**Marked nominative systems in Eastern Sudanic and their historical origin**

*Gerrit J. Dimmendaal, University of Cologne*

**1. Case marking in Eastern Sudanic**

<1> Cross-linguistically, it is common in languages with case to leave the subject of transitive and intransitive clauses morphologically unmarked, and to mark the corresponding object for (Accusative) case. But as shown by König (2006, 2008), several Afroasiatic as well as Nilo-Saharan languages deviate from this pattern in that they inflect the subject for case, whereas they leave the corresponding object unmarked. Such systems have come to be known as 'Marked Nominative' case systems.

<2> The main aim of the present contribution is to discuss Marked Nominatives in Nilo-Saharan, more specifically in the Eastern Sudanic branch, from a historical and comparative point of view. The first authors to point towards this typologically interesting phenomenon were probably Tucker & Mpaayei (1955) in their classic contribution on the Eastern Nilotic language Maasai. As shown by these authors (pp. 175-187), post-verbal – but not pre-verbal – subject nouns in transitive and intransitive predications are inflected for case by way of tone in this language. They call this specific form of the noun for subjects following the verb 'Nominative' and identify four major inflectional classes for nouns. The tonal shape of post-verbal subjects can be derived from the so-called 'Accusative' form, which is used (amongst other things) for objects, as shown in (1-2) (Tucker & Mpaayei 1955: 184):

(1) ɛ́-dɔ́l mbártá
    3SG-see horse:ACC
    'he sees the horse'

(2) ɛ́-dɔ́l mbártá
    3SG-see horse:NOM
    'the horse sees him'

<3> Similar systems have been found since in other Eastern Nilotic languages as well as in the two other primary branches, Southern and Western Nilotic. Compare, for example, Tucker & Bryan (1966: 467-469) and Creider (1989) for Kalenjin, a Southern Nilotic language. More recently, it has been shown by Andersen (1991, 2002) that Western Nilotic languages like Dinka also inflect post-verbal (as against pre-verbal) subjects for case.

<4> As argued by Dimmendaal (1983: 66) in his analysis of case in the Eastern Nilotic language Turkana, the term 'Accusative' as a case label should be avoided and be replaced by 'Absolutive', as this form of the noun constitutes the unmarked form which is used not only for objects (preceding or following the verb), but also for pre-verbal subjects, for nouns in predicative or non-verbal constructions, as well as for nouns in isolation. In other words, the Absolutive case form constitutes the unmarked or default form for nouns. A similar alternation between Absolutive and Nominative is found with independent pronouns in Turkana and other Nilotic languages.
More recent research on Western Nilotic languages has shown that there is interesting variation within this branch. Nominative-Absolutive systems occur, for example, in Dinka (Andersen 1991), as pointed out above. Here, post-verbal (but not pre-verbal) subjects in transitive and intransitive clauses are marked for Nominative case by way of tonal inflection of the Absolutive form of the noun (3-4).

(3) bàŋ ə-tôoc ɖɔɔk
   chief:ABS D-send boy:ABS
   'the chief is sending the boy'

(4) ɖɔɔk ə-tôoc bàŋ
   boy:ABS D-send:NTS chief:NOM
   'the chief is sending the boy'

But in Päri, which forms a different subgroup within Western Nilotic together with languages like Anywa, Luwo or Shilluk, only subjects of transitive clauses may occur post-verbally and, consequently only these are inflected for case in this syntactic position.

In order to be able to distinguish between transitive and intransitive constructions and their corresponding case-marking strategies, Dixon (1994: 6-18) proposes the following syntactic-semantic primitives: A(gent) for the subject of transitive constructions, and S(ubject) for the subject of intransitive constructions. Within this terminological framework, post-verbal (but not pre-verbal) Agents (A-roles) are marked for case in Päri. Since S (the subject in intransitive constructions) does not occur post-verbally and is formally unmarked for case, as are Objects (O-roles), the resulting system has ergative properties. Consequently, Päri has an Ergative-Absolutive, rather than a Nominative-Absolutive system, whereby again the Absolutive form serves as a default case form for O(bject), pre-verbal A(gent) and pre-verbal S(ubject), for nouns in predicative constructions or nouns in isolation. Some examples from Päri are shown in (5-10).

(5) dháagò ə-yàaŋ ǜbúrr-i
   woman:ABS PERF-insult Ubur-ERG
   'Ubur insulted the woman'

(6) ǜbúr ə-pùot dháag-ë
   Ubur:ABS PERF-beat woman-ERG
   'the woman beat Ubur'

(7) dháagò ə-cúl’-à
   woman:ABS PERF-call-1SG
   'I called the woman'

(8) òän ə-cúl’-ì
   1SG:ABS PERF-call-2SG
   'you called me'

1 Andersen (2002) uses the term Oblique case rather than Nominative case, for the form of post-verbal subjects; see section 4 for further details.
(9)  dháagò  á-míɛ́l`
    woman:ABS  PERF-dance
    'the woman danced'

(10)  ūbûr  dháagò  á-yáap’-ɛ́
    Ubur:ABS  woman:ABS  PERF-insult-3SG
    'Ubur insulted the woman'

<8> Parallel to the Nilotic branch, one finds variation between Nominative-Absolutive and Ergative-Absolutive systems in its closest relative, the Surmic branch within Eastern Sudanic (Dimmendaal 1998). Furthermore, a Marked Nominative system is attested in Berta (Andersen 1995). Berta does not appear to be a member of Eastern Sudanic, although it is part of Nilo-Saharan (Dimmendaal To appear). Consequently, this phenomenon also has an areal dimension, as Marked Nominative systems are found in Nilo-Saharan (more specifically, Nilotic and Surmic) languages to the southeast and south of the Nuba Mountains, as well as in one language (Berta) spoken east of the Nuba Mountains. Since Berta constitutes a relatively isolated genetic unit within Nilo-Saharan, and is clearly not a member of Eastern Sudanic, its Marked Nominative system is not further discussed here.

<9> A main goal of the present contribution is to trace the historical origin of the Marked Nominative and the related Ergative system in Nilotic and Surmic. More specifically, the main goal of the present study is to show that:

- Differential Object Marking constituted the historical basis for the morphologically unmarked form which objects (O-roles) take in Nilotic and Surmic.
- Post-verbal Agent-marking in transitive predications originated from an extension of Instrumental and Genitive case marking, which in turn resulted in (split) ergativity in Nilotic and Surmic.
- Marked Nominative systems resulted from an extension of (ergative) post-verbal case markers for Agents in transitive constructions to Subjects in intransitive constructions in the same two sub-branches of Eastern Sudanic.

<10> Figure 1 shows the sub-classification of Eastern Sudanic that serves as a framework for the historical comparison of case-marking strategies:

**Figure 1: Sub-classification of Eastern Sudanic**

```
Eastern Sudanic
  North-Eastern
    Taman
    Meroitic
    Nubian
    Nara
    Nyimang plus Afitti
  South-Eastern
    Jebel
      Daju
    Temeinian
    Southern
      Surmic
      Nilotic
```
2. Tama: A typical representative of the Northern branch of Eastern Sudanic

We have seen that marked Nominative case only occurs in the Southern branch of Eastern Sudanic, and only when subjects (A and S) follow rather than precede the verb. The case system found in Northern members of Eastern Sudanic hereafter referred to as NE, is quite different from that of South-Eastern Eastern Sudanic, hereafter SEE, in several respects. First, these languages have a verb-final constituent order. Second, they reflect the O-role (i.e. the object), rather than A or S for case. Third, they tend to have an extensive case marking system for peripheral semantic roles, e.g. Dative, Instrument, Locative, Ablative and Comparative. The NE languages share this feature with neighbouring, more distantly related Nilo-Saharan languages, as shown in Dimmendaal (2010), (Table 1).

Table 1: Dependent-marking in Nilo-Saharan

<table>
<thead>
<tr>
<th>Language group</th>
<th>Constituent Order</th>
<th>Peripheral Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saharan</td>
<td>V-final</td>
<td>yes</td>
</tr>
<tr>
<td>Maban</td>
<td>V-final</td>
<td>yes</td>
</tr>
<tr>
<td>Fur</td>
<td>V-final</td>
<td>yes</td>
</tr>
<tr>
<td>Kunama</td>
<td>V-final</td>
<td>yes</td>
</tr>
<tr>
<td>Eastern Sudanic</td>
<td>Tama V-final</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>Nyimang V-final</td>
<td>yes</td>
</tr>
</tbody>
</table>

<12> The Taman group within North-Eastern Sudanic consists of a cluster containing Abu Sharīb, Mararit, Darnut, Miisirii (also known as Mileeri or Jabaal), Tama, Erenga and Sungor (Edgar 1991: 111). Table 2 summarizes the case markers of Tama (Dimmendaal 2009a):

Table 2: Tama case markers

<table>
<thead>
<tr>
<th>Case</th>
<th>Markers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td>∅</td>
</tr>
<tr>
<td>Accusative</td>
<td>-ŋ, -ŋ (plus other allomorphs)</td>
</tr>
<tr>
<td>Locative</td>
<td>-ta</td>
</tr>
<tr>
<td>Instrumental-comitative</td>
<td>-gi</td>
</tr>
<tr>
<td>Instrumental- mediative</td>
<td>-ɛ, -e</td>
</tr>
<tr>
<td>Genitive</td>
<td>-ŋo, -a, -t (plus allomorphs)</td>
</tr>
<tr>
<td>Ablative</td>
<td>-in (plus allomorphs)</td>
</tr>
<tr>
<td>Comparative</td>
<td>-inda</td>
</tr>
</tbody>
</table>

<13> Case markers in Tama are clitics (or 'phrasal affixes') which attach to the final constituent in a noun phrase, as shown in examples (11-12):

(11) **wàl-tá**

    *wàl* **ànáá-tá**

    house-LOC     house underneath-LOC

    'in the house' 'underneath the house'

(12) **birak-úr-ìn**

    *birak* **dùút-úr-ìn**

    river-SPEC-ABL river big-SPEC-ABL

    'from the river' 'from the big river'
Accusative case marking in this language is not an obligatory inflectional feature of objects. Instead, a prominence hierarchy determines whether case marking occurs. Accusative case marking in Tama is:

1. obligatory with pronominal objects;
2. obligatory with proper names as objects;
3. obligatory with objects performing the semantic role of Recipient or Beneficiary;
4. not obligatory from a syntactic point of view with object NPs performing the role of Patient or Theme;
5. excluded with coverbs that form a complex predicate with light verbs (‘do/say’).

The following examples illustrate this so-called 'Differential Object marking' system (cf. Bos-song 1985, Aissen 2003, and Dimmendaal 2010 for a comparison of terminology.) Whereas the O-role is obligatorily marked for Accusative case in (13) and (14), case marking is not obligatory from a syntactic point of view in (15) or (16). And in (17), which contains a complement (coverb) in combination with a light verb 'say', an Accusative case marker is actually excluded.

(13) wá-ŋ Áwí tí̊lńí-ŋá
1SG-ACC snake:NOM 3:bite-PERF
'a snake bit me; I was bitten by a snake'

(14) wá Nimeiri-ŋ kōbálit-ir ní-sílní-ŋó
1SG:NOM Nimeiri-ACC glass-SPEC 1SG-give-PERF
'I gave Nimeiri the glass'

(15) wá-né kōbálit-ir ní-sílká
1SG-FOC glass-SPEC 1SG-want
'I want a glass'

(16) tààt-ir-ľíŋ ľał̠ł̠w̠y
child-SPEC-ACC 3SG:drink.CAUS
'(s)he is feeding the baby'

(17) bāàr nú-ńnú-tó
anger 1SG-say-NEG
'I am not angry'

As argued by Dimmendaal (2010) in a survey of Differential Object marking in Nilo-Saharan, the conditions for Accusative case marking in Tama are also relevant for other members of this phylum. Moreover, not only semantic features like definiteness and animacy condition the distribution of Accusative case marking in these languages; the pragmatic status of constituents in thetic and categorical statements also plays a crucial role.

As shown in section 1 above, Eastern Sudanic languages belonging to the Nilotic and Surmic subgroups do not have Accusative case marking; instead, objects take 'Absolutive' case, i.e. are morphologically unmarked for case. From a historical and comparative perspective, therefore, the absence of case marking on objects in Surmic and Nilotic does not need to be explained separately. It is best explained as the extension or generalization of an economy principle involving Differential Object Marking, leaving out case marking for objects altogether. What needs to be explained from a historical and comparative point of view is the emergence of formal case marking for A-roles and S-roles in Nilotic and Surmic.
Rather than marking both the O-role and the A-role in transitive predications, it may be enough to mark only one of the two. As we shall see next, it is exactly this latter feature, the explicit formal marking of A-roles in certain syntactic contexts, which gave rise to Ergative (and subsequent) Marked Nominative systems in Surmic and Nilotic.

3. The emergence of Ergative and Marked Nominative constructions in Eastern Sudanic

3.1. Typological restructuring in Southern members of Eastern Sudanic

Nilotic and Surmic languages differ rather dramatically from NE languages in a number of respects. The latter are part of a typological zone which includes a range of more distantly related Nilo-Saharan languages in Chad, Sudan, Ethiopia, and Eritrea (namely Saharan, For, Maban, Mimi, and Kunama), a zone which itself links up with the "Ethiopian convergence area" (Heine 1976, Dimmendaal 2007b). The deviant structure of Surmic and Nilotic in terms of case marking and constituent order is summarized in Table 3.

Table 3 Case marking in Nilotic and Surmic

<table>
<thead>
<tr>
<th>Language</th>
<th>Const. Order</th>
<th>NOM/ERG</th>
<th>ABS</th>
<th>Peripheral Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Nilotic:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anywa</td>
<td>V2/OVS</td>
<td>ERG</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Päri</td>
<td>OVS</td>
<td>ERG</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Dinka</td>
<td>V2</td>
<td>NOM</td>
<td>yes</td>
<td>marginal</td>
</tr>
<tr>
<td>Nuer</td>
<td>V2</td>
<td>NOM</td>
<td>yes</td>
<td>marginal</td>
</tr>
<tr>
<td>Shilluk</td>
<td>V2/OVS</td>
<td>ERG</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Luo</td>
<td>SVO</td>
<td>no case</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Eastern Nilotic:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bari group</td>
<td>SVO</td>
<td>no case</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Lotuxo</td>
<td>SVO</td>
<td>no case</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Ongamo-Maa</td>
<td>V-initial</td>
<td>NOM</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Southern Nilotic:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kalenjin</td>
<td>V-initial</td>
<td>NOM</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Datooga-Omotik</td>
<td>SVO</td>
<td>no case</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Surmic:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Majang</td>
<td>V-initial</td>
<td>ERG</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>South Western:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baale</td>
<td>V2</td>
<td>NOM</td>
<td>yes</td>
<td>reduced</td>
</tr>
<tr>
<td>Didinga</td>
<td>V-initial</td>
<td>NOM</td>
<td>yes</td>
<td>reduced</td>
</tr>
<tr>
<td>Tennet</td>
<td>V-initial</td>
<td>NOM</td>
<td>yes</td>
<td>reduced</td>
</tr>
<tr>
<td>South-Eastern:</td>
<td>V2</td>
<td>ERG</td>
<td>yes</td>
<td>reduced</td>
</tr>
</tbody>
</table>

The present contribution argues that the common ancestor of Nilotic and Surmic underwent two innovations historically: first, by moving from a strongly dependent-marking towards a head-marking system at the clausal level (reducing case and extending the marking of argument structures on verbs); second, by shifting from a verb-final to a verb-second or verb-initial structure.

What is the actual evidence for these claims? Remnants of a more extensive case marking system, i.e. of a dependent-marking strategy at the clausal level can be found in Surmic and a number of Nilotic languages. Surmic languages tend to use one (peripheral) case marker for
the Dative and one (Oblique) form for other semantic roles, more specifically Instrument-Manner-Comitative-Locative (Dimmendaal 1998:41).

An even more reduced system is attested in Nilotic, where we only find remnants of peripheral case marking in Western Nilotic languages (Dimmendaal 2005). Compare Nuer, where the citation form corresponds to the Absolutive form, which again is used for objects (regardless of their position) and for pre-verbal subjects; the corresponding Locative case form frequently involves non-concatenative morphology in Nuer (18):

<table>
<thead>
<tr>
<th>Citation</th>
<th>Locative</th>
</tr>
</thead>
<tbody>
<tr>
<td>lēp</td>
<td>lēb</td>
</tr>
<tr>
<td>lōc</td>
<td>lōći</td>
</tr>
</tbody>
</table>

The same phenomenon occurs in the closely related Dinka language. These remnant features strongly suggest the former presence of a more elaborate system of peripheral role marking by way of case, as is still found in NE. But, as argued next, the system of case marking for peripheral semantic roles still found today in Taman and Nubian languages also provides a natural historical explanation for the innovation of an Ergative and Marked Nominative systems in Nilotic and Surmic.

The detailed analysis by Stirtz (2012) of the only (Eastern) Jebel language probably still spoken today, Gaahmg (Ingassana), makes clear that this language also marks post-verbal Agents, whereas pre-verbal Agents (or subjects of intransitive predications) are unmarked for case, as are objects. Stirtz (2012: 281) claims that subjects (and objects) in this language are not marked for case. But this claim forces the author to come up with a somewhat arbitrary glossing for this inflectional marker each time it occurs in a particular construction. As Stirtz (2012: 124) himself points out, "[t]he genitive function is not marked with a suffix, but only by a tone change." However, this case form is used, not only for the possessor in a genitive construction, but also used for post-verbal subjects in transitive predications (19):

(19) ɲám-än-s-i aggaàr(ě)
    break.CAUS-AP-COMP-PAS.A hunter.GEN
    'something was broken by a hunter making someone break it'

In this example, the Agent noun is optionally followed by a marker -i (which is left unglossed in Stirtz 2012). Whereas there is no Instrumental case marker with this form in Gaahmg, there is a marker expressing Accompaniment with a similar form. The latter differs minimally (namely in tone) from what is referred to in the present study as the Ergative case marker. So etymologically, the Ergative case marker in example (19) is most likely related to the Instrumental-Mediative still found in NE languages like Tama (see Table 2 above). Although there is a marker -i glossed as a passive agent by Stirtz (2012), example (19) is clearly not a passive, because the actual passive construction takes on a different form in Gaahmg. As pointed out by Stirtz (2012: 174), the so-called Agented passive construction (or Ergative construction, as it is called in this paper) is often used with object focus to indicate a post-verbal encoding of an Agent (or an Experiencer). Given the fact that number marking on the verb agrees with the Agent, the latter must be treated as a core constituent, and not as an optional, peripheral 'by-phrase' introducing the Agent of a passive-like construction.

Whereas pre-verbal Agents in Gaam are not inflected for case, post-verbal Agents are, as shown by the following alternation (20-21, where the suffix -e is glossed as a subordinate clause-final marker by Stirtz (2012):
(20) ḳāā-n ṭīr-sō ṭiī
  person-DEF kill-COMP what
  'what did the person kill?'

(21) ḥūṁā ṭīr-s-i ḳāā-n-ē
  what kill-COMP-PAS.A person.GEN-SBO
  'what did the person kill?'

<27> As post-verbal subjects are excluded with intransitive predications in Gaam (Timothy Stirtz, personal communication), the result is an Ergative case marking system. Whereas the question words ṭiī and ḥūṁā are both glossed as 'what' in the examples above, the latter probably contains a relative clause marker -na (attested independently as such in Gaahgm; see the description by Stirtz 2012: 296). Consequently, constructions such as (21) probably involve some sort of clefting. Note, however, that the so-called subordinate clause-final marker on the noun ('person') is not a general subordinate clause marker; it is only used in combination with post-verbal Agents (of transitive predications).

<28> As stated above, Genitive case marking is expressed by way of tonal changes in Gaahmg, so there is no immediate segmental evidence that this is a reflex of the original Genitive marker -i still found as such in NE (see, for example, Table 2 above). However, the use of the Genitive case form for possessors in possessive constructions as well as for post-verbal Agents in transitive predications parallels the use of the Genitive case form in Nilotic languages like Dinka, as in example (4) above.

<29> Nilotic and Surmic probably form a subgroup within Eastern Sudanic together with the Daju group and Temeinian (i.e. Temein plus Dese and Doni), as suggested by the suppletive singular/plural alternation for 'cow' (Dimmendaal 2007). At the same time, there is no evidence that Daju and Temeinian shared the innovation of an Ergative case marker with Nilotic and Surmic. As shown above, the latter marker only occurs with post-verbal Agents. Since this marker is also attested in the Jebel language Gaam, the innovation must go back to Proto-SEE. Daju and Temeinian are much closer to Nilotic and Surmic grammatically and lexically than they are to Gaahmg (i.e. Jebel). Since pre-verbal subjects (or Agents) are never marked for case in any of these Eastern Sudanic languages, the absence of the ergative case marker in Daju and Temeinian is best explained as an innovation following from the fact that in these latter groups the constituent order has become SVO (as far as present knowledge goes).

3.2. An indirect reflex of a former peripheral case marker

<30> Whereas semantic roles such as Instrument (or the related notions of Manner and Comitative or Accompaniment) tend to be expressed by way of prepositions or verbal extensions in SEE, there is an interesting indirect reflex of the Instrumental case marker -e/-e. This marker, still attested synchronically in NE languages like Tama (illustrated above), is used with post-verbal Agents (in transitive clauses) in Nilotic languages like Pāri, and with post-verbal Agents and Subjects (of intransitive clauses) in Surmic languages like Tennet. The other Ergative/ Nominative marker in these and other Surmic and Nilotic languages, -i/-i, most likely goes back to an early Eastern Sudanic Genitive case marker.

<31> Reh (1996) analyzes the cognate post-verbal markers in Anywa as definiteness markers, rather than Ergative case markers. But this analysis is problematic both synchronically and diachronically. First, why would a language use such markers to express definiteness when subject noun phrases occur post-verbally, but not pre-verbally? Second, if these are really definiteness markers, why is it impossible to use them with objects? Third, there is no (historical) comparative evidence for such definiteness markers; definiteness or specificity is expressed by...
way of different markers in Nilotic languages. Fourth, as shown here, there is comparative
evidence for these markers as Instrumental and Genitive case markers historically.

Synchronically, -ɛ/-e and -ũ/-i are in complementary distribution phonologically in Pāri: -t/-i
occurs with nouns ending in a consonant (with the preceding sonorant being doubled) as well
as with nouns ending in a high vowel. The case suffix -ɛ/-e is used when the noun ends in a
non-high vowel. But this allomorphic distribution is most likely a later development. In the
Surmic language Tennet, -ɛ/-e and -ũ/-i are also in complementary distribution. But here, the
distribution is determined by semantic, rather than phonological features of the subject noun.
In Tennet, -t/-i is used with proper names to mark a (post-verbal) A-role or S-role, whereas -
ɛ/-e occurs with other types of post-verbal Agents and Subjects (22-23).

(22) Ṥorrnx Lōwōr-i kākāt Lōhām-i ārīza
want Lowor-NOM spear:SBJ Loham-NOM bull:ABS
'Lowor wants Oham to spear the bull’

(23) Ṥorrnx Lōwōr-i Lōhām kīkīya
want Lowor-NOM Loham:ABS come:SBJ
'Lowor wants Loham to come’

As we shall see below, historically the presence of the marker -t/-i links up neatly with similar
strategies in NE groups like Nubian and Meroitic. The semantic distribution as found in
Tennet (as against the phonologically conditioned distribution in Pāri) thus probably reflects
the more archaic situation. From a historical and comparative point of view, we thus observe a
typological shift in SE languages away from a system in which prominent Objects were
inflected for case towards one in which prominent Agents were inflected for case.

Interestingly, Tennet turns out to be more archaic than Pāri in at least one other respect. Randal
(2000: 72) has shown that in specific subordinate (complementizer) clauses in Tennet the
order for intransitive predications is SV, rather than VS (as in main clauses), whereas
the corresponding transitive verbs may follow the VAO pattern. Whereas in main clauses, both
the post-verbal A-role (with transitive predications) and the post-verbal S-role (with
intransitive predications) are inflected for case, thus giving rise to a Marked Nominative
rather than an Ergative case system, the situation is different with dependent (or subordinate)
clauses. As shown in (20), the Subject of intransitive predications can only precede the
intransitive verb in a dependent clause. In other words, Tennet has remnants of an erstwhile
Ergative system in dependent clauses. Cross-linguistically, subordinate or dependent clauses
are often more conservative than main clauses, as they are less subject to communicative
dynamism, and thus to innovations. The constituent order as found in subordinate clauses in
Tennet also strongly suggests that (O)VA (in transitive constructions) as against SV (in
intransitive constructions) were the common constituent order in main clauses at an earlier
stage. This, of course, is the common constituent order still found in Western Nilotic
languages like Pāri, and thus probably reflects an archaic property of SEE. The generalization
of a strict verb-initial constituent order in main and subordinate clauses in Southern and
Eastern Nilotic as well as in main clauses in the Didinga-Murle group within Surmic must
consequently be an innovation historically.

There are at least two additional case suffixes used with post-verbal Agents in Surmic lan-
guages. The first one, -nā-, is used with plural (as against singular or transnumeral) Agentive
nouns or noun phrases in post-verbal position in Baale (24, Dimmendaal 1998: 63):

(24) ádákkx ēērō-nā
IMPF-eat.3PL children:NOM
'the children were/are eating it’
This case marker in Baale again appears to have cognates in Northern representatives of Eastern Sudanic, for example in Kunuz Nubian, which has a Genitive marker -<3>na (with a number of allomorphs (25, Abdel Hafiz 1988: 94):

(25) *id 'man'  
*id-na ka 'man's house'

In the South-Eastern Surmic language cluster Tirma-Chai-Mursi one finds a case suffix -<3>o used with post-verbal Agents and Subjects (of intransitive predications). This suffix is strikingly similar to a widespread Genitive case suffix in Surmic (compare the table in Dimmendaal 1998: 41). Possibly, this case suffix is an innovation of the Tirma-Chai-Mursi cluster. It is spoken in the vicinity of the Western Nilotic Dinka-Nuer cluster, where post-verbal Agents and Subjects also take a case form which is formally identical to the Genitive (compare Andersen 2002).

All Ergative and Nominative case markers in Nilotic and Surmic thus seem to have originated from (an extension of) the Instrumental and Genitive case markers; see Table 4.\(^2\) Cross-linguistically, such strategies are well attested. Compare Jespersen (1909: 152) on the origin of the Proto-Indo-European Agent marking, namely from a Genitive, if it was animate, and from an Instrumental case, if it was inanimate; compare also Garrett (1990) on case in the historical development of Indo-European.

Table 4: Eastern Sudanic case markers

<table>
<thead>
<tr>
<th>Northern branch (NE)</th>
<th>Instrument, Associative, Manner</th>
<th>Genitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taman</td>
<td>-ɛ, -e</td>
<td>-t, -i</td>
</tr>
<tr>
<td>Nyimang</td>
<td>-ɛ, -e</td>
<td>-i (Directional)</td>
</tr>
<tr>
<td>South-Eastern branch (SEE)</td>
<td>Ergative, Nominative</td>
<td>Genitive</td>
</tr>
<tr>
<td>Gaahmg</td>
<td>-ɛ, -e</td>
<td>tone</td>
</tr>
<tr>
<td>Southern branch (SE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surmic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South-WesternSurmic</td>
<td>-ɛ, -e, -l, -l, -l, -i</td>
<td>-o</td>
</tr>
<tr>
<td>South-EasternSurmic</td>
<td>-o</td>
<td>-o and other suffixes</td>
</tr>
<tr>
<td>Nilotic</td>
<td>-ɛ, -e, -l, -l, -l, tone</td>
<td></td>
</tr>
</tbody>
</table>

As pointed out by Doris Payne (personal communication), Genitive markers are prototypically associated with nominal or nominalised constructions. But in the case of Nilotic and Surmic there does not seem to be any evidence for this latter syntactic property so far. Presumably, its causes (nominalisation with the Agent in transitive constructions being expressed by way of Genitive case) are to be sought at a deeper historical level in Eastern Sudanic. There is reason to believe that the case suffix -<3>l/-i in SE goes back much further in history. A cognate marker -<3>i is found in Old Nubian (Brown 2002) as well as Meroitic.\(^3\) Brown (2002: 32-33) calls this inflectional marker, which was used with nominal subjects, a "Subjective

---

\(^2\) Dimmendaal’s (1983: 261) internal reconstruction in Turkana shows that the Nominative case inflection goes back to a segmental suffix. Whether these tonal inflectional markers are reflexes of the erstwhile Ergative (Instrumental) case marker, the Genitive case marker or both, cannot be determined at this point in time.

\(^3\) I would like to express my thanks to Claude Rilly for pointing out this crucial similarity.
marker”. Since a Genitive case marker -ɪ/-i is attested in at least one other NE group, the Taman cluster, its origin as a former Genitive case marker still seems to be the most plausible hypothesis. But how and why did it turn into a case marker for Agent nouns (i.e. an Ergative case marker)? Examples from other parts of the world may give us a clue. Givón (1980) discusses examples from the Tibetan (Tibeto-Burmese) language Sherpa, where a Genitive subject (Agent) noun phrase apparently became an Ergative noun phrase through reanalysis of a nominalised clause as a main clause. As argued by Givón (1980), similar cases have been adduced for other languages and language families. What one might expect to find in Old Nubian (or modern Nubian descendants for that matter) would be a historical link between a finite (perfective) verb form and an older nominalised (infinite) verb form in which Agents were expressed through Genitive noun phrases. All one can say at this point in time is that our current understanding of the historical development of Nubian – as well as the analysis of complex clause structure in modern Nubian languages – does not allow us to make claims about the original syntactic distribution of this marker -ɪ/-i.

In his comparative Nilo-Saharan study, Ehret (2001: 208) reconstructs a number of case suffixes, among them an 'Instrument-agent' marker *-yɛ: for the early stages of Nilo-Saharan. He links the Tama Instrument marker to the subject denote -ye in Saharan languages like Kanuri, but also to a case suffix -ɪ in Surmic languages like Majang. Also, the verbal Instrumental extension -ie in Nilotic languages like Maasai is treated as a reflex of this original case suffix. But as argued in the present study, the case suffix -ɪ in Surmic (and Nilotic) must have a different origin, namely Genitive case marking. Moreover, the verbal marker of the Instrumental role in Maasai presumably has a different origin as well which cannot be elaborated upon here for reasons for space. The evidence from one group of relatively closely related Nilo-Saharan languages, namely those belonging to Eastern Sudanic, suggests a slightly different scenario at least for this subgroup, namely the extension of an original Instrumental marker towards an Ergative case marker (*-ɛ).

A final issue, not pursued here again for reasons of space, concerns the structure of independent subject and object pronouns in Nilotic and Surmic. Such pronouns may be used in addition to the cross-reference markers on verbs, e.g. for pragmatic reasons (topicalisation, focus marking). In Nilotic languages, for example, they frequently seem to contain a petrified suffix -nɪ. This may in fact be a reflex of an earlier Accusative case suffix which was retained as an inherent element of independent pronouns after case marking for syntactic O-roles (i.e. syntactic objects) became obsolete.

The reduction of peripheral case marking in SEE (i.e. in Gaahgm (Jebel) and the Southern members of Eastern Sudanic), and the drift towards a verb-second or verb-initial constituent order in this branch was compensated for by an extension of head marking at the clausal level in these languages. The result was a radically different language type, such as the Nilotic language Maasai, where semantic roles such as Beneficiary, Recipient, Instrument, Direction and Location tend to be expressed on the verb; alternatively, such semantic roles may be introduced by prepositional phrases, but not by way of case-marked noun phrases, as in NE languages like Tama. Compare the following Maasai examples (26-29):

(26) a-dót-ů nkójít
    1SG-pull-VEN grass:ABS
    'I pull out grass'

(27) á-írrág-áá Náròk
    1SG-sleep-IT Narok:ABS
    'I sleep at Narok'
4. Why passives did not constitute the historical basis for Ergative or Marked Nominative systems in the South-Eastern branch

Whereas ergative constructions sometimes appear to arise through a reinterpretation of erstwhile passive constructions as active constructions, there is no evidence for this scenario in Eastern Sudanic. First of all, it should be noted that all Nilotic and Surmic languages with Ergative (or Marked) Nominative systems have separate morphological passives. If passives were reinterpreted as active (ergative) constructions, one would expect to find at least some languages without a morphological passive. But as the following examples from Dinka (Western Nilotic) show, these languages do have morphological passives (and active constructions with postverbal Agents marked for case,

Active
(30) bān 'à-tóoc ɗɔk
chief PERF-send boy
'the chief sends the boy'

Passive
(31) ɗɔk 'à-tóoc ɗ (n)è bān
boy D-send:PASS PREP chief:OBL
'the boy is being sent by the chief'

Whereas in Dinka, passive morphology involves vertical (non-concatenative) morphology on the verb, several other Nilotic and Surmic languages have a segmental passive marker, usually a suffix -i (or -ɪ) used in addition to ergative constructions.

Etymologically, the Ergative case markers in Surmic and Nilotic go back to Instrumental and Genitive case markers respectively, as argued above. Again, oblique phrases expressing the Agent in passive constructions may be expressed with the same marker as Instruments, as cross-linguistic studies have shown. Compare French par, which may be used to express a peripheral phrase marking Instrument as a semantic role or the Agent in a passive construction. But again, there is no reason to assume that a peripheral Agent marked by way of an Instrumental (or Genitive) case was reinterpreted as a core constituent in passive constructions in the historical development of SEE. Instead, the role or function of the Instrumental-Mediative case marker (still found as such in languages like Tama) must have been extended to that of an obligatory Agent marker in an active construction at some point in the historical development of this Eastern Sudanic branch.

This latter typological phenomenon is attested synchronically in at least one Niger-Congo language in the Nuba Mountains – Tima. Whereas Greenberg (1963) assumes that Tima plus the

---

4 The "passive flavour" of such clauses (as Christian Lehmann, personal communication, phrased it) may have to do with the fact that such clauses are best translated as passive constructions in the meta-language English. As pointed out by Calvert Watkins (personal communication), there is no evidence that ergative constructions in Indo-European languages go back to passives.
closely related languages Katla and Julud form one sub-branch of the Kordofanian branch of Niger-Congo, this cluster probably constitute an isolated cluster within Niger-Congo (Dimmendaal, To appear b). Constituent order in Tima, which varies between SVO, OVS, SOV and VSO, is strongly governed by pragmatic principles. When Objects precede the verb and the A-role is expressed by way of a post-verbal constituent, the latter is formally marked. Since post-verbal Subjects (in intransitive constructions) do not seem to be allowed in Tima, the result is a system with split ergativity (32).

(32) má kạ́luk ŋ Khamisi
     what eat   ERG Khamisi
     'what did Khamisi eat?'

The post-verbal Agent-marking proclitic ŋ in Tima is formally identical to a prepositional proclitic marking Instrument, ŋ. However, there are three important structural differences between the status of the Instrumental phrase and the Agent phrase in Tima (Dimmendaal 2010c), namely:

1. Contrary to Instrumental phrases, the Agent noun phrase is an obligatory core constituent.
2. Contrary to Instrumental phrases, the Agent noun phrase obligatorily occurs immediately after the verb (with the Object preceding the verb).
3. When the post-verbal Agent is a pronoun, the latter is expressed as a bound morpheme attached to the verb (rather than as an independent syntactic phrase, as with instrumental phrases).

The following example illustrates the third property, the behaviour or pronominal Agents:

(33) má alkạ́luk-ná
     what 2SG-eat-ERG.2SG
     'what did you eat?'

We thus find at least one language in the Nuba Mountain area today – as it happens it is Niger-Congo – which has also extended the use of an Instrumental marker to that of (obligatory) post-verbal Agents, i.e. an Ergative marker.

There is one Western Nilotic language spoken south of the Nuba Mountains, Shilluk, which manifests ergativity, but which did not retain the original Ergative case suffixes *-e / *-e and/or *-i / *-i. The innovated ergative marker in Shilluk is expressed by a proclitic marker yɨ, as shown by Miller and Gilley (2001). It could hardly be a coincidence that this marker is formally identical to a widespread Western Nilotic preposition yɨ, functioning as an Oblique marker and introducing different semantic roles including Instrument.

More recently, ergative features have been found in at least one language belonging to the Koman cluster in the borderlands between Ethiopia and Sudan, namely Uduk (currently studied by Don Kilian; personal communication 2012). This language cluster is treated as a primary branch of the Nilo-Saharan phylum by Greenberg (1963), and as an independent family in Dimmendaal (2011). Whether or not these languages are distantly related to the Eastern Sudanic groups discussed here is not relevant for the origin of ergativity in southern members of Eastern Sudanic, since the actual markers are not cognate. What is relevant, however, is the areal distribution of these various language groups that manifest (split) ergativity (see Map 1). Nilotic and Surmic constitute expansion zones, whereas neighbouring areas to the east (in Ethiopia) and the west (in the Nuba Mountains) constitute residual zones (i.e. areas with a high degree of genetic and typological diversity). The most plausible explanation for the radical change of these Eastern Sudanic groups (Nilotic, Surmic, and also
including the Jebel group) is areal contact during their southward expansion with languages of this type (now only found in residual zones in the area). The southward expansion of SE groups was probably triggered by dramatic climatological changes in the area, more specifically the "Wadi Howar diaspora", as argued for by Dimmendaal (2007a).

Map 1 The distribution of languages with (split) ergativity

5. A remaining puzzle: Why is ergativity so rare in Africa?

Within both Nilotic and Surmic, some languages have Ergative-Absolutive case systems, whereas the majority of closely related languages have Nominative-Absolutive systems. As argued above, the latter must go back historically to (split) ergative systems. Due to the detailed analysis of the only remaining Jebel language, Gaahmg, it is now clear that this Eastern Sudanic language also has an Ergative-Absolutive case system. Although it cannot be shown at this point in time that the system in Berta had the same origin, it is rather striking that this language also uses the same, universally rare, Marked Nominative system. It therefore seems likely that areal contact played a role. Today, such languages are found in residual zones east and west of the Nilotic-Surmic expansion zones, namely in the Nuba Mountains and the borderlands between Ethiopia and Sudan. However, one burning question still remains unanswered: Why is ergativity, so common cross-linguistically, so rare in Africa? There are several possible reasons.
It may be an accidental consequence of history. Ergativity may simply have disappeared as a result of the generalization of post-verbal subjects in transitive and intransitive clauses due to areal contact. A verb-initial syntax and corresponding post-verbal marking of Agents and Subjects can be observed in Southern Nilotic (Kalenjin), in Eastern Nilotic (Teso-Turkana, Maa) and in Didinga-Murle (Surmic). The latter (Surmic) languages are strongly influenced by Teso-Turkana, as argued in Dimmendaal (2005). The Nilotic languages in turn may have developed a verb-initial syntax (with corresponding case-marking features for Agent and Subject) through areal contact with the Kuliak languages. One member of this cluster, Ik (Teuso), marks the post-verbal Subject (in intransitive clauses) and the Agent (in transitive clauses) with Nominative case whenever the Agent refers to a third person (König 2002: 115).

This historical hypothesis, plausible in itself, is weakened by the following complications that would need to be accounted for. Apart from the question of why the Kuliak languages did not develop an ergative system, we are left asking why Berta also has a Nominative-Absolutive, rather than an Ergative-Absolutive, system. Moreover, Marked Nominative systems are also attested in Cushitic and Omotic (Afroasiatic) languages; compare the survey by König (2006). None of these Afroasiatic languages, however, manifests (split) ergativity, as far as present knowledge goes. At the same time, we see that the (Marked) Nominative is often formally similar to, or even identical to, Genitive case in Omotic languages, for example. And the latter often form the etymological basis for ergative markers.

Such constellations suggest that there is a deeper, structural reason why ergativity is so rare in (Eastern) Africa, and that it is something in the inherent organization of these languages which results in parallel developments. Mithun (1991) has observed that lexical aspect (Aktionsart), agency, control and affectedness are semantic features that have a bearing on the split of Subject between Agent and Patient. Thus, inchoatives denote temporary conditions (or states) and may call for Object marking for the affected entity. State (as opposed to affectedness) may call for Subject marking, as Azeb Amha (2009) shows for the Omotic language Wolaitta. Such fluid-S and Split-S marking are very common in Nilo-Saharan and Afroasiatic languages in the area. Song (2001: 152) has observed that head marking on the verb is a far more frequent realization of active-stative marking at the clausal level than is dependent marking; the verb is a more compatible host for the active-stative marking than is the noun. Diathesis or voice marking on the verb is also prominent in Cushitic and Omotic, as well as in Nilo-Saharan, languages. It would seem, then, that several of the Nilo-Saharan and Afroasiatic languages in the area have an elaborate system of grammatical relations marked on verbs (and may be characterized as "Active languages" in the sense of Klimov 1976)). But this of course leads towards another "chicken-and-egg" question: Why are such verb-coding systems more common, not only in this area but on the African continent as a whole? Perhaps the ultimate answer is: Ignoramus et ignorantibus.

Acknowledgements

Research on Tama and Tima between 2002 and 2004 was made possible through project A3 of the “Sonderforschungsbereich” ACACIA 389 (Arid Climate, Adaptation and Cultural Innovation in Africa) financed by the German national science foundation, the DFG. I would like to thank Prof. Al-Amin Abu-Manga, Director of the Institute for African and Asian Studies of the University of Khartoum, for providing the necessary research clearance and for his tireless support.

---

5 Complications occur, according to the same author (König 2002: 115), when the Agent is a first or second person; in that case, the Object also occurs in the Nominative.

6 Azeb Amha & Dimmendaal (2006) and Dimmendaal (2007a, 2011) have argued for this so-called 'self-organizing' principle on independent grounds.
Some of the ideas presented in this contribution were discussed at the *Workshop on Grammar and Processing of Verbal Arguments* (April 2007) at the University of Leipzig. An earlier version of the present paper was presented at the *9th Nilo-Saharan Languages Conference* in Paris (August 2007). I would like to thank the various members of the audience in Leipzig and Paris, in particular Doris Payne, for critical comments and suggestions.

**Abbreviations**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABL</td>
<td>Ablative</td>
</tr>
<tr>
<td>ABS</td>
<td>Absolutive</td>
</tr>
<tr>
<td>ACC</td>
<td>accusative</td>
</tr>
<tr>
<td>AP</td>
<td>antipassive</td>
</tr>
<tr>
<td>CAUS</td>
<td>causative</td>
</tr>
<tr>
<td>COMP</td>
<td>complete</td>
</tr>
<tr>
<td>D</td>
<td>declarative</td>
</tr>
<tr>
<td>DAT</td>
<td>dative</td>
</tr>
<tr>
<td>DEF</td>
<td>definite</td>
</tr>
<tr>
<td>ERG</td>
<td>ergative</td>
</tr>
<tr>
<td>FOC</td>
<td>focus</td>
</tr>
<tr>
<td>IMPF</td>
<td>imperfective</td>
</tr>
<tr>
<td>INST</td>
<td>instrumental</td>
</tr>
<tr>
<td>IT</td>
<td>itive</td>
</tr>
<tr>
<td>NEG</td>
<td>negation</td>
</tr>
<tr>
<td>LOC</td>
<td>locative</td>
</tr>
<tr>
<td>NE</td>
<td>Northern Eastern Sudanic</td>
</tr>
<tr>
<td>NOM</td>
<td>nominative</td>
</tr>
<tr>
<td>NTS</td>
<td>having a non-topical subject</td>
</tr>
<tr>
<td>OBL</td>
<td>casus obliquus</td>
</tr>
<tr>
<td>PAS.A</td>
<td>agented passive</td>
</tr>
<tr>
<td>PAST</td>
<td>past tense</td>
</tr>
<tr>
<td>PERF</td>
<td>perfective</td>
</tr>
<tr>
<td>SBO</td>
<td>subordinate clause marker</td>
</tr>
<tr>
<td>SEE</td>
<td>South-Eastern Eastern Sudanic</td>
</tr>
<tr>
<td>SG</td>
<td>singular</td>
</tr>
<tr>
<td>SPEC</td>
<td>specifier</td>
</tr>
<tr>
<td>SUBJ</td>
<td>subjunctive</td>
</tr>
<tr>
<td>VEN</td>
<td>ventive</td>
</tr>
</tbody>
</table>

**References**

Abdel Hafiz, Ahmed Sokarno 1988

*Reference Grammar of Kunuz Nubian.* PhD Dissertation, State University of New York at Buffalo

Aissen, Judith 2003

'Differential object marking: Iconicity vs. economy.' *Natural Language and Linguistic Theory* 21: 425-483

Amha, Azeb 2009


Amha, Azeb, and Gerrit J. Dimmendaal 2006


Andersen, Torben 1991

'Subject and topic in Dinka.' *Studies in Language* 15: 265-294

Andersen, Torben 1995

'Absolutive and Nominative in Berta.' In: Robert Nicolai and Franz Rottland (eds.) *Proceedings of the Fifth Nilo-Saharan Linguistics Colloquium*, pp. 36-49. Cologne: Rüdiger Köppe

Andersen, Torben 2002

'Case inflection and nominal head marking in Dinka.' *Journal of African Languages and Linguistics* 23: 1-30

Baumann, J. J. 1979

Bossong, Georg 1985
*Empirische Universalienforschung. Differentielle Objektmrkierung in den Neuiranischen Sprachen.* Tübingen: Gunter Narr

Browne, Gerald M. 2002
*Old Nubian Grammar.* Munich: LINCOM EUROPA

Comrie, Bernard 1981

Creider, Chet A. 1989
*The Syntax of the Nilotic Languages: Themes and Variations.* Berlin: Dietrich Reimer

Dimmendaal, Gerrit J. 1983
*The Turkana Language.* Dordrecht: Foris Publications

Dimmendaal, Gerrit J. 1998
'A syntactic typology of the Surmic family from an areal and historical-comparative point of view.' In: Gerrit J. Dimmendaal and Marco Last (eds.) *Surmic Languages and Cultures,* pp. 35-81. Cologne: Rüdiger Köppe

Dimmendaal, Gerrit J. 2002

Dimmendaal, Gerrit J. 2007a
'Eastern Sudanic and the WadiHowar and Wadi el Milk diaspora.' *Sprache und Geschichte in Afrika* 18: 237-267

Dimmendaal, Gerrit J. 2007b

Dimmendaal, Gerrit J. 2010a

Dimmendaal, Gerrit J. 2010b

Dimmendaal, Gerrit J. 2010c

Dimmendaal, Gerrit J. 2011

Dimmendaal, Gerrit J. To appear

Dixon, R.M.W. 1994
*Ergativity.* Cambridge: Cambridge University Press

Edgar, John 1991

Ehret, Christopher 2001
*A Historical-Comparative Reconstruction of Nilo-Saharan.* Cologne: Rüdiger Köppe
Garratt, Andrew 1990
'The origin of split-ergativity.' *Language* 66: 261-296

Givón, Talmy 1980
'The drift away from ergativity: Diachronic potentials in Sherpa.' *Folia Linguistica* 1: 41-60

Greenberg, Joseph H. 1963 [1966]
*The Languages of Africa.* (International Journal of American Linguistics, Vol. 29, 1, Part II)

Klimov, Georgij A. 1974
'On the Character of Languages of Active Typology.' *Linguistics* 131:11-25

König, Christa 2002
*Kasus im Ik.* Cologne: Rüdiger Köppe

König, Christa 2006
'Marked nominative in Africa.' *Studies in Language* 30, 4: 655-732

König, Christa 2008
*Case in Africa.* Oxford: Oxford University Press

Miller, Cynthia, and Leoma Gilley 2001
'Evidence for ergativity in Shilluk.' *Journal of African Languages and Linguistics* 22: 33-68

Mithun, Marianne. 1991

Randal, Scott 2000
'Tennet's ergative origins.' *Occasional Papers in the Study of Sudanese Languages* 8: 67-78

Reh, Mechthild. 1996
*Anywa Language: Description and Internal Reconstructions.* Cologne: Rüdiger Köppe

Rilly, Claude 2004
'The linguistic position of Meroitic.' *ARKAMANI Sudan Electronic Journal of Archaeology and Anthropology,* http://www.ddl.ish-lyon.cnrs.fr/projets/clhass/PageWeb/ressources/Isolats/Meroitic%20Rilly%202004.pdf (12.11.2013)

Song, Jae Jung 2001
*Linguistic Typology: Morphology and Syntax.* Harlow: Longman

Stirz, Timothy M. 2012
*A Grammar of Gaahmg. A Nilo-Saharan Language of Sudan.* Utrecht: LOT