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Michael Terhemen Angitso[a] & Roland Kießling[b]
Universität Hamburg[ab]
senseimyk@gmail.com
roland.kiessling@uni-hamburg.de

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Towards reconstructing the numeral classifier system of Proto-Tivoid[1]

Michael Terhemen Angitso[a] *& Roland Kießling*[b]

Universität Hamburg[ab]
senseimyk@gmail.com
roland.kiessling@uni-hamburg.de

Abstract:
The Tivoid subgroup of Bantoid presents an evolving numeral classifier system with restricted lexical coverage, as attested for a number of various subgroups of the Benue Congo languages of Nigeria and Cameroon (Kießling 2018). Semantically, these classifiers categorise counted items for their shape and texture (e.g., oblong and rigid vs. flat vs. small and globular) as well as for their aggregation type (bundle vs. heap) and partition (half, piece) with an occasional conflation with the notion of counterexpectual scantiness. On the morphosyntactic and etymological level, they can be seen to develop from full-fledged generic nouns denoting concepts such as LEAF, SEED, FRUIT and HEAP used as head nouns in associative constructions. Eventual loss of nominal properties indexes an incipient functional split of the lexical source item and the newly emergent word class of numeral classifier. A comparison of numeral classifier systems in two Tivoid varieties, i.e. Tiv (Angitso 2020) and Ugare (Angitso & Kießling 2021), reveals both substantial overlap and variation. For example, cognate classifiers such as Tiv *ítíné* (5/6) and Ugare *ítʃín* (5/6), both used for counting longish outgrowths from a base and applicable to items like plantains and hair, allow for a Proto-Tivoid reconstruction, whereas non-cognates such as Tiv *ì-ké* (9/6) 'testicle' vs. Ugare *kù-kwà* (9/10) 'palm nut', both used for counting items such as mangos and cashews, attest to the application of different cognitive models. Based on a comparison of the Tiv classifier system and its Ugare counterpart, the contribution explores the extent to which a numeral classifier system can be reconstructed for the Proto-Tivoid stage.

1 We would like to thank Elizabeth Adzer and Prisca Igelle for contributing their Ugare expertise, the University of Hamburg and the DFG for granting funds that enabled us to carry out the research on which this contribution is based. We are also very grateful to two critical reviewers for their remarks and comments that have helped to improve this contribution considerably.

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1 Introduction

The Tivoid languages form a distinct Southern Bantoid subgroup within the Benue-Congo branch of Niger-Congo (Williamson & Blench 2000: 31). Geographically, they straddle the border of Nigeria and Cameroon extending far into eastern and central Nigeria. With several million L1-speakers, Tiv is one of the major languages of Nigeria enjoying institutional support. It can boast of the best descriptive coverage among Tivoid varieties (see Angitso 2020). Ugare, listed under the xenonym Mesaka in the Ethnologue, is spoken by more than 10,000 speakers on the Cameroonian side of the border (Eberhard et al. 2024). Its descriptive coverage is poor with grammatical sketches by Cassetta & Cassetta 1994a, b, c forming the only available sources so far. While Tiv aligns with a number of demographically much smaller languages such as Iceve, Evand, Itang, Iyive and Ipulo in the Southern Tivoid branch, Ugare seems to form a separate branch of its own within Tivoid (Blench 2016). The internal classification of the entire group still remains to be worked out properly though.

Beside a full-fledged noun class system inherited from their Bantoid predecessor, the Tivoid subgroup presents an evolving numeral classifier system with restricted lexical coverage. Based on a comparison of two varieties, i.e. Tiv and Ugare which represent two different branches of the Tivoid spectrum, we explore their numeral classifier systems and the extent to which a prior system of numeral classifiers may reconstruct at Proto-Tivoid level from their commonalities, i.e. a core of cognate classifier items shared by both Tiv and Ugare.[2] The

2 Two reviewers have expressed reservations about the issue of reconstructing an evolving system of numeral classifiers at Proto-Tivoid level, arguing that the claim of an early stage of development of classifiers in contemporary Tivoid languages contradicts the possibility of reconstruction at Proto-Tivoid level. We regard this as a misunderstanding, as will be justified in the conclusion.

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restriction to Tiv and Ugare is due to the fact that these are the only Tivoid languages for which sufficient data is presently available.[3]

As typical members of Bantoid, Tivoid languages have full-fledged noun class systems with a solid Bantoid etymology and some Tivoid specific complexities, e.g. circumfixation of adnominal noun class markers. Table (1) gives a comparative overview of Tiv and Ugare noun classes, according to the adnominal noun class affixes[4], i.e. prefixes (NPx) and suffixes (NSx), and their corresponding associative markers (AM), as one of the concordial agreement targets. The number of classes ranges between 12 in Tiv and down to 8 in Ugare. Noun class numbering follows the canonical Bantu system according to the Bleek-Meinhof conventions (Katamba 2003).

3 All Ugare data are in audio file form of the wav type. They are sourced from two female speakers, Ms. Elizabeth Adzer and Ms. Prisca Igelle, and have partially been transcribed, translated and analysed in the Fieldworks program (FLEX). Since the first phase of the project fell into the Corona period when personal contact was restricted, the data had to be collected in a distant mode, i.e via telephone and WhatsApp calls from Hamburg (the data collector's location) to Ikyogen in Benue state, Nigeria (Ms. Adzer's location at the time), and Buea in Cameroon (Ms. Igelle's location). During a fieldtrip conducted in 2022 after suspension of Corana-induced restrictions, the data were checked face-to-face with other Ugare speakers. We are very grateful to all Ugare consultants for their cooperation. All Tiv data have either been taken from Angitso 2020 or added by Michael Terhemen Angitso himself.

4 Details of adnominal noun class marking have been suppressed for the sake of clarity, as indicated by [...].

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(1) Tivoid noun class systems: Tiv vs. Ugare

	Tiv			**Ugare**	
	NPx- -NSx	**AM**		**NPx- -NSx**	**AM**
1	*∅-<w>-ɣ̀[…]*	*ù*		*à-, ∅-, v-, […] (-̀)*	*ù=*
1a	*∅- -pè […]*	*pè*			
2	*m̀bà- -v̀[…]*	*m̀bà-*		*(v)à-, (v)é- (-́) […]*	*(v)é=*
3	*ú- -́*	*ú*		*ú- (-́)*	*ú=*
5	*í- -́*	*í*		*í- (-́)*	*í=*
6	*á- -́*	*á*		*á- (-́)*	*é=*
6a	*ḿ- -ḿ*	*m̀mà*		*à-, (-̀) […]*	*è=*
7	*í- -ɣ́*	*kì*		-	-
8	*í- -v́*	*m̀bì*		-	-
9	*ì- -∅/-̀*	*ì*		*∅-, kù-, (-̀) […]*	*ì=*
10	*í- -́*	*í*		*í- (-́)*	*í=*
14	*ú- -v́*	*m̀bù-*			
15	*ú- -ɣ́, í- -ɣ́*	*kù*		-	-

2 The associative construction as source of the Tivoid classifier construction

Before delving into the discussion of the classifiers themselves, it is necessary to briefly outline the formation of Tivoid associative constructions, since they are crucial for the understanding of the classifier constructions which are directly derived from them. Generally, the association of a modifying noun (N2) with a preceding head noun (N1) in an associative construction is marked by two morphosyntactic operations in Tivoid: (i) both nouns are linked by an associative marker that indexes the noun class of the head noun and (ii) the prefix of the modifier noun becomes low (Angitso 2022; Angitso 2020). Since both, associative marker and noun class prefix of N2, tend to undergo fusion, this often results in the formation of a falling contour tone, as seen in the Ugare examples in (2) below.

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(2) Ugare: Tonal noun class suffix deletion in terminal modifier nouns[5]

a. *á-tsŭm* (3/6) 'songs' < *á-tsùm-́*
ú-zwā̆ *â-tsùm*
3-mouth:3 3.AM:6-song
'mouth of songs'

b. *í-nùnú* (9/10) 'birds' < *í-nùnù-́*
í-kwā̆ *î-nùnù*
5-head:5 5.AM:10-bird
'head of birds'

Furthermore, the modifier nouns in most Tivoid languages lose their (mostly tonal) class marking suffixes. In Tiv, this type of suffix deletion is often accompanied by the addition of a noun phrase terminal enclitic[6] that agrees with the class of the head noun under certain conditions, e.g. when noun classes of head noun and modifier noun do not match (Angitso 2023), as exemplified in (3).

(3) Tiv: Noun class suffix deletion in terminal modifier nouns accompanied by insertion of noun class enclitic index of head nouns

a. *í-kɔ̄n-ŭɣ* (7/6a) 'chair'
ú-wē̆-ɣ *kú* *ì-kŏn*
15-hand-15 15.AM 7-chair:ENC
'arm of a chair'

b. *ḿ-ŋgērè-m̄* (6a) 'water'
í-tɔ́ *í* *m̀-ŋgĕ̌*
5-buttock:5 5.AM 6a-water:ENC
'bottom of water'

5 The falling tone on the noun class prefix of the modifier noun (N2) results from two processes. First, the high tone of nouns in N2 position is generally replaced by a low tone. Second, this low tone is preceded by a high tone associative marker, forming a falling contour tone.

6 This enclitic consists of an invariant floating high tone (Angitso 2023) which is accompanied by segmental indexes for a restricted set of noun classes, i.e. 2, 6a, 7, 8, 14 and 15. All other noun classes remain without an agreement index. The invariant floating H tone enclitic is glossed as ENC in (3a–b). As soon as the enclitic also includes a noun class index, it is glossed by its noun class number as in (3c).

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c. *òː-̀* (1/2) ‘person’
ú-wê-ɣ *kú* *òːr=ŭɣ*
15-hand-15 15.AM 1.person=15.ENC
‘hand of a person’

Thus, the noun *í-kɔ̄n-ŭɣ* (7/6a) ‘chair’ loses its noun class suffix *-uɣ* in (3a), while a final high tone is attached as enclitic in agreement with class 15 of the head noun *ú-wê-ɣ* (15/6) ‘hand, arm’, as also shown in Angitso 2023. In (3b), the noun *ḿ-ŋgērè-mn̄* (6a) ‘water’ loses its noun class suffix *-m* (along with additional segments in the root), while an enclitic final high tone is attached in agreement with class 5 of the head noun *í-tʊ́* (5/6) ‘buttock’. The noun *òː(r)-̀* (1/2) ‘person’ (3c) loses its suffix *-̀*, while the head noun *ú-wê-ɣ* (15/6) ‘hand, arm’ triggers the addition of a noun phrase final enclitic of the form *=ŭɣ*.[7] In the Ugare examples in (2) above, the high tone suffixes in ‘songs’ and ‘birds’ are deleted when the nouns occur as final modifiers in associative constructions. In contrast to Tiv, no enclitics appear.

Both languages, Tiv and Ugare, also have concurrent numeral classifier systems, as demonstrated for Ugare in (4). When it comes to counting items such as mussels, for example, it is not enough to simply combine the noun *ù-gwándè* ‘mussel’ with the numeral *twám* ‘one’. Instead, it must be accompanied by a sortal classifier which has to be *ú-gbéndé* in this case (4a). Its absence in (4b) results in ungrammaticality.

(4) Ugare: sortal classifier *ú-gbéndé* (3/6) ‘muscle’ for items with bulging shape

a. *ú-gbéndé* *=́* *ù-gwándè* *ú-twăm*
3-CLF<MUSCLE:3 3.AM 3-mussel 3-one
‘one mussel’

b. **ú-gwándè* *ú-twăm*
3-mussel 3-one

7 The allomorph *òːr* of the lexical root *òː* is triggered by the presence of a vowel initial enclitic marker in (3c). The interpretation of the segment /r/ as part of the root rather than part of the enclitic is supported by the fact that an archaic form of the noun *òrò̀* is attested in early Tiv literature, e.g., Judd 1916. In (3a), the enclitic of class 15 *=ŭɣ* is reduced to *=́* by haplology, i.e. to avoid two identical morphemes in sequence in an underlying form **ì-kɔ̀n-úɣ=úɣ* that combines two homonymous markers, i.e. the adnominal suffix of class 7 *-úɣ* and the enclitic marker of class 15 *=úɣ*.

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Morphosyntactically, the Tivoid numeral classifier constructions originate in associative constructions in which the head noun undergoes incipient grammaticalisation as a classifier. Since the head noun generally precedes its modifiers, the resulting classifier system ends up with the constituent order of [CLF N] NUM, i.e. the classifier (CLF) comes first forming an immediate constituent with the enumerated noun (N) following directly, excluding the numeral (NUM) which comes last, as schematized in (5a) and exemplified for Ugare (5b) and Tiv (5c).

(5) Syntax of Tivoid classifier constructions

a. [CLF AM N] NUM < [N_1 AM_1 N_2] NUM

b. *é-gbéndé* *û-kpóró* *á-tâːnì*
6-CLF<MUSCLE:6 6.AM:1-dried.cassava 6-five
'five dried cassavas'

c. *á-sa̰ŋgē* *á-m̀-kě* *á-tâːn*
6-CLF<SEED:6 6.AM-6a-pepper:ENC 6-five
'five pepper fruits.'

It is not only the constituent order that the classifier construction inherits from the associative construction, but also all its morphological properties pertaining to noun class indexation. By virtue of their property as nouns, all classifiers are actually assigned to a noun class and, due to their syntactic status as heads, trigger noun class agreement in the final numeral and in the associative marker (AM) that links the enumerated noun to the preceding classifier. Thus, the Ugare classifier *é-gbéndé* (5/6) 'muscles' in (5b) above requires a floating high tone as associative marker of class 6 that is grounded in the low toned class 3 prefix of the enumerated noun *ùkpóró* (1) 'dried cassava' to form a falling tone here. In both (5b) and (5c), the numeral also shows concordial agreement with the noun class of the classifier, i.e. class 6, neither with class 1 nor with class 6a, i.e. the noun classes of the enumerated nouns.

Both numeral classifiers and evaluative quantifiers form a tighter morphosyntatic unit with the enumerated nouns, to the exclusion of the numeral, as promoted by their syntactic adjacency. This is directly reflected in morphophonological processes that link the classifier with the enumerated noun, as seen in (6) where the floating high tone associative marker for class 6 triggered by the Ugare classi-

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fier *í-ʧín* (5/6) ‘stem’ merges with the initial low tone of the enumerated noun *úlúgú* (3/10) ‘cassava’ to render a falling contour tone (6a).

(6) Tivoid classifier constructions: unit of classifier and enumerated noun

a. Ugare:

é-ʧín	*î-lúgù*	*ú-rùkpá*
6-CLF < STEM:6	6.AM:10-cassava	6-two

‘two cassava plants (with roots)’

b. Tiv:

á-tíné	*â:-lōgō*	*á-tâ:n*
6-CLF < STEM:6	6.AM:1-cassava:ENC	6-five

‘five cassava plants (with roots)’

In Tiv, there is even more evidence in support of the morphosyntactic unit formed by the classifier and the enumerated noun. First, just as in Ugare, fusion of the AM marker and the prefix of the enumerated noun occurs, only that in Tiv, the fusion is restricted to the special case of phonetic identity of both markers as in (6b) where the associative marker *á* and the noun class prefix *à-* of *à-lōgō* are segmentally identical, both merging in *â:-lōgō*. Furthermore, the enclitic triggered by the classifier marks the terminal boundary of the phrasal unit of classifier and enumerated noun to the exclusion of the numeral, as also seen in (6b) where the enclitic is a floating H tone which has the effect to raise the preceding low tones of *à-lògò* to become mid in *à-lōgō*.

In the following we briefly outline the semantic, morphosyntactic and etymological profile of both Tiv and Ugare numeral classifier systems, before we focus on a comparative overview.

3 Numeral classifier types

In contrast to prototypical numeral classifier languages such as Chinese, Japanese and other East and Southeast Asian languages (Bisang 1999) the Tivoid systems are restricted in that classifiers are only used for a subset of nouns. They do not cover the entire nominal lexicon. Furthermore, Tivoid classifiers are etymologically perfectly transparent, since most of them derive – in cognitively motivated ways – from coexistent nouns as in the case of the classifier *ú-gbéndé*

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for items with bulging shape which derives from the ordinary noun *ú-gbéndé* (3/6) ‘muscle’ as in (4).

Basically, two types of numeral classifiers could be distinguished for both Tiv and Ugare: sortal classifiers which apply to nouns of high countability[8], “dividing the inventory of count nouns into semantic classes, each of which is associated with a different classifier” (Gil 2013), and mensural classifiers which provide nouns of low countability with a unit of measure by means of which they may then be counted. In addition, there is a third category of evaluative quantifiers that express scantiness, eventually combined with the notion of contempt. While these are not strictly classifiers, they show considerable parallelism to the classifiers, morphosyntactically, and are thus included here.

3.1 Sortal classifiers

In Ugare, there is an opposition of the classifiers *ítʃín* and *úgbáː*, derived from nouns meaning ‘stem’ and ‘branch’, respectively. The classifier *ítʃín* (5/6) ‘stem’ is used in counting longish outgrowths from a phytho- or zoomorphic base such as *ùnòúrú* (3/10) ‘plantain’ (7a) or *úfò* (3) ‘hair’ (7b).

(7) Ugare: sortal classifier *ítʃín* (5/6) ‘stem’[9]

a. *í-tʃín* *û-nòúrú* *í-twăm*
5-CLF < STEM:5 5.AM:3-plantain 5-one
‘one plantain plant’

8 The distinction of count vs. mass nouns is not a binary one, but has rather been conceived in terms of scales of countability (Allan 1980) and degrees of individuation (Grimm 2018). Moreover, it is neither a purely grammatical issue (count vs. mass nouns) nor a purely ontological one (discrete entity vs. non-discrete substance), but rather requires “a balanced and thorough examination of the relation between grammatical number coding and entity types” (Grimm 2018: 570). While it is still a long way to go for working this out in Tivoid languages, the main parameter taken as an indicator of a higher degree of countability, for the time being, is the presence of a morphologically marked number distinction as enshrined in the Tivoid gender system, i.e. the contrast of nouns that come in singular-plural pairs vs. those that do not.

9 The falling tone on the prefix of the noun denoting the counted item results from two the same processes that affect the prefix of modifier nouns in associative constructions, as described in footnote 5 above.

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b. *é-ʧín* *û-fò* *ú-rùkpá*
6-CLF < STEM:6 6.AM:1-hair 6-two
'two (strands of) hair'

In direct contrast to *ítʃín* (5/6) 'stem', *úgbá:* (3/6) 'branch' applies to longish outgrowths that are separated from their base, as is the case for *èndérɨ́* (1/2) 'spinach' (8a) and *úfò* (3) 'hair' (8b) when trimmed off from their roots. In Tiv, *gbâ* (1/2) 'branch' is not a classifier.

(8) Ugare: sortal classifier *úgbá:* (3/6) 'branch'

a. *ú-gbá:* *ê-ndérɨ́* *ú-twăm*
3-CLF < BRANCH:3 3.AM:1-spinach 3-one
'one spinach (without root)'

b. *á-gbɨ̄:* *û-fò* *ú-rùkpá*
6-CLF < BRANCH:6 6.AM:1-hair 6-two
'two strands of hair (without roots)'

The Tiv noun *ítíné* (5/6) 'stem' is directly cognate to Ugare *ítʃín* (5/6) 'stem' and also shares its grammaticalisation as a sortal classifier used in counting longish outgrowths from a phytho- or zoomorphic base such as *àlŭm* (1/2) 'orange' and *í-ʧɛ̆:* (5) 'hair' in (9a, b). In contrast to Ugare, though, the Tiv cognate *gbâ* (1/6) 'branch' does not function as a numeral classifier. Instead, the semantic contrast of outgrowths connected to their base vs. outgrowths separated from their base is encoded via the use of the classifier *ú-kón* 'stick/tree' (3/10), as in (9c) which directly contrasts with (9a).

(9) Tiv: sortal classifier *í-tíné-ˊ* (5/6) 'stem'

a. *í-tíné* *í* *àlŭm* *í-mɔ̄m*
5-CLF < STEM:5 5.AM 1.orange:ENC 5-one
'one orange plant (in situ)'

b. *á-tíné* *á* *ì-ʧɛ̆:* *á-há:*
6-CLF < STEM:6 6.AM 5-hair:ENC 6-two
'two hairs (in situ)'

c. *ú-kón* *ú* *à-lŭm* *ú-mɔ̄m*
3-CLF < STICK:3 3.AM 1-orange:ENC 3-one
'one orange tree (detached from its root)'

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3.2 Mensural classifiers

Apart from sortal classifiers, Tivoid also has mensural classifiers for different types of aggregation (bunch, heap, bundle) or partition (broken half), as exemplified with the Ugare item *ú-túm* (3/10) 'bunch' used for palm fruits (10a) and plantains (10b), i.e. items that naturally come in such constellations, and with the Tiv item *tíhì* (1/6) 'unbanded pile' used for any items that can be assembled in such aggregation, e.g. pepper (9). This also includes items that are gathered in such constellations as illustrated with the Tiv item *tíhì* (1/6) 'unbanded pile' used for 'pepper' (11).

(10) Ugare: mensural classifier *ú-túm* (3/10) 'bunch'

a. *ú-túm* *î-vírè* *ú-twăm*
3-CLF<BUNCH:3 3.AM:10-palm.fruit 3-one
'one bunch of palm fruits'

b. *í-túm* *î-nòúrú* *í-tárén*
10-CLF<BUNCH:10 10.AM:10-plantain 10-three
'three bunches of plantains'

(11) Tiv: mensural classifier ∅*-tíhì* (1/6) 'unbanded pile'

a. ∅*-tíhì* *ù* *m̀-kě* *mə̌m*
1-CLF<UNBANDED.PILE:1 1.AM 6a-pepper:ENC 1:one
'one pile of pepper'

b. *á-tīhī* *á* *m̀-kě* *á-há:*
6-CLF<UNBANDED.PILE:6 6.AM 6a-pepper:ENC 6-two
'two piles of pepper'

3.3 Evaluative quantifiers

In addition to sortal and mensural numeral classifiers, Tivoid languages still have another category with classifier potential, i.e. evaluative quantifiers, as demonstrated for Ugare in (12) and for Tiv in (13). Two quantifiers, i.e. Ugare *ú-gbéŋgérɨ́* (3/6) 'fishing hook' (12a–b) and *ú-gàrɨ́* (3/6) 'longish slender (semi-)flexible item'[10] (12c) and Tiv *ú-gbéŋgé* (3/6) 'single item' (13a–b) and *gwàr* (1/6) 'longish slender (semi-)flexible item' (13c), respectively, denote disappointingly low and scanty amounts and thus might be subsumed as "scantifiers".

10 The vowel alternation within the root reflects a fossilized morphophonological process that is not well understood so far.

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Both can apply to just any item, whereas the third one, i.e. Ugare *ú-fíám* (3/10) 'grain' in (12d) and Tiv *í-ʃám* (5/10) 'grain' in (13d), are rigidly restricted to people and items such as coins in their function as quantifiers for an incalculably vast number of single items.

(12) Ugare: Evaluative quantifier usage

a. *ú-gbéŋgérɨ̂* *û-nò* *ú-twăm*
3-EQ < FISHING.HOOK:3 3.AM:3-yam 3-one
'one wretched single yam'

b. *é-gbéŋgérɨ̂* *û-nò* *ú-rùkpá*
6-EQ < FISHING.HOOK:6 6.AM:3-yam 6-two
'two wretched single yams'

c. *á-gèrɨ̂* *ê-nèr* *á-tárên*
6-EQ < SLENDER.FLEXIBLE:6 6.AM:1-person 6-three
'just three people (when expecting more)'

d. *í-fíám* *ê-nèr*
10-EQ < GRAIN:10 10.AM:2-person
'multitude of people'

(13) Tiv: Evaluative quantifier usage

a. *ú-gbéŋgé* *ú* *ì-yǒ* *mɔ́m*
3-EQ < SINGLE:3 3.AM 7-yam:ENC 3:one
'one (wretched) single yam'

b. *á-gbéŋgé* *á* *ì-yǒ* *á-tá:*
6-EQ < SINGLE:6 6.AM 7-yam:ENC 6-three
'three (wretched) single yams'

c. *á-gár* *á* *ì-ǒ:* *á-tá:*
6-EQ < SLENDER.FLEXIBLE:6 6.AM 2-person:ENC 6-three
'just three people'

d. *í-sám* *í* *ì-ǒ:*
10-grain:10 6.AM 2-person:ENC
'multitude of people'

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4 Formal reflections of incipient functional split

Tivoid sortal and mensural numeral classifiers derive from nouns as is evident from the co-existence of a noun with a formally identical item that is used in a classifier construction. Apart from their different patterns of usage, the emergence of an independent taxonomic classifier category is commonly reflected in nominal decategorization, i.e., the gradual loss of nominal properties in the set of the erstwhile classifying nouns, indexing the functional split of the classifier from its lexical source. Nominal properties affected by this loss generally pertain to (a) syntactic autonomy, (b) noun class / gender cum number distinctions and (c) concordial agreement features (Kießling 2018).

Ugare classifiers seem to retain the full gamut of nominal properties. There is only one exception in which the functional split of the grammatical category from its original lexical source is reflected in a difference in gender affiliation, i.e., the evaluative quantifier *úgbéŋgérí* ‘fishing hook’. In its basic lexical meaning, it is assigned to gender (3/10) as in (14a–b), whereas it shifts to gender (3/6) when used as an evaluative quantifier (15a–b). The difference is only seen in the formal contrast of the lexical plural in class 10, i.e., *í-gbéŋgérí* (14b), vs. the quantifier plural in class 6, i.e. *é-gbéŋgérí* (15b), while the singular neutralizes the opposition in the common form of class 3, i.e. *ú-gbéŋgérí* (14a, 15a).

(14) Ugare: Lexical item *úgbéŋgérí* (3/10) ‘fishing hook’

a. *ú-gbéŋgérî ʤɔ̄n*
3-hook:3 3.AM:John
‘John’s fishing hook’

b. *í-gbéŋgérî ʤɔ̄n*
10-fishing.hook:10 10.AM:John
‘John’s fishing hooks’

(15) Ugare: Evaluative quantifier *úgbéŋgérí* (3/6) derived from lexical item *úgbéŋgérí* (3/10) ‘fishing hook’

a. *ú-gbéŋgérí* *û-nò* *ú-twǎm*
3-EQ < FISHING.HOOK:3 3.AM:3-yam 3-one
‘one wretched single yam’

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b. *é-gbéŋgérɨ́* *û-nò* *ú-rùkpá*
6-EQ < FISHING.HOOK:6 6.AM:3-yam 6-two
'two wretched single yams'

The Tiv cognate of this item, i.e. *ú-gbéŋgé:* (3~9/6) 'single item', is retained only in its quantifier function, as illustrated in (16). However, its nominal origin is clearly reflected in the genuine nominal properties it displays, i.e. it bears an adnominal noun class prefix *u-* that alternates with *a-* in the plural and it triggers concordial agreement in the associative marker and the numeral. There is another detail still that betrays its prior nominal origin, namely the fact that this quantifier alternates for noun class assignment in the singular, according to semantic features in the enumerated noun. Thus, the singular form *ú-gbéŋgé:* of class 3 is required for counting items such as *íyòŭy* (7/6a) 'yam' in (16a–b), whereas the form *ì-gbèŋgé:* of class 9 is used for counting items such as *àbá:ʧá:* (6) 'letters (of alphabet)' in (16c–d). The plural neutralizes the opposition in the common form of class 6, i.e. *á-gbéŋgé:* (16b, d). It seems that the alternation of class 3 vs. class 9 retains some derivational contrast inherited from the prior nominal source items. Synchronically though, we have a quantifier that alternates according to the enumerated noun.

(16) Tiv: quantifier alternation *ú-gbéŋgé:* ~ *ì-gbèŋgé:/á-gbéŋgé:* (3~9/6) 'single item'

a. *ú-gbéŋgé:* *ú* *ì-yŏ* *mɔ́m*
3-EQ < SINGLE:3 3.AM 7-yam:ENC 3:one
'a single yam'

b. *á-gbéŋgé:* *á* *ì-yŏ* *á-há:*
6-EQ < SINGLE:6 6.AM 7-yam:ENC 6-two
'single yams'

c. *ì-gbèŋgé:* *ì* *àbá:ʧá:* *ì-mɔ̆m*
9-EQ < SINGLE:9 9.AM 6.letter:ENC 9-one
'a single letter'

d. *á-gbéŋgé:* *á* *àbá:ʧá:* *á-há:*
6-EQ < SINGLE:6 6.AM 6.letter:ENC 6-two
'single letters'

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5 Range of alternations in the application of classifiers

Tivoid sortal numeral classifiers display derivational properties, in that their alternation can be used to activate or highlight specific semantic aspects of the enumerated noun. In Tiv for example, the use of the classifier *ítíné* (5/6) 'stem' vs. *ítyáméɣ* (7/6) 'fruit' in application to the item *àtsākā* (1/2) 'potato' brings out the contrast of the potato plant (17a) vs. the potato tuber (17b).

(17) Tiv: contrast of classifiers *ítíné* (5/6) 'stem' vs. *ítáméɣ* (7/6) 'fruit'

a.	*í-tíné*	*í*	*àtsākă*	*í-mɔ̄m*
	5-CLF < STEM:5	5.AM	1.potato:ENC	5-one
	'one potato plant'			
b.	*í-tám-éɣ*	*kì*	*àtsākă-ɣ*	*í-mɔ̄m*
	7-CLF < FRUIT-7	7.AM	1.potato-7.ENC	5-one
	'one potato tuber'			

In Ugare, the application of the classifier *ítʃín* (5/6) 'stem' vs. *úgbáː* (3/6) 'branch' brings out a contrast of whether a longish phytho- or zoomorphic outgrowth such as *úfò* (3) 'hair' remains in situ in its natural context (18a) or whether it has been cut off and removed (18b).

(18) Ugare: contrast of classifiers *ítʃín* (5/6) 'stem' vs. *úgbáː* (3/6) 'branch'

a.	*í-tʃín*	*û-fò*	*í-twăm*
	5-CLF < STEM:5	5.AM:3-hair	5-one
	'one stand of hair (with root)'		
b.	*ú-gbáː*	*û-fò*	*ú-twăm*
	3-CLF < SEED:3	3.AM:3-hair	3-one
	'one hair (without root)'		

In Tiv, the classifier *ítíné* (5/6) 'stem' is used to count phytho- or zoomorphic outgrowths such as 'hair' (19a) and 'mango' (19d) that remain in situ in their natural contexts; as soon as they are detached from their bases or roots, they have to be counted by the classifier *úkón* (3/10) 'stick/tree' (Angitso 2020) instead as in (19b, e, f). When hair are found in food, though, they are counted with the evaluative quantifier *gwàr* (1/6) 'fibre' (19c) in which case the person uttering (19c) would have the expectation to find even more hair in his/her

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soup, in accordance with the characterisation of *gwàr* as "scantifier" denoting a disappointingly low and scanty amount of items.

(19) Tiv: contrast of classifiers *ítíné* (5/6) 'stem' vs. *úkón* (3/10) 'stick/tree' vs. *gwàr* (1/6) 'fibre'

a. *í-tíné* *í* *à-lŭm* *í-mɔ́m*
5-CLF<STEM:5 5.AM 1-orange:ENC 5-one
'one orange tree (in situ)'

b. *ú-kón* *ú* *à-lŭm* *ú-mɔ̄m*
3-CLF<STICK:3 3.AM 1-orange:ENC 3-one
'one orange tree (detached from its root)'

c. *g<w>àr* *ù* *ì-ʧě* *mŏm*
1.EQ<SLENDER.FLEXIBLE:1 1.AM 5-hair:ENC 1:one
'just one strand of hair'

d. *í-tíné* *í* *(ú-kón* *ú)* *māngŏ*
5-CLF<STEM:5 5.AM (3-stick:3 3.AM) 1.mango:ENC
ú-mɔ́m
3-one
'one mango tree (with root)'

e. *ú-kón* *ú* *māngŏ* *ú-mɔ̄m*
3-CLF<STICK:3 3.AM 1.mango:ENC 3-one
'one mango tree (without root)'

f. *ú-kón* *ú* *ì-ʃàsĕ* *ú-mɔ̄m*
3-CLF<STICK:3 3.AM 9-cashew:ENC 3-one
'one cashew tree (without root)'

6 A comparative perspective on Tivoid numeral classifiers

Having outlined basic typological properties of the Tivoid numeral classifier systems found in Tiv and Ugare, we zoom in on comparative aspects of sortal (6.1) and mensural (6.2) classifiers as well as on evaluative quantifiers (6.3).

6.1 Sortal numeral classifiers

Tiv and Ugare sortal classifiers reveal a considerable degree of congruence. It is not only categories that match, but also forms. Formal

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matches may be genuine cognates or they result from borrowing – which is difficult to tease apart at the present stage due to the absence of robust Tivoid reconstructions.[11]

Table (22) presents the sortal numeral classifiers of Tiv and Ugare arranged according to their semantics, i.e. their convergent range of application, as specified in the first slot. The second slot gives the meanings of their lexical source items, as they are attested in both Tiv and Ugare forms that follow in slots 3 and 4. The last slot presents a guess at the Proto-Tivoid predecessor forms.

11 For a proper application of the historical method, it would be necessary to draw on established sound correspondences within Tivoid, but no such thing seems to be available so far. So all we can do here is assemble look-alikes as potential cognates.

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(20) Cross-Tivoid comparison of sortal classifiers

Range of application: examples	source meaning	Ugare	Tiv	Proto-Tivoid guess
longish outgrowth from a base (root): plantain, hair […]	‘stem’	*í-ʧín* (5/6)	*í-tíné-˝* (5/6)	**í-tíné(-í)* (5/6)
longish outgrowth separated from its base: hair, branch, spinach […]	‘branch’	*ú-gbáː* (3/6)	[∅*-gbáː-ˋ* (1/6)]	[**ú-gbáː* (3/6)]
small globular objects: bean, nut, button, […]	‘seed’	*í-ʃǎɣ* (5/6)	*ì-sàŋgè* (9/6)	**á-sàŋgè(-á)* (??/6)
ovate botanical products and formations (esp. from dough and liquid): potato, buns [...]	‘fruit’	∅*-tàm* (9/6)	*í-tám-éɣ* (7/6)	**í-tám-ék* (7/6)
objects with curved or bulging outline: pod, mussel, kernel of nut types, tortoise shell […]	‘muscle’	*ú-gbéndé* (3/6)	*í-gbéndé-ɣ˝* (7/6)	**?-gbéndé-?* (??/6)
oblong rigid objects (esp. food items): cassava, cricket […]	‘stick’	*ú-téː* (3/10)	*ú-kón-˝* (3/10)	**ú-??* (3/10)
flat objects: paper, food wrapped in leaves […]	‘leaf’	*í-yán* (5/6)	*ú-ká-˝* (3/10)	**??* (??/??)
plants calyxes and pods: bombax, locust beans, ironwood […]	‘amulet’	*ì-kpāːrī* (1/6)	*ì-kpāːɣ* (9/6)	**ì-kpáː* (9/6)
seeds of stone fruits: mango, cashew, African pear, raffia palm nut […]	-	*kù-kwà* (9/10) ‘palm nut’	*ì-ké* (9/6) ‘testicle’	**??* (??/??)
convex items and fittings into them: mush-room, earring	-	*ú-tú* (3/2) ‘ear’	n.a.	-
small insects: black ant, bee […]	-	n.a.	∅*-òː* (1/2) ‘person’	-

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The following observations can be made on Table 16:

First, there is considerable overlap in category and form. Both Ugare and Tiv share a classifier for outgrowths linked to their trunk that is based on the same source model stem and even derived from cognate lexical items. Formal and functional parallels allow for reconstructing a Proto-Tivoid classifier **í-tíné(-í)* (5/6) 'stem' – under the assumption of regular Ugare palatalisation and spirantisation of t in high front vowel environment.[12] The final vowel in the Tiv reflex *í-tíné-́* (5/6) that contrasts with its absence in the Ugare cognate *í-ʧín* (5/6) could either reflect a general process of apocope, i.e. deletion of final segments, in Ugare,[13] or else a fossilized retention of an adnominal suffix for class 5, as is attested elsewhere in Tiv, e.g. by the class 7 suffix *-(e)ɣ* in the items for 'fruit' and 'muscle'.[14]

A similar convergence of classifier categories and their source in cognate nouns can be seen with the items SEED, FRUIT and MUSCLE for contrasting small globular objects vs. ovate botanical products vs. objects with curved or bulging outline. These would indeed be candidates for reconstruction at the Proto-Tivoid level.

The classifier contrast of oblong rigid objects vs. flat flexible objects is also shared by both Tiv and Ugare, and in both cases identical cognitive models apply, i.e. STICK vs. LEAF. However, the lexical items from which the classifiers are derived are not cognate. In order to form a historical hypothesis here, additional data from other Tivoid varieties are required.

More divergence still can be observed in the classifier for seeds of stone fruits such as mango. In this case, it is only the category that is shared by both languages. Neither the cognitive source model nor the lexical source item match. The Ugare exponent derives from the concept palm nut, while the Tiv item derives from the concept TESTICLE.

Further instances of divergence pertain to the range of nouns to which individual classifiers apply. For instance, Ugare *ù-gbèŋgérí*

12 This is confirmed by parallel correspondences of Tiv /t/ and Ugare /tʃ/ reflecting Ugare palatalization, e.g. Tiv *í-tʸúná* vs. Ugare *í-ʧón* 'bitterleaf'.

13 This assumption may be supported by other cases such as Tiv *súlè* 'coin' vs. Ugare *súr*, both borrowed from Hausa.

14 Apart from the floating final H tone in the Tiv form, there is no supportive evidence, so far, for segmental relics of a noun class 5 suffix. So the preliminary assumption of a high toned suffix **-í* in class 5 remains a hypothesis here.

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'calyx of west African Bombax' is counted by the classifier *í-kwáv* (5/6) 'skin' (not included in the discussion above due to its marginality). The Tiv cognate *gèŋgê:* is rather counted with the sortal classifier MUSCLE. Another instance of variation pertains to the Ugare classifier EAR which is absent in Tiv.

The palatalisation in Tiv *í-gbéndé-ɣ* 'muscle' is due to the influence of the adnominal prefix *í-* of noun class 7. So it disappears in plural contexts after the prefix *á-* of noun class 6 in *á-gbéndé*.

Some of the tonal differences seem to have been caused by morphotonological adaptations triggered by noun class re-assignment. Thus, the low tone in Ugare ∅*-tàm* (9/6) 'fruit', cognate to Tiv *í-tám-éɣ* (7/6), most probably results from spreading of the low tone of an erstwhile noun class 9 prefix in a Pre-Ugare form **ì-tám*, (9/6). The Tiv cognate *í-tám-éɣ* (7/6) points to an original affiliation of the noun to gender 7/6 which justifies a preliminary Proto-Tivoid reconstruction **í-tám-ék* (7/6). Along similar lines, the tonal differences in the reflexes of **á-sàŋgè-(á)* 'seeds' can be accounted for by differences in the application of tone spreading from adnominal noun class affixes. The final high tone component in Ugare *í-ʃǎɣ* (5/6) 'seed' seems to be the terminal trace of the erstwhile high tone noun class suffix in a predecessor form **í-ʃàɣ-́*, while the noun class prefix does not spread at all. This must have been different in Tiv, where high and low tone spreading from both noun class prefixes and suffixes must be invoked to account for the tonal contrast of singular *ì-sàŋgè* (9) 'seed' vs. *á-sáŋgé* (6) 'seeds'.

Reconstruction of classifiers for oblong rigid objects vs. flat objects, originating in the cognitive models STICK and LEAF, respectively, seems insecure for Proto-Tivoid at the present stage, since non-cognation of the source items in Tiv and Ugare rather suggests areal diffusion by calquing. Depending on the availability of further Tivoid evidence, however, reconstruction based on the Ugare or the Tiv form may be possible in future.

Even less secure is a reconstruction of a classifier for seeds of stone fruits. While the Ugare and Tiv categories match, their cognitive models are completely different. The corresponding lexical items in both languages, i.e. the Ugare noun *ífér* ~ *áférə́* 'testicle', semantically corresponding to the source noun of the Tiv classifier *ì-ké*, and the Tiv noun *íké* 'palm nut', semantically corresponding to the Ugare classifier *kùkwà* 'palm nut', are not used as classifiers at all.

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A conceptual distinction of outgrowths linked to their trunk vs. outgrowths separated from their trunk is restricted to Ugare with its contrast of classifier items based on the semantic source models STEM vs. BRANCH, while the Tiv cognate for branch, i.e. *∅-gbá:-ˋ* (1/6), does not function as classifier. In the same way, the classifier usage of EAR and PERSON is restricted to Ugare on the one side and Tiv on the other side. So at the present stage of knowledge and in absence of any other Tivoid attestation, none can be reconstructed to the Proto-Tivoid level.

Table (21) presents a condensed comparison of Tiv and Ugare sortal classifiers with respect to three matching criteria, i.e. classifier category, cognitive model and cognate lexical source item. For ease of reference, the classifier meanings are rendered by their lexical source meanings in the first column.

(21) Parametrical matching of sortal classifiers in Tiv and Ugare[15]

Range of application: examples	classifier category	cognitive model	cognate lexical source item
longish outgrowth from a base (root): STEM	+	+	+
small globular objects: SEED	+	+	?
ovate botanical products: FRUIT	+	+	+
objects with curved or bulging outline: MUSCLE	+	+	+
oblong rigid objects: STICK	+	+	-
flat flexible objects: LEAF	+	+	-
Plant calyxes and pods: AMULET	+	+	+
seeds of stone fruits	+	-	n.a.
longish outgrowth separated from its base: BRANCH	-	n.a.	n.a.
convex items	-	n.a	n.a.
small insects	-	n.a	n.a.

Classifiers derived from the lexical items STEM, FRUIT and MUSCLE (and possibly also SEED) match in all three respects, i.e. category (range of application), cognitive model and cognate source item. Classifiers derived from the lexical items STICK and LEAF match in

15 Legend: + indicates that Tiv and Ugare match with respect to the relevant parameter, - means mismatch, ? unclear state of affairs, n.a. not applicable.

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only two respects, i.e. the classifier category and the cognitive model, but do not originate in cognate lexical sources. Regarding the classifier for seeds of stone fruits, Ugare and Tiv only share the classifier category, but no aspect of its lexical source, and classifier categories for convex items, small insects and longish outgrowths separated from their base exist only in one of the two languages.

Table (22) presents the same facts as viewed from the perspective of source items. It shows that cognate lexical source items for the concepts STEM, FRUIT and MUSCLE (and possibly also seed) have grammaticalised to the same type of classifiers in both Tiv and Ugare. The items meaning STICK and LEAF originate in non-cognate lexical items that share the same lexical meaning and show a parallel semantic development as classifiers. Items originating in different concepts such as PALM NUT and TESTICLE converge on the same grammatical target as classifier. Items meaning EAR, PERSON and BRANCH show separate grammaticalisation.

(22) Parametrical matching types of sortal classifiers in Tiv and Ugare

Matching type	lexical source items
complete matching	STEM, FRUIT, MUSCLE, AMULET, [?SEED]
functional and semantic matching without cognate source	STICK, LEAF, [?SEED]
functional matching, diverging source model	PALM NUT / TESTICLE
none	EAR, PERSON, BRANCH

6.2 Mensural numeral classifiers

Mensural classifiers for aggregation and partition types diverge widely in Tiv-Ugare comparison, as seen in table (23).

(23) Cross-Tivoid comparison of mensural classifiers

Meaning	Ugare	Tiv	Proto-Tivoid
tied bundle	*ú-gǎn* (3/6) ‘bundle’	*ì-kà:* (9/6) ‘banded pile’	??
tied bundle of leaf-like items	*í-bámbérɨ́* (5/6) ‘item with a flat surface glued to another one’		??
unbanded pile	*ì-krù* (1/2)	*ì-tɨ̄hì* (9/6)	??

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Meaning	Ugare	Tiv	Proto-Tivoid
bunch	*ú-túm* (3/10)	*ú-súmé-ɣ* (15/6)	??
item broken in half	*ú-mbéɣ* (3/6) 'half'	∅*-bèmbêɣ* (1/6) 'half'	*?-mbéɣ-?* (??/6)

Obvious cognates have only been found for the concept of HALF OF AN ITEM BROKEN IN TWO which may reconstruct as **mbéɣ* or **mbég* of uncertain noun class affiliation (< Proto-Bantu **-bégú* 'seed'?). The Tiv reflex seems to have undergone some type of reduplication.[16] Categorical distinctions shared by both languages include concepts for NATURALLY OCCURRING BUNCH vs. HEAP or PILE vs. BUNDLE OF ITEMS TIED TOGETHER. Ugare stands out by a shape driven distinction for tied bundles according to whether the items involved are flat and leaf-like or otherwise – while Tiv makes no such distinction. In order to come to any historical hypotheses here, more data from other Tivoid varieties are needed.

6.3 Evaluative quantifiers

The system of evaluative quantifiers is remarkably homogeneous in Tiv and Ugare. There are three contrastive categories: two for concepts of deficient or scanty low numbers of items vs. an incalculably vast number. The two "scantifiers" differ with respect to an additional negative connotation in the first one. All of them seem to derive transparently from cognate nouns that allow for a preliminary reconstruction at Proto-Tivoid level, as indicated in the last column of table (24). The only semantic difference is that the neutral "scantifier" in Tiv retains the haptic notion of slenderness inherited from the meaning of its source item 'fiber', as reflected in its restriction to quantifying items such as hair, rope and broom sticks, whereas the Ugare cognate seems to have lost this restriction to slender items altogether. The quantifier for an incalculably vast number of single items is rigidly restricted to items such as people and coins and this restriction is shared by both Tiv and Ugare.

16 Neither Tiv nor Ugare differentiate partitional classifiers for the mode of separation, i.e. whether the part is cut off short or lengthwise or whether it is broken off, as in Ngəmba, a Ghomala' variety of Eastern Grassfields Bantu that has innovated a comparable system of numeral classifiers.

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(24) Cross-Tivoid comparison of evaluative quantifiers

Meaning	Ugare	Tiv	Proto-Tivoid
‘disappointingly low amount of useless items’	*ú-gbéŋgérɨ́* (3/6) ‘fishing hook’	*ú-gbéŋgé-ˊ* (3/10) ‘single item’	**ú-gbéŋgérɨ́* (3/??) ‘??’
‘just some few (slender) single items’	*ú-gàrɨ́* (3/6) ‘longish slender (semi-)flexible item’	*∅-gàr* (1/6) ‘longish slender (semi-) flexible item’	**ú-gàr(Ý)* (3/6) ‘fiber’
incalculable vast quantity: fine grains, people, coins	*ú-fíám* (3/10) ‘grain’	*í-sám* (5/10) ‘grain’	**í-fám* (5/10) ‘grain’

While lexical sources for two of the quantifiers correspond directly, i.e. LONGISH SLENDER (SEMI-)FLEXIBLE ITEM and GRAINS, the pejorative “scantifier” shows an unusual etymology in ‘fishing hook’ restricted to Ugare – which seems to have been generalised to ‘single item’ in Tiv already. More comparative data from other Tivoid languages is needed to support this etymology.

Formally, all items in table (26) seem to be cognate. Phonological variations are attributed to sound correspondences whose regular nature can preliminarily be assumed on the basis of their recurrence elsewhere. Thus, the formal difference in the evaluative quantifier for a ‘disappointingly low amount of useless items’ is probably due to an Ugare retention of the final syllable *rɨ* that was deleted in modern Tiv, as corroborated by a parallel correspondence of Ugare *ù-bérɨ́* vs. Tiv *ù-búé* ‘pawpaw; pineapple’.

The Tiv reflex of the evaluative quantifier for ‘just some few (slender) single items’, probably derived from Proto-Tivoid **ú-gàr(Ý)* (3/6) ‘fiber’, seems to have undergone deletion of the final vowel which is retained in the Ugare reflex – a process frequently observed in other cases, e.g. Tiv *m̀-sén* ‘prayer’ vs. Ugare *m̀-séní*. Labialisation of the initial root consonant in Tiv gàr results from regular spread of the labial quality of the erstwhile prefix *ù-* of noun class 1.

The modern reflexes of the evaluative classifier for incalculable vast quantities can plausibly be retraced to a Proto-Tivoid source item **í-fám* (5/10) ‘grain’ which must have undergone palatalization of the initial root consonant under influence of the palatal vowel of class 5 prefix *í-* yielding **í-fyám* first. In transition to modern Ugare

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ú-fíám (3/10) ‘grain’, the noun got re-assigned to class 3 retaining the palatalised root consonant as trace of original assignment to class 5. In transition to modern Tiv, the palatalised initial root consonant *fy* was shifted to *ʃ*, as supported by other correspondences, e.g. Ugare *ú-fì-́* vs. Tiv *ì-ʃó:* ‘sorcery’.

7 Conclusion

Both Tiv and Ugare have a restricted numeral classifier system that operates in concurrency to a full-fledged noun class system of the Bantoid type. In most of its aspects it conforms with the profile of restricted numeral classifier systems found in related Bantoid languages such as Ejagham (Watters 1981), Ngiemboon (Vinogradov 2009) and Ngəmba (Mekamgoum & Kießling 2022, Mekamgoum & Kießling 2023). In terms of classificatory categories, enumerated objects are differentiated for their shape (saliently one-dimensional long shape vs. two-dimensional flat shape vs. three-dimensional round shape), their partition and their arrangement or aggregation (heap vs. bunch vs. bundle). In this, the Tivoid systems clearly conform with universal semantic properties of classifiers (Allan 1977: 297; Craig 1994: 567; Aikhenvald 2000: 286–293).

Due to their early stage of development, Tivoid numeral classifier systems are largely transparent etymologically, retaining more “descriptive content” (Seifart 2018: 29) in their classifiers and a higher degree of semantically transparent assignment rules than the inherited noun class system. With respect to lexical source concepts, the classifier items found in Tivoid originate in nouns for concrete objects such as body parts (muscle), in basic level terms, most of which relate to the botanical domain (stem, branch, fruit, leaf, seed, stick), and in terms of aggregation and partition (bunch, bundle, heap, half).

On the morphological level, incipient grammaticalisation is commonly reflected in a gradual loss of nominal properties in classifier nouns, indexing the functional split of the newly emergent word class of numeral classifiers from their lexical sources. This type of nominal de-categorisation is attested to different degrees across Tivoid. While it seems marginal in Ugare, Tiv retains a number of hybrid classifier nouns that have lost their lexical source (Angitso 2020: 304–307), similar as in Ejagham (Watters 1981: 310–313).

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Syntactically, the Tivoid numeral classifier systems originate in associative constructions in which the head noun tends to undergo nominal de-categorisation and incipient grammaticalisation as a classifier. Since the head noun precedes its modifiers in Tivoid generally, the resulting classifier system ends up with the constituent order of [CLF N] NUM, i.e. the classifier (CLF) comes first forming an immediate constituent with the enumerated noun (N) following directly, excluding the numeral (NUM) which comes last. As observed with other Benue Congo numeral classifier languages (Kießling 2018), this type of construction is remarkable in that it violates two prominent generalizations that dominate the general typological debate on numeral classifier systems, i.e. the assumption of adjacency of numerals and classifiers (Aikhenvald 2000: 104–5, following Greenberg 1972 and Allen 1977) and the postulate of an immediate constituency of classifier and numeral in classifier constructions (Dixon 1986; Aikhenvald 2000: 105).

In addition to the sortal and mensural classifiers, Tivoid has a category of evaluative quantifiers that correspond to classifiers functionally by being involved in quantification, and etymologically by their origin in nouns.

Due to the high degree of categorical similarity, especially with regard to the sortal classifiers and the evaluative quantifiers, and their remarkable etymological parallels in Tiv and Ugare, it seems very likely that other Tivoid varieties share the same type of numeral classifier system. It remains to be explored to which extent commonalities across Tivoid classifier systems form part of the genetic inheritance from Proto-Tivoid or rather originate in areal diffusion. The claim that a classifier system is in its early stages of development in some contemporary Tivoid languages does not necessarily exclude the possibility of having a still earlier stage of development, i.e. a smaller set of common core classifier items, reconstructed for an earlier historical horizon that does not extend all too far into the past. Rather on the contrary, the existence of a common set of cognate forms that share common semantic extensions for classifier function in a range of contemporary Tivoid languages allows for the conclusion that these forms, along with their specific semantic extensions for classifier function, could have been established as early as Proto-Tivoid, following general principles of historical reconstruction on the basis of shared form-function units (Hock 1988, Anttila 1989,

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Campbell 1998). Rather than projecting the entirety of contemporary numeral classifier systems into the past, reconstruction is restricted precisely to that subset of all contemporary systems that forms their largest common denominator, i.e. those items that are cognate by form and convergent in their meaning. It is those items that can reasonably be assumed to reflect a common core system at an earlier historical stage, e.g. Proto-Tivoid, that has been retained in the majority of contemporary Tivoid languages, while all modern systems must have expanded and enriched this common core by individual innovations at later stages of development. Admittedly, this account of the Tivoid classifier situation is slanted towards geneticist interpretations. With respect to the general sociolinguistic situation in the Tivoid speaking zone, it goes without saying that the possibility of contact-induced innovation by areal diffusion can definitely not be ruled out as an alternative explanation of shared similarities in contemporary Tivoid classifier systems. But in order to accurately sort out the share of genetic inheritance, i.e. retention from a shared past, vs. the impact of areal diffusion, i.e. innovation inspired by contact among genetically closely related languages, a much higher degree of descriptive coverage will still be needed for all contemporary Tivoid classifier systems as well as the establishment of regular sound correspondences among Tivoid varieties.

Abbreviations

ABR associative bracket, AM associative marker, CLF classifier, ENC enclitic, EQ evaluative quantifier, H high tone, N noun, N1 head noun in associative constructions, N2 modifying noun in associative constructions, NPx adnominal noun class prefix, NSx adnominal noun class suffix, NUM numeral

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