Grammatical voice in Gorum*

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A new analysis for the Gorum verb system is proposed and it is argued that contrary to the established view Gorum has a grammatical voice system similar to the systems found in most other Munda languages. The analysis presented here provides a more regular picture of the verb morphology of Gorum and can be supported by comparative data from other Munda languages. Finally, the new analysis allows a reconstruction of the voice morphology for Proto-Sora-Gorum and partially for Proto-Munda.

1. Introduction

The present article proposes a reanalysis of the verb system of Gorum, a Munda language of India. Languages of the Munda family generally distinguish between active and middle voice forms in their verbal morphology. The voice category is a central part of the verb system of all Munda languages and is relatively similar in the whole family, although it is sometimes phrased in terms of transitive and intransitive instead of voice. Gorum – sometimes with Sora or Gta? – has always been considered exceptional, because according to the prevalent view, it has "neutralized ... the transitive/intransitive inflection contrast altogether" (Anderson 2007: 107). Contrary to this established view, I argue that Gorum features exactly such a voice distinction and that it pervades its whole verb system. Furthermore, the voice system is regular with the active voice suffix *-u* and the middle voice suffix *-nu?* as its base.

The main focus of this article is on the morphological and historical aspects of the Gorum voice system, and especially on the middle voice morpheme *-nu?*. Its exceptional morphophonological behavior hides the regularity and pervasiveness of the voice system and has been the main reason why the system has eluded researchers until now – including the present writer (cf. Anderson and Rau 2008). The new analysis presented here paints a more regular picture of the verbal morphology and shows that the verb

system of Gorum is much less exceptional within its language family than previously thought.

Even though the analysis presented here is fundamentally different from previous discussions of the verb system of Gorum, certain aspects of it can be found in one or more of the accounts of Zide (1972, 1990), Aze (1973), Anderson (2007) and Anderson and Rau (2008). However, none of these has recognized the pervasive active/middle voice distinction in all verb forms and its consequences for the verb system as a whole. Instead, these previous accounts have focussed on parts of what is analyzed here as middle voice and phrased the analysis in terms of intransitivity and affectedness (Zide 1972, 1990; Anderson 2007; Anderson and Rau 2008) or undergoer function in the case of Aze (1973). The present analysis replaces the marginal transitive/intransitive distinction found in the forms called infinitive in all earlier research as well as the affectedness category and shows that intransitive as well as affectedness-marked verb forms are middle voice forms. Aze's (1973) undergoer function resembles the middle voice category more closely, but his analysis and the resulting verb system also differ significantly from the present proposal.

2. Verbal morphology in Gorum

In the analysis presented here, voice marking has a central role in the verbal morphology of Gorum. Besides voice affixes, verbs can carry tense, aspect, mood and negation morphology, as well as a ventive marker. Furthermore, Gorum possesses an elaborate person marking system in which two roles can be marked on one verb form. Generally, speech act participants are marked following an active/stative-like pattern. The third person is mostly unmarked, except for third person plural participants in certain constellations, if they are actors or subjects. The subtleties of this system go beyond the scope of this article and are of no further concern here.

Verb forms in Gorum display a considerable degree of complexity. The four verb forms below give a good overview of the range of possible forms. What follows is a short sketch of the morphological structure of the verb as well as a description of the morphological system that forms the basis for these forms.

(1) *ne-r-ab-so'ɟ-om*
1sA-NEG-CAUS-learn-ACT:2sU
'I will not teach you. / I have not taught you.'

(2) *baʔ-t-aj=gi*
come-ACT:NPST-VEN=3pA
'They will come.'

(3) *mo-laʔ-r-iŋ-aj*
2sA-hit-ACT:PST-1sU-VEN
'You have hit me.'

(4) *imbur-r-aj=ni*
wind-ACT:PST-VEN=PROG
'The wind is blowing.'

Apart from some minor morphosyntactic irregularities, the morphological structure of the verb is regular. The following template gives the structure of the verb and the morphological slots it consists of.

<table>
<tr><td colspan="2">Prefix</td><td colspan="4">Bare Stem</td><td colspan="3">Suffix</td><td colspan="2">Clitics</td></tr>
<tr><td>2</td><td>1</td><td colspan="4"></td><td>1</td><td>2</td><td>3</td><td>1</td><td>2</td></tr>
<tr><td>A</td><td>MOOD</td><td>CAUS</td><td>RDL</td><td>ROOT</td><td>LV</td><td>VOICE:TNS</td><td>U</td><td>VEN</td><td>PL</td><td>PROG</td></tr>
<tr><td colspan="2">Prefix Domain</td><td colspan="4">Stem</td><td colspan="3">Suffix Domain</td><td colspan="2">Enclitics</td></tr>
<tr><td colspan="11">Verb</td></tr>
</table>

Figure 1. The morphological structure of the Gorum verb

In this morphological structure, the bare stem takes the central position. It minimally consists of a root or, in case of loanwords, of the root and the loan verb suffix *-ej* (LV). Additionally, it can contain the reduplicant of the verb root (RDL) and the causative prefix *ab-/ạb-* (CAUS). The bare stem as the central morphological unit is also the main reference point for voice marking. It is prosodically very stable and generally not altered by morphophonological processes. This prosodic stability is crucial for its relation to voice marking.

The rest of the verbal morphology can be understood in relation to the bare stem. Two prefix slots precede the stem. Prefix slot 1, labelled MOOD

in the template, can contain the irrealis mood prefix *aj-* or a negative prefix – for non-past negation the affix *or-* and for past negation *ar-*. The second prefix slot is where the actor prefixes are positioned. The prefix domain is not relevant for voice marking in Gorum and is of no further interest for the present purpose.

The suffix domain, on the other hand, features prominently in the following discussion. It is the location of voice marking, and the other suffixes interact heavily with the voice morphemes. The suffix domain contains three distinct suffix slots. The first position, following the bare stem, is the prime locus of voice marking. This position is shared by the voice suffixes *-u* (ACT) and *-nuʔ* (MID), which are the main subjects of this article, and the tense suffixes *-ru* (PST) and *-tu* (NPST). The interaction between voice and tense morphology is the most complex aspect of voice marking and will be explained in detail below.

The next morphological slot is the position of the undergoer suffixes and the third person subject suffix *-ej*[1] – both are labelled U in the template above. The following slot is occupied by the ventive suffix *-aj* (VEN). The discussion of voice in Gorum is centered on these three suffix positions.

Two clitic positions follow the suffix domain. These formatives have morphosyntactic properties that differ from those of the suffixes. Two different types of plural enclitics occur in the first clitic slot, viz. the third person plural actor clitic *=gi* and the enclitic *=bu*, which marks the plural of addressees in the imperative paradigm. The last morphological slot of the verb is the locus for the progressive enclitic *=ni*.

This is the complete morphological structure of the Gorum verb. Of the four structural domains – prefix domain, bare stem, suffix domain and enclitics – only the bare stem and the suffix domain are of relevance for the understanding of voice in Gorum.

3. The voice system in Gorum

The morphology of virtually all languages of the Munda family features a grammatical voice system and verb forms are marked for either active or middle voice. These two voice categories have been called active and middle in Sora (Ramamurti 1931, Starosta 1967), Santali (Neukom 2001), Gutob (Griffiths 2008), Mundari (Cook 1965) and Kharia (Peterson 2008, 20), while they are called transitive and intransitive in Remo (Fernandez 1968) and in one account of Mundari (Osada 2008). The concrete forma-

tives involved in these voice systems differ considerably, but the morphological structure is reasonably homogeneous across the family. In fact, in all of these languages, with the exception of Sora and Gorum, voice marking is combined with tense marking in the form of tense-voice portmanteau suffixes.

The syntax and semantics of the two voice categories are also comparatively similar over the whole family. Their distribution and their syntactic and semantic effects are determined by the verb class of the lexeme. Many verbs occur only in one of the two categories, while others occur in both. As a rough tendency, active voice is associated with transitive verbs and middle voice with intransitive ones, especially those of posture and motion, but also verbs of grooming. Furthermore, middle voice has a detransitivizing effect on transitive verbs and denotes passive, middle passive, reflexivity, and indirect or self-benefactive middle. Beyond its central function, it can also convey non-volitional semantics or suddenness. Generally, the syntactic and semantic properties of the Munda middle voice characterize it as a typical middle voice system as described by Kemmer (1993). The short sketch given here barely scratches the surface of this complex aspect of grammar in Munda languages and for more information I must refer to the analyses in the description of the individual languages, such as Starosta (1968), Fernandez (1968), Neukom (2001) and especially Peterson (2008, to appear) as the most comprehensive discussion of voice in a Munda language.[2]

For all intents and purposes of cross-linguistic comparison, the situation in Gorum is similar to the one in other Munda languages. Voice is an obligatory category on verb forms in this language. The system distinguishes two voice categories, which will be called active and middle voice. Depending on their class, some verbs occur only in either the active or middle voice, in which case this obligatory category is a purely formal property of this verb, while other verbs can be marked for either active or middle voice. In these cases, voice has significant influence on the syntactic and semantic properties of the verb in question. Generally, active voice is associated with transitive verbs, but also occurs with some intransitive activities and states. Middle voice, on the other hand, is associated with intransitive verbs, especially those of posture, motion and grooming. The following list gives an impression of the lexemes which are associated with a given voice category.

Table 1. Voice categories and corresponding verbs

Active	*jer* 'to run'
	bụtu 'to be hungry'
	aḍaʔ 'to be thirsty'
	imbur 'to blow' (of wind)
Middle	*ḍuku* 'to be, to remain'
	uj 'to go'
	koko 'to sit down, to sit'
	gziŋ 'to wash one's own feet'
Active/Middle	*tgj* 'to give'
	laʔ 'to hit'
	giʼɟ 'to see'
	ruʔ 'to pour'

The first two parts of this list show verbs that occur with only one voice category.[3] The third part lists verbs that occur in both active and middle voice. These are mostly transitive verbs. Middle voice has a clear detransitivizing effect with these lexemes. Predominantly, it denotes reflexivity, middle passive, indirect (self-benefactive) middle or passive.

The following gives some examples for the effect of voice on the syntax and semantics of transitive verbs. Phonologically, the difference between the two voice forms in these sentences is minimal: active voice is unmarked, while a glottal stop or creaky voice phonation of a vowel in the suffix domain indicates middle voice. This often makes it difficult to distinguish these forms for non-native speakers. These examples give a first impression of why the morphology of middle voice marking is the most complex part of the voice system. The issue will be discussed in more detail later. Henceforth I will gloss voice in the first position following the stem irrespective of where it is realized. In any case, for now the crucial aspect in these examples is the voice category of a verb form and its syntactic and semantic effects.

In the examples above, the transitive verb *ruʔ* 'to pour' is in its active usage in (5) a transitive verb with at least an agent and a theme. Additionally, an optional benefactive participant role may be expressed, as can be seen from the object pronoun *eniŋ* in (6). In the middle voice, the verb's argument frame is significantly different. In the first middle voice example (7), the agent and theme role are unaffected by the change of voice. The difference lies with the optional benefactive role which has to be inter-

preted as coreferential with the agent; the sentence must thus be read as a self-benefactive. In (8), a further participant is removed: Here, besides the absence of the optional benefactive, the agent role is missing. This results in an impersonal or middle passive reading of this sentence.[4]

(5) *aḍi* *penḍom=ḍi* *etur* *ruʔ-t-ej*
DET.DIST millet.beer=DEF OBJ pour-ACT:NPST-3pS
'They poured out the millet beer'

(6) *no'd* *eniŋ* *ḍaʔ* *ruʔ-r-iŋ*
3sDIR.PRO 1sOBL.PRO water pour-ACT:PST-1sU
'He poured water for me.'

(7) *ḍaʔ* *ne-ruʔ-ruʔ*
water 1sA-pour-MID:PST
'I took a shower' literally: 'I poured (myself) water.'

(8) *ruʔ-ruʔ* *uij* *enu*
pour-MID:PST go:MID:PST DEM.PROX
'This one was spilled.'

In other sentences the middle voice marking has an even clearer middle passive meaning: In (9), *balbal* 'to warm, to heat' in the active voice has both an agent and a theme. In the middle voice in (10), on the other hand, the agent is syntactically and semantically absent.

(9) *buboŋ=ḍigin* *ḍa'd* *ḍaʔ* *ne-balbal-tu*
child=DEF:PL for water 1sA-warm-ACT:NPST
'I will warm water for the children.'

(10) *balbal-luʔ* *sunnen* *eno'dgi* *ne-ruʔ-tu*
warm-MID:PST COMP 3pOBL.PRO 1sA-pour-ACT:NPST
'When it is warm, I will pour it out for them.'

The middle voice can also bring about passive-like changes to the argument structure, as is exemplified by the verb *gi'ɟ* 'to see'. In (11), the third person plural actor clitic *=gi* denotes the agent of the event of seeing, while the object is left unspecified. In the middle voice form in (12), the same actor clitic denotes the theme participant. Due to the habitual interpre-

tation of the non-past, the middle voice form of the verb *gi'ɟ* 'to see' is read in this case as 'to look like'.

(11) *gi'ɟ-t-aj=gi*
see-ACT:NPST-VEN=3pA
'They will look here'

(12) *rumaŋ* *lukun* *gi'ɟ-t-ɑj=gi*
cat like see-MID:NPST-VEN=3pA
'They look like cats.'

The same lexeme in middle voice with a different combination of tense-aspect morphology can give the semantics 'to be visible', as in (14). (13), for comparison shows the equivalent active voice form. Differences in the contextual frame also contribute to this change in meaning of middle voice.

(13) *gi'ɟ-j-aj=ni*
see-ACT:PST-VEN=PROG
'He/she/it is looking.'

(14) *gi'ɟ-j-ɑj=ni*
see-MID:PST-VEN=PROG
'He/she/it is visible.'

Although the middle forms of *gi'ɟ* 'to see' in (12) and (14) differ in their meaning, the changes to the argument structure as opposed to the one associated with the active voice form are relatively uniform. In both cases, the most agent-like participant is removed, and only the patient-like participant remains. Additionally in (12), the undergoer from the active voice argument structure of the verb becomes the actor argument and is marked by the actor clitic *=gi*. These substantial argument structure alterations are similar to passive constructions. There are, however, no grammatical means to reintroduce the agent as an adjunct.

This cursory treatment of the syntax and semantics of voice in Gorum suffices for the present purpose. The most important point is that its basic properties are as expected from an active/middle voice system (Kemmer 1993). Some lexemes only occur in one voice form, while others occur with both voice categories. In such a case, voice manipulates the argument structure associated with a verb to a substantial degree. Generally, middle voice

has a detransitivizing effect and is associated with passive and reflexive semantics.

Voice marking morphology

As stated earlier, all verb forms in Gorum – except for the bare stem – are marked for either active voice or middle voice. The bare stem occurs as a free form in the complement position of the verb *ɖa* 'to do, to become' in light verb constructions. Furthermore, the bare stem is the basis for all verb forms and the central reference point for voice marking. This morphological unit in its minimal form consists of a root, or, in the case of a loan word, of a root and the loan verb suffix *-ej*. In addition, the bare stem can contain a reduplicant of the root (RDL) and the causative prefix *ab-/ɑ̱b-* (CAUS). The schematic representation of the resulting structure is repeated here in Figure 2 from the complete verb template in Figure 1 above.

BARE STEM
CAUS-RDL-[ROOT-LV]

Figure 2. The bare stem

The bare stem always consists of one or more syllables, and no morphophonological process can alter its prosodic structure:[5] While in the domains of the prefixes and suffixes a hiatus is avoided by vowel deletion, this does not occur at the boundary between these affixes and the stem. This prosodic stability of the bare stem accounts for the behavior of the negative past tense prefix ar- as opposed to that of the causative prefix *ab-/ɑ̱b-* in examples (15)–(18). While the negative is reduced to *r-* to avoid a hiatus in the prefix domain, the causative remains *ɑ̱b-* and a hiatus occurs between the actor prefix ne- and the stem in (18).

(15) *ar-koko-nuʔ*
NEG:PST-sit-MID
'he/she/it did not sit'

(16) *ne-r-koko-nuʔ*
1SA-NEG-sit-MID
'I did not sit.'

(17) *ɑb-koko-ru?*
CAUS-sit-MID:PST
'he/she/it made him/her/it/them sit'

(18) *ne-ɑb-koko-ru?*
1SA-CAUS-sit-MID:PST
'I made him/her/it/them sit'

This prosodic stability of the bare stem also explains why there is no resyllabification if a CVC stem is followed by a vowel. In the suffix domain, the same structure triggers resyllabification. Example (19) shows such a CVC syllable in the suffix domain. In (20), the ventive suffix *-aj* causes resyllabification that distributes the undergoer suffix *-iŋ* over two syllables. Parentheses indicate syllable boundaries.

(19) *(la?)(-t-iŋ)*
hit-ACT:NPST-1SU
'he/she/it will hit me'

(20) *(la?)(-t-i)(ŋ-aj)*
hit-ACT:NPST-1SU-VEN
'he/she/it will hit me'

There is no indication that such a resyllabification happens with the bare stem *ga'd* 'to cut' and the active voice suffix *-u* in (21)

(21) *(ga'd)(-u)*
cut-ACT
'to cut, cutting'

This phonological structure violates the maximal onset principle, which Gorum otherwise adheres to. However, in this case, speakers articulate these two syllables very clearly in slow speech. Further evidence for the syllable structure comes from the presence of the preglottalized stop in this word. In Munda languages, the preglottalized stop /'d/ is generally considered an allophone of the phoneme /ɖ/ that occurs in the coda of a syllable, but cannot occur in the onset. This distribution is also found in the native Gorum vocabulary. However, in most other Munda languages the combination of morphemes phonologically similar to *ga'd* and *-u* would result in

[ga.ɖu] and not [ga'd.u]. Gorum, however, does not show any signs of such a resyllabification.

In summary, the bare stem in Gorum is a self-contained, highly stable prosodic unit. Its morphological boundaries always coincide with syllable boundaries. This holds true for all regular verbs. Only a handful of high frequency items such as *ɖuku* 'to be' and *uj* 'to go' have verb forms in which the prosodic structure of the stem is exceptional. The prosodic stability of the bare stem is central for the understanding of voice marking in Gorum and its history. The bare stem can occur as an independent word in some constructions such as the light verb construction and is the only free-standing form of the verb that does not have voice marking. Apart from this, all other verb forms are marked for voice.

4. The extended stem

The extended stem is formed on the basis of the bare stem by placing one of the voice suffixes *-u* or *-nuʔ* in the morphological slot directly following the bare stem. As stated above, the bare stem is a self-contained, stable prosodic structure, so that there is no significant morphophonological interaction between it and the voice suffixes.

EXTENDED STEM
BARE.STEM-VOICE

Figure 3. The extended stem

The extended stem is best considered a non-finite form and can function as either a nominal form or as the predicate in a purposive clause. It also is the basis of negative, irrealis and other finite verb forms. These verb forms are illustrated in the table below on the example of verbs which are fixedly marked as active or middle, respectively, as well as one verb compatible with either voice suffix.

Table 2. Verb forms directly based on the extended stem

	Active	Middle
Extended Stem	*gaʔ-u* eat-ACT 'to eat; eating'	*koko-nuʔ* sit-MID 'to sit; sitting'
	laʔ-u hit-ACT 'to hit s.o.'	*laʔ-nuʔ* hit-MID 'to hit oneself'
Negative Past	*ar-gaʔ-u* NEG:PST-eat-ACT 'he/she/it did not eat'	*ar-koko-nuʔ* NEG:PST-sit-MID 'he/she/it did not sit'
	ar-laʔ-u NEG:PST-hit-ACT 'he/she/it did not hit him/her/it'	*ar-laʔ-nuʔ* NEG:PST-hit-MID 'he/she/it did not hit himself/herself/itself'
Negative Non-Past	*or-gaʔ-u* NEG:NPST-eat-ACT 'he/she/it will not eat'	*or-koko-nuʔ* NEG:NPST-sit-MID 'he/she/it will not sit'
	or-laʔ-u NEG:NPST-hit-ACT 'he/she/it will not hit him/her/it'	*or-laʔ-nuʔ* NEG:NPST-hit-MID 'he/she/it will not hit himself, herself, itself'
Negative (underspecified for tense)	*ne-r-gaʔ-u* 1SA-NEG-eat-ACT 'I will not/ did not eat'	*ne-r-koko-nuʔ* 1SA-NEG-sit-MID 'I will not/ did not sit'
	ne-r-laʔ-u 1SA-NEG-hit-ACT 'I will not/ did not hit him/her/it'	*ne-r-laʔ-nuʔ* 1SA-NEG-hit-MID 'I will not/ did not hit myself'
Irrealis	*aj-gaʔ-u* IRR-eat-ACT 'he/she/it would eat'	*aj-koko-nuʔ* IRR-sit-MID 'he/she/it would sit'
	aj-laʔ-u IRR-hit-ACT 'he/she/it would hit him/her/it'	*aj-laʔ-nuʔ* IRR-hit-MID 'he/she/it would hit himself, herself, itself'

The combination of the voice affixes and the bare stem is traditionally called the infinitive (e.g. in Aze 1973 or Anderson and Rau 2008), based on its function in purposive clauses. However, since it is also the basis for finite verb forms as those exemplified in Table 2, the term is avoided here, and the unit is called extended stem instead. On its own, however, the extended stem is a non-finite verb form.

All finite forms of Gorum can be understood to be based on the extended stem. However, the two voice suffixes – and, consequently, the right boundary of the extended stem – are morphophonologically very unstable. This makes the identification of the voice marking system difficult, and its regularity hard to perceive.

5. The morphophonology of the extended stem

The two voice suffixes *-u* and *-nuʔ* are morphophonologically unstable. In contrast to the verb forms presented above, they display considerable morphophonological interaction with the suffixes following them. The active voice suffix *-u* is particularly affected by the interaction with other suffixes. The phoneme /u/ is the least specific vowel of Gorum and in unaccented position, the suffix is often realized as [ʊ] or [ə], as in (22). It can also be assimilated to the preceding consonant, as in (23). Furthermore, where *-u* is followed by another suffix with an initial vowel, such as the ventive *-aj* in (24), the /u/, and consequently all phonological substance of the active voice suffix, is deleted.

(22) *don-u* [dɔn.ʊ] or [dɔn.ə]
take-ACT
'to take'

(23) *tą̇j-u* [tą̇j.ɪ]
give-ACT
'to give'

(24) *don-aj* (< *don+u+aj*)
take-ACT:VEN
'to bring'

As a consequence, active voice marking is in most verb forms phonologically zero. Additionally, word-final /u/ is frequently lost in casual

speech. Hence, the /u/ of the active voice suffix *-u* may become zero even if no suffix follows.

The middle voice suffix *-nuʔ* has more phonological substance than its active counterpart. The basic morphological principles for middle voice marking are similar to those described for the active suffix. Morphologically, the middle voice marking occurs in the same position as the active voice suffix. It is positioned in suffix slot 1, following the bare stem, as is demonstrated in examples (25)–(27).

(25) *ɖiʔ-nuʔ*
finish-MID
'to become finished'

(26) *koko-nuʔ*
sit-MID
'to sit down, to sit'

(27) *bas-ej-nuʔ*
smell-LV-MID
'to smell (intr.)'

Similar to its active counterpart, the extended stem, consisting of the bare stem and the suffix -nuʔ, can be seen as the basis for all other middle voice forms. However, its morphophonological properties are considerably different. To account for these differences, it is crucial to understand the behavior of the glottal stop as one instantiation of the more general suprasegmental feature of glottalization.

In Gorum, glottalization is a property of the rhyme and has three phonemic realizations: the glottal stop /ʔ/, creaky voice /V̰/ and preglottalization of voiced obstruents. The last realizations is not relevant for middle voice marking and will not be discussed further. The distribution of the remaining two, glottal stop and creaky voice, in middle voice marking is determined by syllable structure. In open syllables, the glottalization is realized as a glottal stop, resulting in a syllable of the structure CVʔ. On syllables in which the coda position is occupied by another phoneme, glottalization is realized as creaky voice on the nucleus, yielding a CV̰C syllable. This is illustrated in Figure 4, in which glottalization of the rhyme is represented as the privative feature constricted glottis [CG].

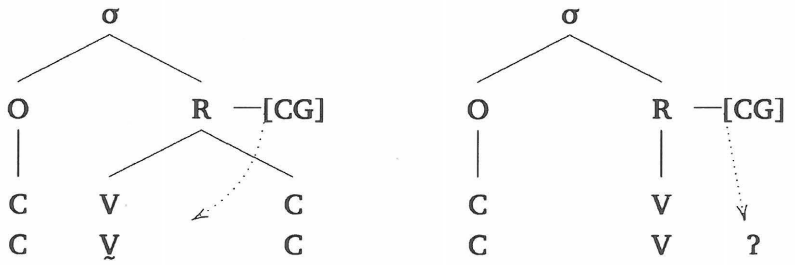

Figure 4. Realization of glottalization in different syllable types

Given the unspecific and phonetically unstable nature of the /u/ and the two possible realization of glottalization, middle marking could – on a very abstract level – be represented as /nVG/. This representation is intended to describe a syllable with the phoneme /n/ in the onset, followed by a glottalized rhyme, where /G/ represents the presence of the glottalization feature [CG] in the rhyme. /u/, the least specific vowel phoneme of Gorum, is the default nucleus. Similar to the active voice suffix -u, it is often realized as [ə]. The glottalization of the rhyme /G/ is realized as a glottal stop if the coda position is not otherwise occupied. If the coda position is occupied by a consonant, the glottal feature is realized as a creaky voice on the nucleus. In cases where the vowel /u/ is deleted due to morphophonological interaction with other suffixes, the phonological realization of the glottalization feature occurs on structures that are morphologically part of other suffixes, which follow the position of the voice markers.

As such, the glottalization is the exceptional aspect of middle voice marking. The /u/ of the middle voice suffix *-nuʔ*, on the other hand, displays the same behavior as the vowel of the active voice suffix. The combination of the voice morphology in suffix slot 1 with the the speech-act participant undergoer suffixes and the third person plural suffix in suffix slot 2 is regular, given the morphophonological behavior of the vowel and the glottalization of the rhyme:

Table 3. Interaction between the voice morphology and person markers

	Active		Middle	
1sU	*-iŋ*	< /u+iŋ/	*-n-i̱ŋ*	< /nVG+iŋ/
2sU	*-om*	< /u+om/	*-n-o̱m*	< /nVG+om/
1pU	*-ileŋ*	< /u+ileŋ/	*-n-iʔleŋ*	< /nVG+ileŋ/
2pU	*-ibeŋ*	< /u+ibeŋ/	*-n-iʔbeŋ*	< /nVG+ibeŋ/
3pS	*-ej*	< /u+ej/	*-n-e̱j*	< /nVG+ej/

The ventive suffix *-aj*, which occupies suffix slot 3, is placed in the position following the undergoer suffixes in suffix slot 2. However, if no suffix occupies suffix slot 2, the ventive directly follows the voice suffixes. In this case, the combination of the middle voice suffix *-nuʔ* and the ventive *-aj* yields /na̱j/, as in (29).

(28) *koko-nuʔ*
sit-MID
'to sit down'

(29) *koko-n-a̱j*
sit-MID-VEN
'to sit down (here)'

The form *-n-a̱j* demonstrates that the prosodic behavior of the glottalization is completely independent of the underlying morphological structure. Since the ventive suffix *-aj* is positioned in slot 3 following the slot of the undergoer suffixes, the combination of the middle voice suffix *-nuʔ* and the ventive suffix is different in its morphological structure from the combination of *-nuʔ* with the person marking suffixes. The first combination involves slot 1 and slot 3, while the second involves the directly adjacent pair slot 1 and slot 2. The prosodic principles that govern the form and placement of the glottalization, however, are identical in both structures.

The respective combinations of the voice markers with the ventive marker demonstrate the similarities and differences between the morphophonology of the active and middle suffixes very well.

Table 4. Interaction between the voice morphology and the ventive suffix

	Active	Middle
without VEN	*-u*	*-nuʔ*
with VEN	*-aj* < /u+aj/	*-n-a̱j* < /u+nVG/

In accordance with the representation of the middle marker as /nVG/, the realization of the glottalization is solely determined by the prosodic structure of the involved suffixes, so that the glottalization can occur on any morpheme that forms the rhyme of the syllable following the bare stem. The form that glottalization takes depends on the phonological structure of that rhyme, with /ʔ/ added directly to open syllables and creaky voice to closed syllables. The only morphological structure that is relevant to the placement of the glottalization is the right boundary of the bare stem. This boundary always coincides with a syllable boundary, so that morphological and prosodic structures are necessarily aligned at this point. For the glottal aspect of voice marking, this is the one crucial reference point in the morphological structure of the verb. Beyond that, the glottalization of the middle voice marker is independent of the morphological structure of the verb's suffix domain. The following template of the suffix domain shows the placement of the glottalization in respect to the morpheme positions, demonstrated with a few morphemes.

Table 5. Possible morpheme combinations in the suffix domain

	Suffix slot 1	Suffix slot 2	Suffix slot 3
-MID	*-nuʔ*		
-MID-VEN	*-n*		*-a̱j*
-MID-1sU-VEN	*-n*	*-i̱ŋ*	*-aj*
-MID-1pU-VEN	*-n*	*-iʔleŋ*	*-aj*

The previous discussion only covers situations in which voice is the only category marked in the first suffix slot. As indicated in the verb template on page 3, there is another category besides voice that appears in the same morphological position, namely tense: The first slot of the suffix domain is

also the locus of the past tense suffix *-ru* and the non-past suffix *-tu*. While the interaction between the active voice marker *-u* and the tense markers is straightforward, a complication arises in the middle voice marking patterns. In fact, I believe this interaction is at the core of the failure to recognize the pervasiveness of the active/middle voice distinction in previous accounts.

The active voice suffix *-u* is completely lost in the presence of a tense suffix. The combination of the middle voice suffix *-nuʔ* with the tense suffixes, on the other hand, is characterized by the disparity between the /nu/ component of the former and its glottalization component. The relevant morphological aspect in this constellation is that the /n(u)/ component of the middle voice suffix is clearly located in the same slot as the past and non-past suffixes, *-ru* and *-tu*, in their respective active forms. However, if a verb is marked by both, a tense suffix and the middle voice, the component /nu/ of the middle voice suffix is replaced by the tense suffixes. This behavior of the /nu/ component contrasts with the glottalization component, which is, as we have seen, independent of the morphological structure and is placed relative to the stem boundary following purely prosodic principles. Since /nu/ cannot co-occur with the tense suffixes, the medium forms of past and non-past can be given as *-ruʔ* and *-tuʔ*, respectively, since the underlying forms are open syllables. These forms differ from their active counterparts only through the presence of the glottal stop coda.

Table 6. Interaction between voice morphology and tense suffixes

	Active	Middle
Extended Stem	*-u*	*-nuʔ*
Past	*-ru*	*-ruʔ*
Non-Past	*-tu*	*-tuʔ*

Except for the glottalization, the active and middle voice forms are thus identical. This glottalization has previously been analyzed as an affectedness morpheme in the accounts of Zide, Anderson and myself. Since the /nu/ of the middle voice marking is missing in these forms, the past and non-past middle voice forms were not recognized as forms representing the same category as the corresponding extended stem with *-nuʔ*. However, the following paradigms of the active verb *jer* 'to run' and the middle verb *koko* 'to sit' show that these forms are indeed all part of a pervasive voice system rather than representing distinct categories.

Table 7. Voice and tense forms

	Active	Middle
Extended Stem	*jer-u* run-ACT 'to run'; 'running'	*koko-nuʔ* sit-MID 'to sit'; 'sitting'
Past	*jer-ru* run-ACT:PST 'He/she/it ran.'	*koko-ruʔ* sit-MID:PST 'He/she/it sat.'
Non-Past	*jer-tu* run-ACT:NPST 'He/she/it will run.'	*koko-tuʔ* sit-MID:NPST 'He/she/it will sit.'

The two tense and middle suffixes *-ruʔ* and *-tuʔ* interact with subsequent suffixes in the same way as *-nuʔ* and can therefore be given the same abstract description for their rhyme.

Table 8. The phonological representation of middle voice tense affixes

MID	*-nuʔ*	/nVG/
MID:PST	*-ruʔ*	/rVG/
MID:NPST	*-tuʔ*	/tVG/

The morphophonological behavior of these three suffixes is identical. The following examples show the position of the affixes and the prosodically motivated placement of the glottalization in combination with other suffixes.

(30) *ne-koko-ruʔ*
1SA-sit-MID:PST
'I sat.'

(31) *koko-r-gj*
sit-MID:PST-VEN
'He/she/it sat.'

(32) *koko-t-ǧj*
sit-MID:NPST-VEN
'He/she/it will sit.'

(33) *ɖuku-r-i̱ŋ*
be-MID:PST-1sU
'I had/possessed ...'

(34) *ɖuku-r-iʔleŋ*
be-MID:PST-1pU
'We had/possessed ...'

6. The irregular verb *duku* 'to be'

Examples (33) and (34) are instances of the irregular verb *ɖuku* 'to be, to remain, to have', which possesses an additional "tense-neutral" form. This form is an exception to the system described above. The general morpho-phonological behavior of *ɖuku* is irregular, as it is one of the very few verbs whose stem is altered through affixation, as in (35).

(35) *ne-ku-ruʔ*
1sA-be-MID:PST
'I was.'

The formation of the extended stem as well as the affixation of the past and non-past suffixes for this lexeme are regular. However, the tense-neutral form does not carry a tense suffix, nor does it display the complete *-nuʔ* suffix: The tense-neutral form blocks the /n/ component of the middle suffix without filling the relevant position. As such, the tense-neutral form differs from the extended stem as shown Table 9.

Table 9. Forms of ɖuku 'to be'

Extended Stem	*ɖuku-nuʔ*
Past	*ɖuku-ruʔ*
Non-Past	*ɖuku-tuʔ*
Neutral	*ɖukuʔ* (< *ɖuku*+Ø+*nuʔ*)

Interestingly, if no further suffix is present, the glottalization occurs on the final /u/, which appears to be part of the stem. On the other hand, this /u/ interacts with following suffixes in a way similar to the /u/ of the tense and voice affixes. The neutral tense form of ɖuku could thus be represented as /ɖukVG/, analogous to the other middle voice forms. Thus, if a vowel-initial suffix follows the tense-neutral form, the glottalization component of the middle voice occurs with this suffix, as in (36).

(36) *ɖuk-iŋ*
be:NEUT:MID-1sU
'I have/possess ...'

7. Voice as a grammatical category in Gorum – Summary

Voice marking in Gorum is a pervasive and mostly regular morphological process. As I have argued, all verb forms are based on the extended stem, which consists of the bare stem and the active voice suffix *-u* or the middle voice suffix *-nuʔ*. Both suffixes interact with the tense morphology that is located in the same morpheme slot. However, the glottalization component of the middle voice marker behaves in a way fundamentally different from the rest of the suffix.

This voice system of Gorum has never been recognized in its full extent. This is remarkable, since virtually all other Munda languages make a distinction between active and middle voice in their verb system. The suffixes *-u* and *-nuʔ* (sometimes represented as *-nu*) have generally been analyzed as transitive and intransitive infinitive suffixes (e.g. Zide 1972, Anderson and Rau 2008). Astonishingly, the categories have not been connected to the voice distinction in other Munda languages, even though it has been phrased in terms of a transitive/intransitive distinction in several of those languages as well. In my view, the source for this problem lies in the misinterpretation of the morphophonological behavior of the middle-marking suffix *-nuʔ*.

As we have seen, there is an apparent difference between the behavior of the /nu/ component of the middle voice marker with its fixed morphological position and its interaction with tense suffixes, and the prosodic nature of the glottalization, which ignores morphological slots. This difference has lead previous accounts to analyze the two components as separate morphemes representing completely different categories: an intransitive

infinitive in the case of *-nu(ʔ)* and affectedness (or undergoer focus) in the case of the glottalization. One problem with this analysis, however, is that the intransitive category is obligatorily connected to affectedness marking. In any case, since the assumed intransitive infinitive and the affectedness morpheme have a similar function, all previous approaches have had to stipulate a connection between the two categories while focussing on the formal, lexical character of the intransitive and the semantico-pragmatically motivated character of the affectedness marker.

This led to a situation where the middle voice in a sentence such as (37) was interpreted as an instance of the affectedness category, while the middle voice in (38) was interpreted as an instance of the category intransitive. This obscures the regularity of the system and the fact that both forms are based on the middle voice form *giˈɟ-nuʔ* 'to be visible, to look like s.th., to be seen' that corresponds to the active *giˈɟ-u* 'to see'.

(37) *giˈɟ-j-ɑj=ni*
see-MID:PST-VEN=PROG
'It is visible'

(38) *aɑuka giˈɟ-n-ɑj ar-luʔn*
shelter see-MID-VEN NEG:PST-lift
'The shelter is not visible'

Under the new analysis, (37) and (38) do not involve different categories such as affectedness and intransitive. They do, however, feature competing progressive constructions in Gorum. The first construction consists of a combination of the past form of a verb, here with the *-ju* allomorph of the past suffix *-ru*, with a clitic *=ni*. Middle voice marking is in this construction reduced to the glottalization /VG/, as the /nu/ part is replaced by an allomorph of the paste tense suffix *-ru*. The second construction combines the extended stem with the auxiliary *luʔn* 'to lift' in a periphrastic construction. In this case, no tense morphology is present, so that the middle voice suffix occurs in its /nVG/ form. Therefore, what is at issue here is not a matter of category, but rather of the form the middle voice marking takes with the extended stem and past verb forms. Both examples thus contain the verb *giˈɟ* 'to see', the middle voice morpheme *-nuʔ* as well as the ventive *-ɑj* and are in progressive form, although the latter is expressed through two different constructions. Apart from that, the examples only differ in grammatical polarity.

The received view for the last forty years thus adhered to an analysis that put these two forms in (37) and (38) in completely different categories. Furthermore, it assumed that Gorum lacked a voice system, even though practically every other Munda language was analyzed as possessing precisely such a system.

The analysis of the verb system presented here thus differs radically from previous analyses by Zide (1990), Aze (1973), Anderson (2007) as well as Anderson and Rau (2008). All these analyses assumed that Gorum has a transitive/intransitive distinction which is only represented in some word forms, such as the infinitive, negative and irrealis forms, as well as in imperatives. This was distinct from the category that is called affectedness by Zide (1990), Anderson (2007) as well as Anderson and Rau (2008), and undergoer focus by Aze (1973). These two categories were viewed as independent parts of the verb system. While the intransitive category seemed to be a formal property of lexemes, affectedness was mostly viewed as an optional category with a more or less specific semantic function. While my analysis is a clear deviation from this traditional view on the verb system of Gorum, it brings Gorum much closer to the other Munda languages. Historical evidence from Sora and the Kherwarian languages supports this analysis. The comparative evidence – especially the connection of *-nuʔ* to the middle voice markers of other Munda languages – is discussed in the following section.

8. The history of voice marking

The active/middle voice distinction in Gorum is not only similar in function and structure to the voice systems of other Munda languages, it can also be connected to them etymologically. As in other Munda languages, the voice system found in Gorum pervades the verb system of finite and non-finite verb forms. The active voice suffix *-u* is difficult to relate to the active marking morphology in other Munda languages, as it is the unmarked vowel and phonologically very unstable – the current understanding of the Munda sound laws does not allow for a reliable reconstruction. However, comparative evidence on middle marking is more telling and strongly suggests that, although Gorum has undergone some morphological changes from the original state, the middle voice marker *-nuʔ* is a reflex of an old middle voice marker. The following discussion lays out the evidence for this conclusion.

In present-day Gorum, voice (VOICE) in the form of the middle voice marker *-nu?* and the active voice *-u* occurs in the first slot of the suffix domain, following the bare stem of the verb. This is the first of three suffix positions, which the voice morphology shares with the tense (TNS) suffixes. The template below summarizes the constellation.

	1	2	3	Clitics
BARE STEM	-TNS/VOICE	-UNDERGOER	-VENTIVE	(=PL)

Figure 5. Suffix domain of the Gorum verb

Evidence from other Munda languages suggests that the middle voice marking suffix *-nu?* is not an innovation of Gorum. Sora, Gorum's closest relative, has a suffix *-n* which is clearly cognate to *-nu?* in Gorum. This suffix is the distinctive feature of one conjugational paradigm in Sora, which is called middle voice (MID) here, as it is the functional equivalent of middle voice in Gorum and other Munda languages. It is identical to paradigm IV in Biligiri (1965).

The verbal system of Sora is considerably different from that of Gorum, even though most of the suffixes involved are cognate with Gorum suffixes. Sora has paradigmatic inflectional patterns that differ with regard to intransitive/middle voice marking, ventive marking and object marking (as in the impersonal paradigm). The interpretation of a given suffix may vary in different inflectional paradigms. This paradigmatic conjugational organization has no direct correspondence in Gorum, where all affix classes combine freely and their interpretation is constant.

Four paradigms are given in the Table 10, following Biligiri (1965). These paradigms are a selection of the paradigms presented by Biligiri (1965) and cover only parts of the complexity of the verbal morphology of Sora. They do however contain all the morphological structure relevant for a comparison of the indicative verb forms of Sora and Gorum. For a description and analysis of the Sora verb system, the reader may consult Stump (2005), who also discusses the multiple functions of the morpheme called middle voice here. As with Gorum, the suffix domain is the relevant part of the verb for the morphology of voice marking. All forms presented here are based on the stem (STEM) with a directly following tense suffix (TNS).

Table 10. Verb paradigms of Sora

	ACT	MID	MID/VEN	IMERSONAL
1 Sg	STEM-TNS-*ay*	STEM-TNS-*n-ay*	STEM-TNS-*n-ay*	STEM-TNS-*iɲ*
2 Sg	STEM-TNS-*ɛ*	STEM-TNS-*n*	STEM-TNS-*n-ay*	STEM-TNS-*əm*
3 Sg	STEM-TNS-*ɛ*	STEM-TNS-*n-ay*	STEM-TNS-*n-ay*	STEM-TNS-*e*
1 Pl incl.	STEM-TNS-*be*	STEM-TNS-*n-be*	STEM-TNS-*n-ay-be*	STEM-TNS-*ay*
1 Pl excl.	*ə*-STEM-TNS-*ay*	*ə*-STEM-TNS-*n*	*ə*-STEM-TNS-*n-ay*	STEM-TNS-*lɛn*
2 Pl	*ə*-STEM-TNS-*ɛ*	*ə*-STEM-TNS-*n*	*ə*-STEM-TNS-*n-ay*	STEM-TNS-*ben*
3 Pl	STEM-TNS-*ɛ-ji*	STEM-TNS-*n-ji*	STEM-TNS-*n-a-ji*	STEM-TNS-*ə-ji*

The paradigm called active voice (ACT) here features the suffix *-ɛ* as the relevant voice morpheme. This suffix is probably cognate to the active voice suffix *-u* in Gorum. Based on Zide 1982, the active voice suffix of Proto-Sora-Gorum has to be reconstructed as **-ə* (see Zide 1982: 332-333 for the relevant correspondences). However, the vocalism of Sora-Gorum is not well understood and the suffix is difficult to relate to other formatives outside of Sora-Gorum. Consequently, this brief discussion of the history of the Gorum active voice must suffice for the present.

The simple middle voice paradigm (MID) in Sora features the middle voice suffix *-n*. The suffix *-n* follows the tense suffixes and is thus positioned in the same slot as the active voice suffix. The Sora middle voice suffix is clearly cognate to the Gorum suffix *-nuʔ*; the Proto-Sora-Gorum suffix can unequivocally be reconstructed as **-n* (cf. Zide 1982: 22). The middle voice ventive paradigm (MID/VEN) adds the ventive suffix *-ay* [-aj] after the voice suffix in all verb forms.[6] This suffix is identical in Sora and Gorum and seems to be an innovation of this branch of Munda languages. The so-called impersonal paradigm has object markers following the tense suffixes. The first person inclusive suffix *-ay* in the impersonal paradigm is probably identical with the ventive suffix *-ay*, which also functions as a first person marker in other paradigms. This suggests that the object markers are in the same morphological slot as the ventive suffix. Following this morphological position, the suffix *-be* marks plural in most of the first person inclusive forms, while the suffix *-ji* [-ɟi] marks third person plural.

Based these paradigms, the suffix domain of Sora can be analyzed with four slots following the stem. The first position after the stem is occupied

by the tense suffixes. The active voice suffix *-ɛ* and the middle voice suffix *-n* follow in the second slot. The third slot can be occupied by either the ventive or the undergoer suffixes and, finally, the fourth position is the place of the plural person suffixes. The structure of the suffix domain in Sora is given in the template below.

	1	2	3	4
STEM	-TNS	-VOICE	-UND/VEN	-PL

Figure 6. Suffix domain of the Sora verb

The main differences between the Gorum and the Sora verbal system pertain to structural aspects and not so much to the form of the markers itself. For instance, tense suffixes and the *-n* middle marker can co-occur in Sora, but are mutually exclusive in Gorum, where only the glottal element of the middle voice suffix *-nuʔ* survives in combination with the tense suffixes. On the other hand, undergoer suffixes and ventive can be marked at the same time in Gorum, while this seems to be impossible in Sora. Furthermore, there is a significant difference between the two Sora formatives *-be* and *-ji* [-ʄi] indicating first and third person plural, respectively, and their Gorum cognates *=bu* and *=gi*. In Sora, these formatives have been analyzed as suffixes by Biligiri (1965). Their Gorum counterparts, on the other hand, are clearly clitics and have distinct morphosyntactic properties setting them apart from the suffixes. Nonetheless, a direct comparison of the two systems clearly shows a common morphological structure from the stem onwards.

		1	2	3	4	5	Clitics
Gorum	BARE STEM	-TNS/VOICE		-U	-VEN		(=PL)
Sora	STEM	-TNS	-VOICE	-U/VEN		-PL	

Figure 7. Comparison of the Gorum and Sora suffix domains

This comparative evidence suggests that the ancestor of Sora and Gorum had four morphological positions following the verb stem and another position for plural marking, which had a different status than the four preceding positions. Since it is more likely that a clitic becomes bound to the verb more closely and turns into a suffix than vice-versa, it is assumed here that Gorum preserves the original status of the plural formatives. Proto-Sora-Gorum thus possessed four suffix slots and one position for

enclitics. The original place of the voice suffixes was in the slot following the tense suffixes and preceding the undergoer and ventive suffixes. The morphological structure of the suffix domain of the verb in Proto-Sora-Gorum thus has to be reconstructed as follows.

	1	2	3	4	Clitics
STEM	-TNS	-VOICE	-U	-VEN	(=PL)
		*-*n* (MID)			
		*-*ə* (ACT)			

Figure 8. Reconstructed Proto-Sora-Gorum suffix domain

The structure found in present-day Gorum, with the voice morphology directly following the stem, is a later development that is the result of the merger of slots 1 and 2. This gives the following historical picture for Gorum:

	1+2	3	4	Clitics
STEM	-[TNS/VOICE]	-U	-VEN	(=PL)

Figure 9. Historical development in Gorum

Supporting evidence for this historical scenario comes from the middle voice morphology of Kherwarian languages such as Santali, Mundari and Ho. Santali, for instance, does not have independent voice markers, but portmanteau markers for tense and voice, like most other Munda languages. Four pairs of these suffixes show a regular correspondence between the active and middle voice form. The below table follows Neukom (2001: 62) and shows a component /n/ in the middle voice suffixes that is missing from their active voice counterparts. Similar suffixes can be found in all Kherwarian languages.

Table 11. Santali tense affixes

	ACTIVE	MIDDLE
PAST	*-ke't*	*-en*
PLUPERFECT	*-le't*	*-len*
PERFECT	*-aka't*	*-akan*
IRREALIS	*-le*	*-len*

The analogy to the situation in Sora-Gorum is striking. Not only do the middle forms contain a reflex of the formative **-n*, but its position also fits the reconstructed morphological structure perfectly. The /n/ follows the material common to both tense forms, suggesting an earlier sequence of a tense morpheme followed by the voice morphology. Thus, even though Santali does not possess an independent middle voice suffix *-n*, the system retains reflexes of precisely such a marker that followed the tense morphemes.

The degree of similarity between the verb systems of Kherwarian and Sora-Gorum is very nicely exemplified by the following two word forms:

(39) *de-le-n* (Sora)
get.up-PST-MID
'he got up' (Biligiri 1965: 235)

(40) *dal-len-a=e* (Santali)
strike-PLUP:MID-IND=3sS
'he had been struck' (Neukom 2001: 79)

The Sora example shows the past tense suffix *-le*, which is cognate to Gorum *-ru* and presumably goes back to a Proto-Sora-Gorum form **-lV*, most likely **-lə*, followed by the middle voice suffix *-n*. The Santali example features the pluperfect middle voice suffix *-len*. The first part of this suffix, *-le*, is common to both the active and middle voice variants of the suffix. Assuming that the Sora past tense suffix *-le* is cognate to this common part of the pluperfect morphemes in Santali, *-le-n* in Sora and *-len* in Santali differ only in that Sora preserves a morpheme boundary that has been lost in Santali. Moreover, other Kherwarian languages such as Mundari (Osada 2008: 119) as well as Ho and Bhumij (Anderson, Osada and Harrison 2008: 221) seem to have preserved this morpheme boundary as well.

Further evidence supporting the reconstruction of the middle voice marker comes from Korku, Juang and Kharia. The Korku intransitive/middle past suffix *-en* (Nagaraja 1999: 71; Zide 2008: 274) and the Juang intransitive/middle simple past suffix *-an* (Patnaik 2008: 531) are parallel to the middle voice past *-en* in Santali. The Juang suffix is the only unequivocal remnant of the middle marker *-n* in South Munda outside of Sora-Gorum. There are other combined tense/voice forms – shared by Juang and Kharia – that could be related to the middle voice formatives containing **-n*, namely the Juang intransitive/middle simple future *-na* (Patnaik 2008: 531) and the similar irrealis middle clitic *=na* in Kharia (Peterson 2008: 462). However, in this case the /n/ is morpheme-initial, setting the suffixes in question apart from all other tense-voice portmanteau suffixes. This makes the connection somewhat dubious, though still possible.

In summary, the comparative evidence suggests that Munda had a middle voice marking suffix **-n* that is well preserved in Sora-Gorum as well as in Santali and other Kherwarian languages and seems to have left traces in Korku, Kharia and Juang. The suffix has been entirely lost in Gutob, Remo and Gta?, which are, geographically speaking, the closest neighbors of Gorum. The data also suggest a morphological reconstruction in which the voice morphology – or at least the middle marker **-n* – followed the tense-aspect suffixes. This system is well preserved in Sora and partially preserved in fossilized form in Santali and other Kherwarian languages. The reconstruction of the morphological structure of the Proto-Sora-Gorum verb is thus confirmed by comparative evidence from all major branches of the family except Gutob, Remo and Gta?. All reconstructions of the Munda family assume a primary branching into North Munda (Kherwarian languages and Korku) and South Munda (including, Gorum, Sora, Kharia, Gutob). The data from Proto-Sora-Gorum and Kherwarian allow the first two slots of the reconstructed suffix domain of the Proto-Sora-Gorum verb to be posited for Proto-Munda. The restricted reconstruction is given in the template below. It is similar to the relevant part of the reconstruction of the Munda verb by Pinnow (1966: 179–181).

	1	2
STEM	-TENSE/ASPECT	-VOICE
		*-*n* (MID)

Figure 10. The partially reconstructed Proto-Munda verb

9. The historical development of voice in Gorum

Tense and voice morphology is positioned in the same slot in Gorum as a result of the merger of two originally distinct slots. Despite of this, tense and voice morphology has remained distinct in Gorum. The same merger occurred in other Munda languages such as Santali, Kharia or Korku, but unlike in Gorum, the voice and tense morphemes in these languages formed portmanteau suffixes as a result. In Gorum, on the other hand, the middle voice suffix moved into the same morphological position as the tense markers, but retained its independent status.

So far, I have ignored the history of the other component of the Gorum middle voice marker *-nuʔ*, namely the glottalized rhyme /Vʔ/ or /V̰C/. Nothing in the comparative data suggests that the glottalization is an original part of the middle voice marking, although it is synchronically an integral part of middle voice in Gorum. Consequently, the question arises as to the source of this component.

There is currently no known cognate for the glottalization component of the Gorum middle voice suffix in other Munda languages. To understand its historical development in Gorum and to find related phenomena in other Munda languages, it is hence crucial to determine whether the glottalization was originally connected with the middle voice marking slot in which the suffix *-n* is still positioned in present-day Sora, or whether it was always connected to the position following the stem – the morphological slot into which the middle voice marking moved in Gorum.

The synchronic behavior displayed by the glottalization /G/, with its placement in relation to the right stem boundary, follows prosodic principles, rather than morphological ones. Its sole morphological reference point is the right boundary of the stem; the morphological structure of the suffix domain is irrelevant for its occurrence. As shown above, the right stem boundary of a regular verb in Gorum always coincides with a syllable boundary, so that prosodic and morphological structures are necessarily aligned in this position. This is the crucial structural configuration that determines the positioning of the glottalization /G/. This alignment of prosodic and morphological structure is missing in other positions in the suffix domain, so that a placement according to prosodic principles in relation to the original slot of the middle voice suffix **-n* is virtually impossible.

This clearly favors a historical situation in which the /VG/ component of the middle voice suffix was connected to the position immediately following the stem boundary, rather than to the original position of the middle

voice marker *-n*, i.e. suffix slot 2 in Figures 8 and 10. Thus, internal evidence from Gorum suggests that the association of the middle voice marker with glottalization occurred after the tense suffix slot and the middle voice suffix slot coalesced in Gorum. Hence, two distinct morphemes have to be reconstructed for Gorum: a middle voice suffix **-n*, that changed its morphological position but is well supported by comparative evidence, and a morpheme of unknown function that is represented by the glottalization /G/ and was positioned relative to the stem.

Interestingly, if not ironically, the picture that arises from this historical analysis – with its two distinct morphemes, the middle voice suffix *-n* and a second morpheme of uncertain function represented by glottalization – is virtually identical to the traditional analysis of present-day Gorum as found in Aze (1973), Zide (1990) as well as Anderson (2007) and Anderson and Rau (2008). While I have shown here that the old analysis does not satisfactorily capture its morphology and function, the historical evidence explains the peculiar behavior of the middle voice suffix *-nuʔ*, which was the focus of the preceding discussion. Further research is necessary to understand the history of the glottalization, which is now part of the middle voice marking in Gorum.

10. Conclusions

Voice is a general verbal category in Gorum. The voice system makes a distinction between active and middle voice, and every verb form – except for the bare stem – is marked for either of these two voices. All finite verb forms are based on the extended stem, which consists of the bare stem and either the active voice suffix *-u* or the middle voice suffix *-nuʔ*. The voice system of Gorum is thus similar to the system found in other Munda languages, and comparative evidence allows for a reconstruction of voice morphology for Proto-Sora-Gorum and partially for older stages.

A part of the middle voice marker *-nuʔ* can be shown to have cognates in Sora, Santali and some other Munda languages. The distribution of the cognates allows for further statements about the history of middle voice marking in the Munda family. All versions of the Munda family tree assume a fundamental division between North Munda languages, such as Santali, and South Munda languages, such as Sora and Gorum. On this basis, the middle voice suffix **-n* and its morphological position in the

second suffix slot following the stem and the tense-aspect suffixes can be reconstructed for Proto-Munda.

Abbreviations

1s = first person singular; 1p = first person plural; 2s = second person singular; 2p = second person plural; 3s = third person singular; 3p = third person plural; A = actor; ACT = active voice; caus = causative; comp = complementizer; DEF = definite; dem.prox = proximal demonstrative; det.dist = distal determiner; DIR = direct case; IND = indicative; IRR = irrealis; LV = loan verb; MID = middle voice; neg = negative; NEUT = neutral tense; NPST = non-past tense; OBJ = object; OBL = oblique case; PL = plural; PLUP = pluperfect; PROG = progressive; PST = past tense; S = subject; U = undergoer; VEN = ventive.

Notes

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1. The suffix *-ej* marks actors on verbs with two or more arguments and on verbs with a single actor argument, but also the undergoer on verbs with a single undergoer argument, such as *aḍaʔ* 'to be thirsty'. Morphologically, it behaves identically to the undergoer suffixes and both types consequently subsumed into a single category here.
2. See Anderson (2007) for a different approach.
3. There are secondary derivational processes that can alter the association of these verbs to a given voice category, but these will not be discussed here.
4. The second verb *uj* 'to go' is an auxiliary-like explicator verb that adds a component of non-volitionality or undesirability and has many properties that fit the affectedness category as described in Anderson (2007).
5. The term prosodic structure as used here refers to phonological structures larger than the segment, i.e. syllables and higher units such as the phonological (or prosodic) word.
6. The form *-a* in the third person plural is a phonological variant of *-ay* which occurs in the combination with the third person plural marker *-ji*.

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