.

This complexity is compounded by the fact that Tiv exhibits characteristics of both a partially agglutinating language and an isolating language in some instances. In some cases, verbs appear to allow multiple suffixes to attach to the root, forming morphologically complex structures, whereas in others, verb formation is achieved solely through tone. Despite this, the relationship between the root and its affixes is not always straightforward, and the process does not always follow predictable patterns. According to Wayas and Babarinde (2018), it is often unclear whether a given suffix functions primarily as a tense, aspect, or person marker, or whether its role shifts according to tonal or syntactic context.

A critical but often overlooked element in these discussions is the role of tone. As a tonal language, Tiv employs tone not merely for lexical distinction but also for expressing grammatical categories. Tone plays a crucial role in marking tense, aspect, and mood, often in interaction with suffixes but also independently. For instance, tonal patterns may signal distinctions between past and present, as well as between completed and ongoing actions. This makes tone an essential feature of the verbal inflection system, functioning alongside segmental morphology to convey grammatical meaning.

The interplay between tone and morphological markers in Tiv raises important theoretical and descriptive questions. Is there a systematic relationship between tonal patterns and specific tense or aspectual values? Can tone override or reinforce the meaning typically associated with verbs? Are there rules governing how tone interacts with verbal roots and affixes across different syntactic environments?

Given these issues, a detailed investigation into the tonal and morphological systems of Tiv is both necessary and timely. Such a study would aim to identify the range of tonal patterns associated with verb inflection, clarify their functions, and determine how tonal variation contributes to grammatical interpretation. Understanding the role of tone in marking tense, aspect, and mood beyond its interaction with verbs will provide a more complete picture of verbal inflection in Tiv and offer valuable insights into the broader typology of tone in Bantoid languages.

1.2. Grammatical Tones

Tone primarily refers to the contrasting use of pitch in grammar and the lexicon, encompassing movement from one level to another. Sopko (2016) suggests that tone can be used grammatically, mainly or exclusively, to indicate grammatical distinctions. This distinguishing role of tone is common in tonal African languages, such as Tiv, where it distinguishes main clauses from subordinate relative clauses. Rolle (2018:19) states that grammatical tone refers to a tonological operation that is restricted to certain morphemes or constructions or a natural class of morphemes or constructions. These operations encompass tone addition, deletion, replacement, shifting, assimilation, dissimilation, and other similar processes. Essentially, grammatical tone comprises tonological operations that cannot be accounted for by the overall phonological system of a language. Similarly, Sokpo (2013) observes that grammatical tone refers to the phenomenon where changes in tone patterns result in different grammatical functions. Some other studies have shown that the utilisation of tone to indicate morphosyntactic properties of verbs serves as a clear illustration of how tonal languages employ pitch variations to convey grammatical information that may be represented through affixes, auxiliary verbs, or alterations in word order in non-tonal languages (Grimm, 2023; Koneshenko, 2023; Marlo & Odden, 2019). In Tiv, tone is used to distinguish verb forms (tenses) such as present, past, and future within a sentence.

2. MATERIALS AND METHODS

The study was conducted in Makurdi Local Government, Benue State, Nigeria. This study area was selected because it is home to the largest Tiv-speaking population. The data in this study were collected from a purposively selected sample of four adult native speakers. The participants were selected based on their in-depth knowledge of the Tiv language, lived experiences, and fluency in Tiv. The data were collected using elicitation of verbal paradigms, document reviews, and oral interviews.

The data from elicited verbal lexemes, reviewed documents, and transcriptions of recorded interviews were analysed using thematic analysis. We also analysed transcriptions of oral interviews, paying attention to tone and its interaction with the morphosyntactic patterns identified from the data. The analysis is conducted using examples in prose form and tables to illustrate how tone affects verbal inflection in the study language. This type of analysis follows the admonition of Hyman (2016) that any study of a tone system with a reasonably complex tonal morphology must find a way to describe the alternations that take place within the verb system. Verb tone paradigms are often presented in prose, as a table, or, more rarely, as individual tone assignment rules.

2.1 Ethical Consideration

Approval to conduct the study was obtained from both the University of Dar es Salaam via permit (Ref. No.: AB3/12(B)) and Makurdi Local Government (Ref. No.: MSG/EST/106/Vol. 1/93). During data collection, the researchers clarified the study's objectives to participants, emphasising that no physical or psychological harm would result from the data collection. All methods were conducted in accordance with the University of Dar es Salaam's research policy and the operational procedures relevant to the study.

3. Previous Studies on Tiv

Numerous studies have examined various aspects of Tiv grammar, revealing the language's richness and complexity. Ishima (2018) investigated reduplication in Tiv using Hockett's Item-and-Arrangement and Item-and-Process models. His study found that reduplication in Tiv serves both grammatical and semantic functions, affecting number, tense, aspect, and mood. He identified two key reduplicative strategies, including total copying and ablaut, but noted the absence of partial reduplication. While Ishima addressed both derivational and inflectional reduplication, his study did not account for how tone interacts with other verbs in expressing inflection.

Ugechi (2018) conducted a descriptive study of morphophonological variation in Tiv possessive pronouns, demonstrating that these pronouns change depending on the noun's state, thereby highlighting contrasts in meaning. Similarly, Tyonum (2017) explored the semantic implications of homophones and homonyms in Tiv. Though relevant to grammar, his study focused on semantics rather than morphology or even tone.

Some phonological studies on Tiv include the works of Nwabudike, Kaan, and Anaso (2015), who conducted a contrastive analysis of English and Tiv phonemes. The study found that Tiv has distinct vowels and lacks specific English phonemes, such as /ð/ and /θ/, leading to substitutions. Kaan and Yoo (2019) further examined the sound system of Tiv through phonological theories, confirming its alignment with universal phonological principles. Ugechi and Ayagah (2021) analysed the syllable structure of Tiv using the CV tier model. They found that Tiv allows complex syllable structures, such as CV, CCV, CCCV, and CVC, and that consonant sequences are better described as coarticulations rather than clusters.

Morphological studies include Yina (2009), who explored plural formation through prefixation, tone change, and replacement strategies, identifying specific morphemes such as u-, i-, mba-, and a-. Udu (2009) examined inflection in nouns, verbs, and possessive adjectives using a descriptive approach, identifying morphological processes such as prefixation, vowel replacement, and suppletion. Similarly, Adzer (2016) described morpho-syntactic relations in Tiv, showing that nouns, verbs, adjectives, and copulas are inflected to mark number, tense, and agreement.

Other studies, such as Sokpo and Shittu (2017), have investigated morphophonemic interactions in Tiv. Sokpo (2016) applied Autosegmental Phonology to analyse tone, identifying tone as both a grammatical and lexical feature. Wayas and Kwambeh (2013) and Mbah and Wayas (2014) focused on the phonological differences between Tiv and English, particularly their effects on second-language learners. Nyon (2013) studied the grammatical role of tone in Tiv, focusing primarily on the comparative approach between lexical and grammatical tone.

While these studies offer valuable insights into the different grammatical and phonological features of Tiv, they vary in their approach and focus, being either descriptive or grounded in phonological theory, and treat tone primarily as a lexical phenomenon.

The current study investigates the grammatical role of tone in Tiv verbal inflection. The analysis is based on the salient issue of tone as an important part of Tiv grammar, particularly as it affects verbs. The study discusses segmental aspects of verbs and how tones contribute to understanding the language's inflectional patterns. Tiv, like many other African languages, is characterised by tone, the changes in fundamental frequencies that are perceived as differences in pitch and can be used to distinguish meaning

4. RESULTS AND DISCUSSIONS

4.1 Tone as a Tense Marker in Tiv

Grammatical tone is one of the morphosyntactic properties that indicates various tenses in the Tiv language, and it is also used as an exponent of inflection. The following examples illustrate the role of tone as a marker of tense in Tiv.

- | | | | | | |
|-----|----|-----|----------------------------------|----------------|-----------|
| (1) | a. | M | ngū | yévésé | |
| | | 1SG | AUX | run-PROG | |
| | | | | 'I am running' | |
| | b. | M | yévèsé | | |
| | | 1SG | run-PST | | |
| | | | 'I ran' (I did run)' | | |
| (2) | a. | Né | mbà | wúēsé | ūn |
| | | 2PL | AUX | praise-PROG | him/her |
| | | | 'You are praising him/her' | | |
| | b. | Ūn | wuésé | | vé |
| | | 3SG | praise-HAB | them | |
| | | | 'S/he praises them' (always) | | |
| (3) | a. | M | ngū | áá-n | íyól yam |
| | | 1SG | AUX | scratch-PROG | body POSS |
| | | | 'I am scratching my body' | | |
| | b. | Mba | àà-n | | kwagh' |
| | | 3PL | scratch-PROG | thing | |
| | | | 'They are scratching something.' | | |

Examples (1a), (2a), and (3a) illustrate the present (progressive) tense; (1b) shows the past, (2b) and (3b) show habitual action. As observed by Udu (2009:3), tone, especially the Tiv tone system, is vitally important because it relates to and signals important grammatical categories, such as aspect and tense. Similarly, Orkar (2013) asserts that tone plays a principal role in distinguishing and deciphering meaning. Table 1 illustrates how tonal assignment indicates tense marking and deciphering of meaning based on tone.

Table 1: Verb Stem alternation due to the influence of tone for the lexeme *ya* ‘eat’

Verbal lexeme	Grammatical function	Example	Tone Pattern	Gloss
yé	Present (simple)	yé kwàghyan	H	‘s/he eats food’
yán	Present (progressive)	ngū yán kwàghyan	M	‘s/he is eating
yān	Present perfect	vāndē yān	M	‘had eaten’
yán	Infinitive	ū yán	H	‘to eat’
yà	Past tense	nyén yà	H	‘ate’ (Yesterday s/he ate)
yé	Recent past	yé yô	H	‘after s/he eat’
yān	Perfect	vāndē yān	M	‘s/he had eaten’
yā	Future tense (simple)	mé yā	M	‘I will eat’
yān	Future tense (progressive)	mé lú yān	M	‘I will be eating’
yá	Imperative	yá	H	‘eat’
yà	Negative	yà gā	L	‘not eat’
yā	Interrogative	ú yā ā?	M	‘did you eat?’
yé	Habitual	yé (kēkē)	H	‘eats always’

The data in Table 1 demonstrate the three-tone system of Tiv (high, mid, low), corroborating earlier studies by Abraham (1940) and Arnott (1964), which also provide evidence for the downstep feature. The same verb form can convey different grammatical meanings depending on the tones assigned. For example, the inflected verb *ye* with a high tone, manifests in three forms to show the present, recent past and habitual; *yan* with a mid-tone indicates present progressive aspect, a present/past perfect tense and a present progressive future tense, while *yan* with a high and a prefixed mid-tone infinitive marker ‘*u*’ forms the infinitive form of the verb. It is noticed that the base form of the verb *ya* with L-tone indicates past tense, a H-tone shows the imperative form, and in addition, a mid-tone is used to express the simple future tense as well as the interrogative. The combinations of high and low tones in Tiv, representing downstep, allow for appreciable simplification in the rules that assign tone to the various forms of the verb (McCawley, 1970).

A close look at Table 1 reveals that some constructions are without subjects, yet they are grammatically correct, with the verb serving as the sole element. The subjects in these instances are implied and could be termed as examples of single-verb sentences in Tiv. These sentences are

correct, with *za* being an imperative construction while *ye* reports a habitual action; thus, the sentence *ye keke* (S/he always eats). In terms of the past, two past-tense forms have been identified in Tiv, as illustrated in Table 2.

Table 2: Type 1 and Type 2 past tense patterns of verbs

Type 1	Gloss	Type 2	Gloss	Morphological changes
M hembà(LL)	I won	M hēmbé yô (MH)	after I won	final 'e' changes to 'a'
		M hēmbē (MM)	I won	
M kīlē (MM)	I washed	kīl (M)	after I washed	final 'e' is deleted from kile
M kūrē (MM)	I concluded	kūr (M)	after I concluded	final 'e' is deleted from kure
M mā (M)	I drank	mē (M)	after I drank	final 'a' changes to 'e'
M sùndà (LL)	I harvested	sùndú (MH)	after I harvested	final 'a' changes to 'u'
M vīnē (MM)	I danced	vīnī (MM)	after I danced	final 'e' changes to 'i'
M vëndá (MH)	I rejected	vëndé (MH)	after I rejected	final 'a' changes to 'e'
M zôhō (MM)	I scolded	zēhē (MM)	after I scolded	final 'o' changes to 'e'

To further demonstrate how verbs undergo tone alternation, consider the sentences in example (4) from Udu (2024, p.106). The first in each case is considered well-formed, while the second is ill-formed as a result of the choice of the past tense form of the verb.

- (4) a. pìnè/pīn
 mpìn u shen m pīn la
 Question AGR REM 1SG ask.PST DET
 'The question that I asked'
 *Mpin u shen m pine la
- b. kīlè/kīl
 I-ky-ondo i shen m kil la
 cloth-SG AGR REM I wash-PST DET
 'The cloth that I washed'
 *Ikyondo i shen m kile la
- c. húlē/hūl
 Butu u shen m hul la
 Mat AGR REM 1.SG fold-PST DET
 'The mat that I folded'
 *Butu u shen m hule la

Data in Table 2 and example (4) provide evidence of the occurrence of two types of past tense for verbs in Tiv, which are conditioned by tone and stem alternation. Blench (2016) confirms that verb stem alternation is a common feature in Tivoid languages, such as Tiv, Ugare, and

Iceve, suggesting that further study is necessary because tonal alternations in the verb stem mark grammatical functions, including tense and aspect. In Tiv, if the correct tones are assigned to the verbs, the stems alternate for tense and aspect. Verbs that make up this category are mostly disyllabic, and in the examples presented, the verbs each end in a vowel. In the analysis of grammatical tones, Oden and Bickmore (2014, p.13) attest that ‘melodies are especially prominent in and well-motivated by systems of verbal inflection, where tone changes frequently are a part of tense-aspect inflection.’ They illustrate three tense-related melodies in Tiv, of which verb roots lexically have H or L on the first syllable, and a grammatical melody supplies the remaining tones.

The general past in Tiv, like in any other language, describes completed action in the past without emphasising the time frame and is marked by a low tone on the last syllable of the verb, as shown in the following sentences:

- (5)
- | | | | | |
|----|------------------------------|------------|---------------|-----------|
| a. | Terfa | yà | chinkafa | |
| | Terfa | eat-PST | rice | |
| | ‘Terfa ate rice’ | | | |
| b. | Ordadoo | zà | makeranta | |
| | Ordadoo | go.PST | school | |
| | ‘Ordadoo went to school’ | | | |
| c. | Terdoo | vèndá | u-ya-n | kwagh-yan |
| | Terdoo | refuse.PST | INF-eat-PROG. | thing-eat |
| | ‘Terdoo refused to eat food’ | | | |

4.1.2 Past habitual (H)

Habitual past refers to a grammatical tense in Tiv that describes an action or state that was repeatedly or habitually true in the past but is not necessarily true today. This is marked by a high tone on the last syllable of the verb. The verbs expressing past habitual are also preceded by *vanden* (used to) or *yange* (some time ago), denoting that the action used to take place. These verbs are inflected by adding the suffix ‘-n’ or doubling the vowel and adding the suffix ‘-n’ as shown below:

- (6)
- | | | | |
|--------|---------------|--------|------------------|
| vanden | ván / yange | váán | ‘used to come’ |
| vanden | zán / yange | záán | ‘used to go’ |
| vanden | úngwán/yange | úngwán | ‘used to hear’ |
| vanden | vèndén/ yange | vèndàn | ‘used to refuse’ |
| vanden | yévésé/ yange | yévésé | ‘used to flee’ |

These can be exemplified in sentences as shown below:

- (7)
- | | | | | | |
|----|--------------------------------------|-------|----------|----------|------------------|
| a. | Dooyum | yange | vá-án | heen | |
| | Dooyum | ADV | come.PST | LOC | |
| | ‘Dooyum used to come here’ | | | | |
| b. | Tordue | yange | zá-án | adua | |
| | Tordue | ADV | go-PST. | church | |
| | ‘Tordue used to go to church’ | | | | |
| c. | Iorfa | yange | ungwá-n | m-kaanem | ma Ter na |
| | Iorfa | ADV | hear-PST | DET-word | PREP father POSS |
| | ‘Iorfa used to listen to his father’ | | | | |

4.1.3 Recent past (HL)

The recent past in Tiv is preceded by the adverb ‘semer’ (recently) or any other appropriate adverb of Time and is marked by high-low (HL) tone as shown in the examples below:

- (8)
- | | |
|---------------|-------------------------|
| semer ván | ‘just came’ |
| semer zán | ‘just or recently went’ |
| semer úngwá-n | ‘just heard’ |
| semer vèndàn | ‘just refused’ |

Tiv language distinguishes between general past, recent past and habitual past through distinct grammatical markings. The primary difference between the general past and the recent past lies in the verb’s inflection and tone pattern. The verbs expressing general past are uninflected and bear a low tone on the final syllable. In contrast, verbs expressing the recent past are inflected, preceded by time adverbs, and marked by a high tone on the last syllable. The past habitual is differentiated from the recent past through the preceding adverb, the nature of inflection and tone pattern. The habitual past is typically preceded by the adverb *yange* (some time ago) and expresses indefinite time in the past. The verb is inflected by doubling the vowel functioning as the nucleus of the final syllable. Owing to Tiv’s orthography, doubled vowels are tone-marked individually, revealing a High-High (HH) tone pattern in the final syllable of the verbs expressing habitual tense.

4.2 Tone as Aspectual Marker

Aspect (how verbal action is experienced or regarded) in Tiv is also another morphosyntactic property, which is indicated by tone. Progressive and perfective aspects in the language are distinguished by the HL and LL patterns, respectively, indicating that although the lexeme would remain the same in its shape, the tone marks the differences. Table 3 shows a paradigm of progressive and perfective tone for some verbs in Tiv.

Table 3: Tonal Paradigm for Progressive and Perfective Aspects in Tiv

Base	Gloss	Progressive Tone	Gloss	Perfective Tone	Gloss
hide	return	hídèn (HL)	returning	hìdè (LL)	‘returned’
tema	sit	témàn (HL)	sitting	tèmà (LL)	‘sat’
pine	ask	pínén (HL)	asking	pìnè (LL)	‘asked’
bende	touch	bèndén (HL)	touching	bèndè (LL)	‘touched’

The lexemes in Table 3 have the same shape, but the use of pitch signals the meaning. The placement of pitch on the tone-bearing units shows HL for the progressive and LL for the past (perfective) tense. The marking of tones differentiates these verbs, thus bringing about their grammatical meaning.

4.2.1 Present progressive

The present progressive verb in Tiv is typically preceded by any of these copula verbs: *ngu*, *mba*, *ngi*, *nga*, *ki*, *mbi*, *ma*, *mbu*, *ku*, depending on the class or form of the noun, whether singular or plural. The tone pattern of the verb expressing the action of the subject in whatever form or class is always High-Low (HL).

- (9)
- | | | | | | |
|-----------------------------------|-----|-------------|-------|----|----------|
| Anabee | ngù | hídè-n | yange | i | sati |
| Anabee | is | return-PROG | day | of | Saturday |
| ‘Anabee is returning on Saturday’ | | | | | |

4.2.2 Future progressive

The future progressive in Tiv is marked by the use of the quasi-auxiliary verb ‘á + lù’ (will be), where the *á* (will) bears high tone and *lù* (will be) bears low tone. The base of the verb *hídè* is inflected by suffixing the progressive morpheme ‘-n’. The pattern of the progressive verb remains High-Low (HL).

- (10) a. Anabee à lù hídè-n yángè i sati
 Anabee FUT AUX return-PROG day of Saturday
 ‘Anabee will be returning on Saturday’
- b. Anabee à hídè sha úsè
 Anabee FUT return at dawn
 ‘Anabee will return at dawn’

The verb expressing future simple tense in Tiv is typically preceded by a low tone ‘à’ (will) as a tense marker, with the main verb taking the Low-Low (LL) tone pattern.

4.2.3 Habitual

To express habitual action of the noun in Tiv, the verb functioning as the predicator is inflected by suffixing ‘-n’, or ‘vowel +n’, while the tone pattern is Low-Low (LL).

- (11) Anabee hídè-n sha úsè
 Anabee return-PROG at dawn
 ‘Anabee returns at dawn’

Owing to tone and aspectual marking, Abraham (1940) proposes an aspectual description of the Tiv language, emphasising that it is aspect-prominent. This position has been further advanced by some studies, which posit that Tiv is aspect-prominent and that tense may not have undergone innovation in the language (Watters, 2019; Nurse & Watters, 2022).

4.3 Downstep as a Feature of Verbal Inflection

The downstep is another tonological process attested in Tivoid languages (Tuinstra, 2019). It is a phenomenon in which each successive high tone is lowered, and a ‘new ceiling is established for subsequent high tones’ (Connell, 2016). Tiv is a terraced-level language with high and low tones, and downstep is sometimes a feature of the syllable that follows or precedes a high tone, which can be realised as a High-Low fall on one syllable (Welmers, 1959; Arnott, 1964). It is, therefore, an essential feature of the tonal phonology of the Tiv language.

Downstep can be characterised as a phonological process in which, despite successive syllables being marked with the same tonal value (typically high), the actual pitch of the tones declines due to a “floating” low tone. This results in a downstepped high, a high tone whose phonetic realisation is slightly lower than that of a preceding high tone but still higher than a low tone. This concept highlights a crucial distinction between phonetic realisation and phonological tone assignment. In contrast, upstep, where the pitch levels of successive tones increase, has been observed in only a few West African languages and is relatively rare (Brown, 2021).

The Tiv language employs tone to encode various tense and aspect distinctions. The lexical items in (12) showcase downstep.

- (12) a. áté + íwya = [átèwya] dog’s cage’
 b. ákèsè + álum = [ákèsèlum] ‘baskets of orange’

Here, the downstep lowers the pitch of the second high tone because a floating low tone intervenes between the two high tones. According to Matthews (2007, 113), this floating tone is not segmentally expressed but manifests as a drop in pitch, producing three tonal sequences in tone languages: H L, HH, and H[↓]H (where "↓" denotes a downstepped high).

The phonological structure of downstep plays a crucial role in distinguishing between surface tone and underlying tone patterns. The pitch of a high tone after a downstep lies between a true high and a low tone. This intermediate level does not indicate a mid-tone per se, but rather a lowered high, as it is phonologically high but phonetically realised at a reduced pitch level.

In Tiv, this becomes clear when observing tonal realisations in otherwise phonologically identical environments. Consider the following examples in which the phonetic pitch level of *ga* (not) depends on the preceding tone:

- (13) a. á vé gá [- - -]
 | | |
 H H H
 3SG come NEG
 ‘S/he did not come (recently)’

- b. á zà gá [- - -]
 | | |
 H H H
 3SG go NEG
 ‘S/he did not go’

In both (21a and b), the final word *gá* (not) is underlyingly high-toned. However, its pitch realisation depends on the preceding verb. In (21a), the verb *vé* (came) is also high-toned, so *gá* remains at the same high pitch level. In contrast, in (21b), *zà* (go) is low-toned, resulting in *gá* being realised at a downstepped high level, lower than its phonological high but still higher than a low tone. Yip (2002) argues that such phenomena support treating downstepped high tones as phonologically distinct from mid tones, as mid tones can be followed by full high tones, unlike downstepped high tones, which restrict the pitch of any subsequent high tones.

4.3.1 Morphosyntactic functions of downstep

The phonological integrity of downstep in Tiv extends to its morphosyntactic function. Arnott (1964) extensively documented downstep as a contrastive feature marking different verb forms. For example, downstep and vowel alternation distinguish the present perfect from the simple past:

- (14) a. á vé ‘he/she/it has come’
 b. á 'vá ‘he/she/it came’

In sentence (14b), the downstep signals the past tense. Such tonal marking is not merely a prosodic feature, but a grammatical mechanism that encodes temporal distinctions. This forms the basis for examining the tense and aspect categories in Tiv in terms of their tonal inflections.

General Past

In the general past tense in Tiv, every high-tone subject complex is followed by a downstep; nevertheless, the downstep must be analysed as a feature of the verbal base because it occurs before the base even when there is a noun subject and no subject complex to which it can be

attached. This positions downstep as a verbal feature, rather than a property of the subject complex, as seen in the high stem verbs in Table 4, where it occurs just before the verb.

Table 4: Downstep in the General Past Tense

H-stem	L-stem
vé 'vá 3PL come.PST 'They came'	vé zà (zè) 3PL go.PST 'They went'
vé 'úngwá 3PL hear.PST 'The heard'	vé vèndà 3PL refuse.PST 'They refused'
vé 'yévése 3PL flee.PST 'They fled'	vé ngòhòr 3PL accept.PST 'They accepted'

Future Tense

The future tense introduces a downstep both before the future Auxiliary and the verb. This pattern aligns with Arnott's (1964) analysis that the downstep may occur before or after the preceding syllable in the future tense in Tiv. This is exemplified in Table 5 below.

Table 5: Downstep in the Future Tense

H-stem	L-stem
vé 'á' vá 3PL FUT come 'They will come'	vé 'á zà 3PL FUT go 'They will go'
vé 'á úngwá 3PL hear.PST 'They will hear'	vé 'á vèndà 3PL FUT refuse 'They will refuse'
vé 'á yévése 3PL FUT flee 'They will flee'	vé 'á ngòhòr 3PL FUT accept 'They will accept'

The tone pattern for the future tense is L-H-L (prefix), with the initial a- prefix sometimes deleted depending on the phonological environment.

Habitual aspect

In the Tiv language, the habitual marks an event that occurs regularly, and the habitual past indicates that the event used to occur periodically in the past. The Habitual takes different forms.

Habitual Form 1

This is marked by a low prefix and a high suffix. Habitual Form 1 shares tone patterns with the recent past. Downstep occurs immediately after the subject particle. The example in Table 6 illustrates the Habitual form 1 in Tiv, expressed through a downstep.

Table 6: Downstep in the Habitual Form 1 in Tiv

H-stem	L-stem
ká' vé 'vá PTCL 3PL come 'They come'	ká' vé 'zá PTCL 3PL go 'They go'
ká' vé 'úngwá PTCL 3PL hear 'They hear'	ká' vé vëndá PTCL 3PL refuse 'They refuse'
ká' vé yévé'sè PTCL 3PL flee 'They flee'	ká' vé ngòhòr PTCL 3PL accept 'They accept'

The Habitual Form 1 tense is marked by two affixes: an L-prefix and an H-tone habitual suffix, the latter appearing in all habitual tenses. The L-prefix is deleted in trisyllabic H-stems due to phonological rules. Tonally, this tense closely resembles the Recent Past tense, except for an initial downstep, supporting the idea that it shares the H-tone suffix with the Recent Past. Pulleyblank (1988) confirms that the H habitual suffix is consistent across all habitual forms.

Habitual Form 2

The Habitual form 2 is marked by a high tone in the suffixes. In addition, there is an L-suffix and vowel alternation, which triggers an ablaut. The evidence of downstep in Habitual Form 2 in the Tiv language is shown in Table 7.

Table 7: Downstep in the Habitual Form 2 in Tiv

H-stem	L-stem
mbá' vé' 3PL come.PST 'They come'	mbá' zé' 3PL go.PST 'They go'
mbá' óngó' 3PL hear.PST 'They hear'	mbá vëndé' 3PL refuse.PST 'They refuse'

These forms of habitual do not seem to have a trisyllabic verb, considering that the vowel alternation in the verbs *vá* – *vé*, *ungwa* (hear) becomes *óngó* (heard). In contrast, the trisyllabic verb used in the previous examples, *yévé'sè* (flee), is deliberately left out because it does not undergo any change in the vowel. According to Arnott (1958), there is no Habitual 2 form for trisyllabic verbs with an L-stem in Tiv. It is interesting to note that the form provided by Arnott for the trisyllabic case with H-stem is the same as the Habitual 3 form. Based on this information, it can be proposed that there are no forms for trisyllabic stems. Although the reason for this gap cannot be explained, it is worth noting that this habitual requires ablaut and vowel alternation, which typically does not apply to trisyllabic stems. Therefore, it appears that the absence of change in the form of the vowel and the lack of it in the Habitual 2 forms are correlated.

Habitual Form 3

The Habitual 3 forms take the plural form of pronominal subjects with a high tone and a downstep. It would appear, at least superficially, that this tense involves spreading an H-tone suffix to all tone-bearing units of the verb. Consider the examples in Table 8 below:

Table 8: Downstep in the Habitual Form 3 in Tiv

H-stem	L-stem
mbá' váá-n 3PL come-HAB 'They come'	mbá' zàà-n 3PL come-HAB 'They go'
mbá' úngwán 3PL hear-HAB 'They hear'	mbá' vëndá-n 3PL refuse-HAB 'They refuse'
mbá' yevese (n) 3PL flee-HAB 'They flee'	mbá' ngohor (n) 3PL accept-HAB 'They accept'

As with other habitual tenses, the Habitual 3 tense is marked with a -H suffix. Similarly, the Habitual 4 and past habitual tenses have an -L+n suffix, which can have an -L+V+n allomorph after monosyllabic stems. The -L+n suffix is optional in the three habitual tenses where it occurs. Arnott (1964) suggests that it is obligatory in the past habitual tense, but Abraham (1940) provides cases where the -Ln suffix is present with trisyllabic stems. Therefore, further research is needed to determine when certain affixes do not appear with trisyllabic verbs. Finally, the Habitual 3 tense is distinguished by adding a second-H suffix, which triggers the raising rule in cases where the -Ln suffix is added.

Habitual Form 4

Habitual 4 is marked by two habitual markers: -H and -Ln. Additionally, the Focus particle 'ka' is an emphatic marker used to indicate the regularity of the action by the subject in the sentence.

Table 9: Downstep in the Habitual Form 4 in Tiv

H-stem	L-stem
ka' vé vá PTCL 3PL come 'They come'	ka' vé zàà-n PTCL 3PL go 'They go'
ka' vé úngwán PTCL 3PL hear 'They hear'	ka' vé vëndán PTCL 3PL refuse 'They refuse'
ka' vé yévése PTCL 3PL flee 'They flee'	ka' vé ngóhór PTCL 3PL accept 'They accept'

Although the Habitual 4 forms have the intervening particle 'ka' as is used above, and differ from the *mba* subject marker used for Habitual 3. The *ka* particle serves as 'do support' in this case, helping to express the habituality in a context such as 'they do come'. In addition, the tense marker of this habitual form is the present tense prefix H-, which was seen earlier for the progressive form.

Examining the habitual forms above, it is evident that there are two notable distinctions between Habitual 1 and Habitual 3. In the case of Habitual 1, it is observed that there is a presence of an H-tone suffix and an absence of spreading. Conversely, in the case of habitual 3, the presence of a high-tone suffix, a segmental suffix-n, and the occurrence of spreading is

noted. As a result, the presence of the -n suffix is linked to spreading. This correlation becomes clearer in the analysis of another habitual form, such as the past habitual.

Past Habitual

The past habitual is distinguished by the addition of the L-tone prefix to the general past tense, as well as the inclusion of two habitual suffixes: the -H suffix, which is present in Habitual 1, and a segmental ‘-n’ suffix that bears an L-tone. Table 10 illustrates the downstep in the past habitual in Tiv.

Table 10: Downstep in the Past Habitual

H-stem	L-stem
vé ¹ váán ‘They used to come’	vé ¹ zààn ‘They used to go’
vé ¹ úngwán ‘They used to hear’	vé vëndán ‘They used to refuse’
vé ¹ yévésé ‘They used to flee’	vé ngóhór ‘They used to accept’

The past habitual is also marked by other markers, such as *yángé* (earlier) with an additional progressive marker to indicate that the action referred to in the past was a habit that occurred over time. The following examples in (15) illustrate this claim:

- (15) a. Yàngè káhà-n sùlè ná hàn má yàngé
ADV till-PROG farm his/her every day
‘S/he used to cultivate his /her field every day’
- b. Yàngé tímèn kwágh kēn tēmbèyà hàn má yàngé
ADV dig-PROG thing in compound every day
‘S/he used to dig in the compound every day’

Although this study's findings show that the habitual in Tiv undulates between H, L, and a combination of H with a downstep, Rolle (2022) indicates that habitual markers are usually analysed as mid-tones, especially in Bantu languages.

Recent Past

The recent past is marked tonally by an H-suffix. In addition, a variation in the vowels of the verbs is observed in this tense. In Table 11, the downstep tone is marked before the verb in the H-stem, but it is absent in some occurrences of the L-stem.

Table 11: Downstep in the Recent Past in Tiv

H-stem	L-stem (A)	L-stem (B)
m ¹ vé I come.PST ‘I came’ (recently)	m ¹ zé I go.PST ‘I went’ (recently)	
m ¹ óngó I hear.PST ‘I heard’ (recently)	m vëndé I come.PST ‘I refused’ (recently)	ve vëndé 3PL refuse.PST ‘They refused’ (recently)
m ¹ yévésè I flee.PST ‘I fled’ (recently)	m ngòhól I accept.PST ‘I accepted’ (recently)	vé ngòhól 3SG accept.PST ‘They accepted’(recently)

From the sentences in Table 12, there are two forms for L-tone stems that have not undergone raising: The (a) form occurs after a subject prefix. The (b) form occurs after a prefix that is lexically H.

The Progressive

As it was previously noted, in Tiv the present progressive is marked by an H-present tense marker and an -*n* progressive aspect marker. Notably, the -*n* suffix is not added to the trisyllabic verbs.

Table 12: Downstep in the Progressive

H-stem	L-stem
mbá ¹ vá'n AUX come-PROG 'They are coming'	mbá ¹ zá-n AUX go-PROG 'They are going'
mbá ¹ úngwá-n AUX hear-PROG 'They are hearing'	mbá ¹ vëndá-n AUX refuse-PROG 'They are refusing'
mbá ¹ yévèsè 3PL flee 'They are fleeing'	mbá ¹ ngóhór AUX accept-PROG 'They are accepting'

The example above confirms that the downstep tone occurs before the verbs in the progressive form. However, only the monosyllabic and disyllabic verbs take the progressive marker. The findings show that Tiv generally aligns with the pattern identified by Welmers (1959) as characteristic of terraced-level languages. However, certain features observed in verbal complexes and other areas suggest that it is more appropriate to characterise the transition from a high to an intermediate level as a downstep rather than a new high or a high change. This distinction is particularly pertinent when the drop to the intermediate level is associated with the preceding syllable rather than the following one.

The analysis of downstep occurrences within verbal complexes across various tenses reveals that, in most instances, downstep occurs between the subject complex and the base. When the subject complex series is identical to, or includes, an element similar to, the copula, downstep is a feature of the subject complement. Furthermore, a study of the tone patterns of the base across different tenses indicates that downstep may sometimes reflect not the lowering of a fundamentally High tone but rather the raising of a fundamentally Low tone. This is highlighted by Arnott (1964), whose study of the incidence of downstep in Tiv reveals that it is a prominent feature of the language, playing a pivotal role in understanding verbal inflection, particularly within the entire verbal system of Tiv.

Similarly, this finding aligns with Cox's (2014) conclusion that tone has a significant influence on the Iceve verb system. The tonal patterns of the verb prefix and verb stem are crucial for distinguishing various grammatical forms and should be accurately represented in the orthography. This study on Tiv, alongside the referenced research on the Iceve languages of the Tivoid language family, underscores the importance of tone within the verb system.

A noteworthy finding distinguishing the Tiv verbal system from several other tone languages is the apparent absence of toneless verbs. While languages such as Kifuliiru (Van Otterloo,

2014), Babanki (Akumbu, Hyman, and Kiessling, 2020), and Ikaan (Salfner, 2009) exhibit complex tonal morphologies, they also have instances where the vowels in some verbs are not tone-bearing units. In contrast, the analysis of Tiv suggests that all vowels within verb forms consistently carry tone.

More importantly, it has been observed that with how relevant tone is and the grammatical role it plays in verbal inflection in the Tiv language, one cannot but agree with Hyman (2016), who notes that “it is expected that anything a segmental affix or process can mark, can also be marked by tone.” These features marked by tone include inflectional marking of subject, object, transitivity, tense, aspect, mood, negation, clause type, and the like, as well as derivational marking of causative, applicative, reciprocal, passive, and other verb forms, as well as processes that derive one word class from another.

5. CONCLUSION

This study has demonstrated that tone functions not only as a lexical property in Tiv verbs but also as a central grammatical exponent of verbal inflection. Through the analysis of elicited paradigms and data, the paper illustrates that tonal melodies systematically indicate distinctions in tense and aspect. Specifically, a low tone on the final syllable signifies the general past, a high-low contour indicates the progressive aspect, and a low-low contour denotes the perfective aspect. Additionally, various habitual forms are differentiated by high-tone suffixation, vowel alternations, and the presence or absence of tonal spreading. Notably, downstep emerges as a robust, terraced-level property with a distinct morphosyntactic scope; it occurs at identifiable junctures, contributes to future and habitual paradigms, and distinguishes between past and perfect/perfective readings. The absence of toneless verbs further emphasises the status of tone as an obligatory exponent within the Tiv verbal system.

The findings support the positing that grammatical melodies function as independent morphophonological units that interact with segmental morphology without being reducible to it. Thus, Tiv provides compelling evidence for the autonomy of grammatical tone in verb inflection and for modelling downstep as a categorical operator, rather than merely a phonetic phenomenon, within the tense/aspect system. Furthermore, the results advocate for the presentation of verb paradigms with explicit tonal specifications in both descriptive grammars and orthographic practices.

Finally, this paper provides a comprehensive overview of verb tone in Tiv, emphasising its distinctive properties and illustrating its fundamental role in delineating various grammatical distinctions, particularly those related to tense and aspect. The tonal system of the language manifests intricate processes, such as tone spreading and downstep, which significantly enhance Tiv verb morphology; the tonal patterns inherent in Tiv verbs embody this complexity. Through an examination of the diverse contributions of verb tone and the presentation of illustrative examples, this study elucidates the functionality of tonal morphology and distinguishes it from non-tonal morphology. Our investigation has uncovered the intricacies of tonal morphology in Tiv, particularly regarding its impact on inflection.

Future research should expand the scope beyond the verb classes explored in this study, integrating instrumental phonetics to quantify pitch scaling and downstep domains, as well as evaluate the productivity of tonal alternations in connected speech. Comparative analyses across Tivoid and broader Bantoid languages would enrich the typology of grammatical tone and clarify its interface with morphology and syntax in Tiv.

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