

RESEARCH

Subject Clitics: New Evidence from Old Nubian

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This article treats a set of subject cross-referencing morphemes in the medieval Nilo-Saharan language Old Nubian, traditionally called “personal endings.” Based on an analysis of their syntactic distribution and morphology, I argue that this set can be best described as a set of subject clitics, originally deriving from phonologically reduced pronominals. This set of subject clitics interacts with both topic and focus makers in the clause. Finally, by inspecting the historical development of Old Nubian subject clitics into full-fledged agreement suffixes modern Nile Nubian languages Nobiin and Mattokki (Kenzi) I argue that a purely syntactical approach to this development is impracticable, but that any morpho-phonological approach should be able to account for the diachronic data.

Keywords: Nilo-Saharan languages; Old Nubian; clitics; agreement; typology

1 Old Nubian

Old Nubian is a Nilo-Saharan language (Greenberg 1963: 85, 130) spoken in the medieval Nubian kingdoms established above the First Cataract of the Nile: Nobadia, Makuria, and Alwa.¹ It has been attested between the 8th and 15th centuries (Browne 2002: 1), with a highpoint around the 12th century (Ochała 2014: 41–42). The kingdoms were Christian, and the attested textual material that remains comprises both literary and documentary texts.

Old Nubian is part of the Nubian family within the North-Eastern Sudanic subgroup of the Nilo-Saharan phylum. Its closest relatives are the Nile Nubian languages Andaandi (Dongolawi), Mattokki (Kenzi), and Nobiin, as well as the Western Nubian languages that include Birgid, Midob, and a diverse group of Kordofan Nubian languages. Together with Meroitic, it is the oldest known representative of the Nilo-Saharan phylum, the least studied of all African macro-families.

Old Nubian is an agglutinative SOV language (Browne 2002: 91), with a nominative–accusative case marking system (van Gerven Oei 2014: 170–74).

Although perhaps obvious, it should be pointed out that Old Nubian is a dead language. This means that our data set is by definition limited to the Old Nubian texts that have been published and those that we still hope to find at archeological excavations. In spite of this considerable handicap, we hope to prove that the set of “personal endings” thus far quietly assumed to be agreement morphemes are in fact a set of subject clitics.

¹ The author would like to thank the three anonymous reviewers for their time and helpful comments, and would like to express his solidarity with the mission of *Glossa* and all other open access journals to make scholarly knowledge available to everyone.

Table 1: Old Nubian “personal endings”.

	pers. ending	pers. ending + PRED
1SG	-i -i	-e -e
2/3SG	-n - (i)n	-na - (i)na
1/2PL	-ou -ou	-o -o
3PL	-an -an	-ana -ana

2 The distribution of Old Nubian “personal endings”

Old Nubian features a series of morphemes that appear on verbal forms after tense morphology, but before the predicate marker -a -a (Table 1).² These morphemes are referred to in the literature as “personal endings” (Browne 2002: 49; Bechhaus-Gerst 2011: 72; Smagina 2017: 38).

These morphemes are not always present on verbal forms, thus leading scholars to differentiate between “non-finite” or “predicative” forms, which don’t exhibit these morphemes (Hintze 1971: 287; Browne 2002: 50; Bechhaus-Gerst 2011: 68), and “finite” or “indicative” forms, which do (Hintze 1977: 39; Browne 2002: 50; Bechhaus-Gerst 2011: 71). The prevalence of this terminology tacitly suggests that the “personal endings” should be interpreted as agreement morphology.

I have argued, however, that the finiteness of a verb should not be correlated with the presence of one of these cross-referencing morphemes, but rather with the presence of predicate marker -a (van Gerven Oei 2015a: 317–322).³ Thus, an explanation for the distribution of these “personal endings” should be sought elsewhere.

In order to determine the morphological and syntactical status of this set of morphemes, let us first investigate their precise distribution.

First, they are usually absent when the subject of the sentence is overt, unless it is marked by the topic marker -eion -eion.⁴ Compare the following two phrases from a text known as *The Miracle of Saint Mēnas*:⁵

- (1) DBMNT 713.4.16
 ἄπογγιλ πῆσαρα·
 apogg-il pes-ar-a
 skipper-DET say-PST1-PRED
 ‘The skipper said.’
- (2) DBMNT 713.5.14–15
 ἄπογγιλλον πῆσνα·
 apogg-il-lon pes-s-n-a
 skipper-DET-TOP say-PST2-2/3SG-PRED
 ‘The skipper said.’

² See for the most recent comprehensive discussion of verbal morphology Browne (2002: §3.9.6). We will deal with the predicate marker below (§6), but see van Gerven Oei (2015a) for a full overview.

³ See also Weber-Thum & Weschenfelder (2015: 311).

⁴ Phonologically /-jon/. The initial glide of the suffix sometimes undergoes assimilation or deletion depending on the final phoneme and stress of the final syllable it is suffixed on.

⁵ DBMNT numbers refer to the Database of Medieval Nubian Texts, <http://www.dbmnt.uw.edu.pl/>, which contains full bibliographical information.

Apart from the difference in preterite marker, which we will not address here,⁶ the verbal forms in examples (1) and (2) differ in that the latter features a personal ending, whereas the former doesn't. In his analysis of this text, Browne (1994: 32) suggests this variation may be "because of similar variation in the Greek Vorlage," where *pesara* 'say-PST1-PRED' would correspond to the Greek present tense *legei* and *pešna* 'say-PST2-2/3SG-PRED' to Greek aorist *eipen*. Evidence from bilingual psalms, however, shows that this matching is not consistent throughout Nubian translations from Greek and should therefore be discarded. I will argue below that the decisive difference between (1) and (2) is the presence of the topic marker *-eion* in (2), which shows that the subject has moved leftward out of its original position.

Second, "personal endings" are usually present when the subject is null.

- (3) DBMNT 1009.ii.12–15
 τ̄λλᾱ ἀννᾱ ον̄ τη̄γκ̄δε̄ρτᾱ ἀννᾱσ̄ν̄ τ̄ᾱᾱᾱω̄λο̄ τε̄ε̄λ̄ ᾱο̄ῡᾱᾱρε̄ //
 till-a an-na on tēukder-t-a an-na-sin tad-dō-lo
 God-PRED 1SG-GEN and help-NMLZ-PRED 1SG-GEN-EMP 3SG-SUP-FOC
 teeil doud-d-r-e
 hope exist-INTEN-PRS-1SG.PRED
 'My God and my helper, in him I will hope.' (Ps. 90:2)

In (3), the first person singular subject is not overtly expressed. Instead we find a personal ending on the main verb *teeil douddre* 'hope exist-INTEN-PRS-1SG.PRED.'⁷

These preliminary data show that an interpretation of the Old Nubian "personal endings" as agreement morphology is questionable.

2.1 Topicalization

In van Gerven Oei (2015a: 319) I argued that the distribution of the personal endings can be partially correlated with the presence of the topic marker *-eion*, as on (2) *apoggillon* 'sailor-DET-TOP.' In the context of the current paper this should be reformulated as follows: personal endings can be correlated with an empty subject position, which is either the result of leftward movement (often topicalization) or pro-drop.

The topic marker *-eion* is a second-position clitic (cf. Spencer & Luís 2012: 48) and etymologically related to the conjunction *on* 'and.' It is traditionally translated as 'and' or 'but,' or is otherwise left untranslated. It marks the topic of the sentence and is a common occurrence in literary Old Nubian texts, although it remains virtually unattested in the documentary, non-literary evidence.

When we look at some of the contexts in which it is frequently employed, we may notice that its presence is often connected to scrambling and quantifier raising, allowing word order patterns that are not allowed in a regular Old Nubian SOV sentence.

- (4) DBMNT 1008.A.21–22
 ε̄κ̄κ̄ον̄ ε̄ῑᾱ [τ̄]̄ᾱᾱρε̄σ̄ν̄ ε̄ο̄κ̄κ̄ο̄ρ̄ ᾱῑᾱω̄ ᾱο̄ῡτ̄ᾱκ̄ο̄κ̄κᾱ
 eik-k-on_j [ei-a tid-d-r-e_i]-sin_k
 2SG-ACC-TOP say-PRED give.2/3-INTEN-PRS-1SG.PRED-EMP
 [_{vp} pro_i ηokkor ai-dō auou-tak-o-k-ka t_j t_k]
 miracle 1SG-SUP do-PASS-PST1-DET-ACC
 'And I will tell you of the miracle that happened to me.'

⁶ See for a very preliminary discussion van Gerven Oei (2015b: 53–54).

⁷ The intentional mood was previously known as the future tense (Browne 2002: 50). Its distribution, however, suggests that it is not a tense suffix but should rather be included under the category mood (van Gerven Oei 2014: 178).

In a neutral sentence order, we would expect the indirect object *eikkon* ‘2SG-ACC-TOP’ and verbal predicate *eia tiddresin* ‘say-PRED give.2/3-INTEN-PRS-1SG.PRED-EMP’ to follow the object *ηοκκορ αιδο αυουτακοκκα* ‘miracle 1SG-SUP do-PASS-PST1-DET-ACC.’ In this case however, the verbal predicate has moved leftward and has been marked by emphatic marker *-sin*,⁸ while the indirect object has become the topic, marked by *-eion*.

As to the motivation of this type of leftward movement in literary texts, it often seems to occur in contexts in which a Nubian translator attempts to emulate the original Greek sentence order.⁹ This was often difficult, because with the emergence of Hellenistic *koinē* Greek had transitioned from an SOV to an SVO language (Taylor 1994). In practice, this meant that Nubian translators needed to invent strategies to move the verb to the left of the object without being ungrammatical. The liberal employment of the topic marker *-eion* attached to a constituent (often the subject) moved to the left edge appears to have been one of such strategies.

We fortunately have a small number of fully bilingual Old Nubian–Greek texts,¹⁰ which allow us to test this hypothesis. Consider the following Old Nubian translation of Ps. 61:11, *mē elpizete ep’ adikian kai epi harpagmata mē epipotheite* ‘Trust not in unrighteousness, and lust not after robberies.’

- (5) DBMNT 1002.i.3–7
 teeṛmenasō okkḏṛtṅgouka on souṛtṅgoukenḏeeion eikiḏmennasō //
- teeir-men-a-sō_i [TP okkdirty-in-gou-ka t_i] on
 hope-NEG-PRED-COMM injustice.NMLZ-PL-PL-ACC and
 souṛt-in-gou-k-ende-eion_j
 grasping-PL-PL-ACC-CONJ-TOP
 eik-ij-men-na-sō_k [TP t_j t_k]
 be.near-PLACT-NEG-IMP.2/3PL.PRED-COMM
 ‘Do not hope for injustices nor be eager for graspings.’ (Ps. 61:11)

Old Nubian imperative forms always move to the left of their objects, as in the first part of the translation, where the verb form *teeirmenasō* ‘hope-NEG-PRED-COMM’ precedes its object *okkdirtygouka* ‘injustice.NMLZ-PL-PL-ACC.’ This word order naturally matches the Greek word order *mē elpizete ep’ adikian*.

After the conjunction *on* ‘and,’ we find the inverse order imitating the Greek *epi harpagmata mē epipotheite* with the object *sourtingoukendeeion* ‘grasping-PL-PL-ACC-CONJ-TOP’ preceding the imperative *eikijmennasō* ‘be.near-PLACT-NEG-IMP.2/3PL-COMM.’ But as we know that the imperative verb form must have left its original position and moved to the left, this means that the object has moved even further leftward. This is confirmed by the presence of topic marker *-eion*. We therefore may assume a double movement: leftward movement of both imperative forms and topicalization of the object in the second clause.

The same topic marker *-eion* is frequently found together with the universal quantifier, which in Old Nubian often displays overt quantifier raising.

⁸ The precise distribution, meaning, and use of this morpheme are still unclear. There is however a strong correlation between its appearance and scrambled constituents. See Browne (1997: 28–37) for an overview of its distribution.

⁹ It is well established that preserving Greek word order was one of the more important aspects of the Bible translation. See Askeland (2012: 10–11). See also van Gerven Oei & Tsakos (in preparation).

¹⁰ DBMNT 1002.i.1–20; 1003; 1009; 1010.

- (6) DBMNT 713.10.10–11
 κῑ̄ττα μῑ̄σσαννον κασκασελαδω τῑ̄μῑ̄σαννα·
 kipt-a miššan-non_i kaskase-l-dō [_{TP} t_i timm-is-an-a]
 people-PRED all-TOP baptistery-DET-SUP assemble-PST2-3PL-PRED
 ‘All the people assembled in the baptistery.’

Both the scrambling data in (4) and (5) and the quantifier raising in (6) show that the topic marker *-eion* should be associated with leftward movement.

2.2 Null subjects

Whenever the subject is moved leftward out of the core clause and into a topic position, leaving a subject gap, we find “personal endings” on the verb.

- (2′) apogg-il-lon_i [_{TP} t_i pes-s-n_i-a]
 skipper-DET-TOP say-PST2-2/3SG-PRED
 ‘And the skipper said.’
- (6′) kipt-a miššan-non_i kaskase-l-dō [_{TP} t_i timm-is-an_i-a]
 people-PRED all-TOP baptistery-DET-SUP assemble-PST2-3PL-PRED
 ‘All the people assembled in the baptistery.’

This analysis is also consistent with our data suggesting that such cross-referencing morphology is present whenever the subject is null in pro-drop contexts:

- (4′) eik-k-on_j [ei-a tid-d-r-e_i]-sin_k
 2SG-ACC-TOP say-PRED give.2/3-INTEN-PRS-1SG.PRED-EMP
 [_{TP} pro_i ηokkor ai-dō auou-tak-o-k-ka t_j t_k]
 miracle 1SG-SUP do-PASS-PST1-DET-ACC
 ‘And I will tell you of the miracle that happened to me.’
- (7) DBMNT 713.1.11–2.2
 εῑφῑ̄ττοῦ εῑοκῑ̄τλω δῑεῑκον κοῑ̄λλο ἔνονα· σεγατῑ̄τκον κονῑ̄μενναλω·
 eīñittou ηokkt-lō [_{TP} pro_i diei-k-on ko-a-lo
 wealth.NMLZ glory.NMLZ-LOC be.many-ACC-TOP have-PRED-FOC
 en-o-n_i-a] seu-att-k-on_j
 be-PST1-2/3SG-PRED inherit-NMLZ-ACC-TOP
 [_{TP} pro_k t_j kon-men-n_k-a-lō]
 have-NEG-PRS.2/3SG-PRED-FOC
 ‘In wealth and glory she possessed much, but an heir she did not have.’
- (8) DBMNT 713.9.14–16
 δῑοκκον μαν δῑπῑ̄ν γαδλω κενῑ̄οσαννα·
 aou-k-kon_i man dipp-in gad-dō
 ship-ACC-TOP DEM.DIST village-GEN shore-SUP
 [_{TP} pro_j t_i ken-oos-s-an_j-a]
 place-ASP-PST2-3PL-PRED
 ‘And they beached the ship on the shore of that village.’

Data from non-coreferential (non-subject) relative clauses (van Gerven Oei 2015b: 18–21) confirm the fact that null subjects are correlated with “personal endings.” Note that overt subjects in Old Nubian non-coreferential relative clauses are marked with the genitive case, as in for example Altaic languages and Japanese (see, e.g., Krause 2001).

- (9) DBMNT 713.2–3
 ΚΟΥΜΠΟΥ Εἴ ΤΑΝ᾽ΝΑ ΚἰΨἰΛ ΔΟΥΜΑΛ ΔΟΥΤΡΑΠ᾽ ΔΨΡΑΕΑ
 koumpou [_{RC} ein tan-na kip-s]-il doumal doutrap
 egg DEM.PROX 3SG-GEN eat-PST2-DET suddenly fowl
 añ-r-añ-a
 live-DET-INCH-PRED
 ‘this egg that he had eaten suddenly coming to life as a fowl’

The relative clause in (9) is non-coreferential, with the relativized object *koumpou* ‘egg.’ Its overt subject *tanna* ‘3SG-GEN’ is marked with the genitive case, and the participial form *kipsil* ‘eat-PST2-DET’ shows no “personal ending.”

- (10) DBMNT 1391.5.4–7
 ἔΛΟΝ ΜΥΣΤΗΡΟΥ ΕἰΚΚΑ ΕἸΔΡΟΥΚΑ ΟΥΚΑ ΠἰΛἰΓΡᾶ ΔΕΦ᾽ΘΕΟ
 el-on mustērou [_{RC} *pro*_i eik-ka egid-r-ou_i]-ka ou-ka
 now-TOP mystery 2SG-ACC ask-PRS-1/2PL-ACC 1PL.EXCL-ACC
 pill-igr-a deñ-j-e-so
 shine-CAUS-PRED give.1-PLACT-IMP.2/3SG.PRED-COMM
 ‘And now reveal to us the mystery which we ask you.’

The non-coreferential RC in (10) has an implied subject ‘we’ and a subject clitic on the verb *egidrou-* ‘ask-PRS-1/2PL.’ The distribution in non-coreferential relative clauses (9) and (10) thus parallels the distribution in main clauses (1) and (7), in spite of the fact that the latter feature nominative subjects and the former genitive subjects.

3 Subject clitics or agreement

Fuß (2005: 130–39) provides a typological framework that allows us to interpret the data on Old Nubian “personal endings” presented above, offering several syntactic and morphological criteria (based on Zwicky & Pullum 1983)¹¹ to distinguish clitics from agreement markers. Not all syntactic and morphological criteria listed by Fuß are applicable or testable in Old Nubian, for lack of living speakers. I have only listed those that can be verified based on the extant material. Moreover, because agreement is completely absent in Old Nubian, it is difficult to test the morphological criteria language-internally. Comparative evidence with Nobiin and Mattokki, however, gives us some indication of their validity.

(11) Syntactic criteria:

- Clitics have complementary distribution with DP arguments;
- Clitics don’t show up in subject gap environments;
- Clitic doubling usually only appears with definite DPs.

(12) Morphological criteria

- Clitics exhibit a lower degree of host selectivity than agreement;
- Clitics exhibit fewer morphological and semantic idiosyncracies than agreement;
- Clitics exhibit fewer arbitrary gaps in their paradigm than agreement.

¹¹ See also Anderson (2005: 33); Spencer & Luís (2012: 108).

3.1 Syntactic criteria

Complementary distribution with DP arguments As we have seen in examples (1) vs. (7) and (9) vs. (10), there appears to be in general a complementary distribution between overt subject DPs and the series of “personal endings.” This is a first indication that we are in fact dealing with a series of *subject clitics* and not agreement. Compare this for example with subject clitic data from Zapotec (Broadwell 2005):

- (13) *Zapotec* (Broadwell 2005: ex. 1)
 Û-dàw réé = bíny gèhèht
 COMPL-eat PL-person tortilla
 ‘The people ate tortillas.’
- (14) *Zapotec* (Broadwell 2005: ex. 2)
 Û-dàw = réhby gèhèht
 COMPL-eat-3PL tortilla
 ‘They ate tortillas.’
- (15) *Zapotec* (Broadwell 2005: ex. 3)
 *Û-dàw = réhby réé = bíny gèhèht
 COMPL-eat-3PL PL-person tortilla
 ‘The people ate tortillas.’

Similarly, other languages with subject clitics exhibit clitic doubling behavior such as noticed in (2) and (6), where the subject has moved and left a trace. Compare, for example, data from Rumantsch (Anderson 2006), which allows clitic doubling in case of subject inversion.

In Rumantsch, subject clitics appear when the subject is inverted or when it is absent. Regular sentence order:

- (16) *Rumantsch* (Anderson 2006: ex. 1)
 Ursus discorra rumantsch stupent
 Ursus speak.3SG Rumantsch excellently
 ‘Ursus speaks Rumantsch very well.’

With a null subject, a subject clitic is obligatory:

- (17) *Rumantsch* (Anderson 2006: ex. 5)
 Rumantsch discorra = ’l stupent
 Rumantsch speak.3SG-3SG.M excellently
 ‘He speaks Rumantsch very well.’

Similarly, a subject clitic is obligatory with subject inversion:

- (18) *Rumantsch* (Anderson 2006: ex. 3a)
 Rumantsch discorra = ’l Ursus stupent
 Rumantsch speak.3SG-3SG.M Ursus excellently
 ‘Ursus speaks Rumantsch very well.’

- (19) *Rumantsch* (Anderson 2006: ex. 3b)
 *Ursus iscorra = 'l rumantsch stupent
 Ursus speak.3SG-3SG.M Rumantsch excellently
 '[intended] Ursus speaks Rumantsch very well.'

In these examples, subject clitics appear in conjunction with a null or moved subject. A similar situation can be observed in Old Nubian, where subject clitics appear in contexts where the subject is either null, or has moved to the left edge of the clause.

Absence in subject gap environments Unlike agreement, subject clitics are absent in subject gap environments, for example in conjoined clauses such as (5) and the following example:

- (20) DBMNT 713.15.10–15
 ΣΟΡΤΟΛΛΟΝ ΔΟΥΜΜΙΘΑ· ΤΕΔΔΩ ΣΙΕΛΑ· ΤΑΔΔΕ ΤΑΝ ΟΓΩΛΑΕ. ΤΑΝ ΓΑΔΑ'ΔΕ. ΤΑΝ
 ΜΕΔΘΟΥΝΙΓΟΥΛΔΕΚΕΚΚΑ ΠΪΤΑΡΙΣΝΑ
 sorto-l-lon doumm-ij-a ted-dō silel-a tad-de tan
 priest-DET-TOP take-PLACT-PRED 3PL-SUP pray-PRED 3SG-CONJ 3SG.GEN
 ogj-il-de tan ηad-de tan
 husband-DET-CONJ 3SG.GEN son.DET-CONJ 3SG.GEN
 medjou-ni-gou-l-dekek-ka pist-ar-is-n-a
 servant-PL-PL-DET-CONJ-ACC splash-TR-PST2-2/3SG-PRED
 'And the priest took them, prayed for them, and baptized her, her husband, her
 son, and her servants.'

In (20) only the final verb in the series of conjoined clauses *pistarisa* 'splash-TR-PST2-2/3SG-PRED' is marked with a subject clitic, whereas the other verbs *doummija* 'take-PLACT-PRED' and *silela* 'pray-PRED' are not. If the series of "personal endings" would be a form of agreement, we would have expected these morphemes to appear on all verbs.

Clitic doubling only with definite DPs The clitic doubling examples (2) and (6), in which the subject had moved to the left edge and was marked with topic marker *-ion*, already showed that in both cases the subject was definite. In both these cases and in the case of pro-drop clauses, the clitic licenses *pro* or the trace.

There are a few examples in which we find clitic doubling in which it is not immediately apparent that the subject has moved to the left. All of these examples, however, involve a complex syntax with embedded clauses or overt movement, and it is difficult to reconstruct the precise position of the subject. Referring to Swiss Rhaeto-Romance dialects, Fuß (2005: 192) observes that "clitic doubling fulfils certain stylistic (or, rather, discourse) functions in which a full element is added to reinforce an enclitic pronoun for reasons of emphasis."

- (21) DBMNT 1385.7.2–3
 ΟΥΕΛΛΟΝ ΠΕΣΙΜ[Α Μ]ΙΘΙΡΚΛ ΔΙΑΡΚΑ[Λ]Ο ΓΕΚΝΑΑ
 ouel-lon pes-imm-a mijirk-il
 one-TOP say-AFF.PRS.3SG-PRED disobedience-DET
 di-a-r-ka-lo ηek-n-a-a
 die-PST1-DET-ACC-FOC produce-PRS.2/3SG-PRED-QUOT
 'And again he says: "Disobedience produces death."'

In (21) we find both a definite subject marked by the determiner *-(i)l* (van Gerven Oei 2011: 256–62) and a verb marked by a subject clitic. This suggests that *mijirkil* 'disobe-

dience-DET' has moved to the left of the quotation, leaving a trace. Because it is illicit to have a topic marker in a quotation environment, this move is invisible on the surface.

- (22) DBMNT 687.113.5–6
 ἔλο πιναῖ ἰουδαίουσιν οὐροῦ οὐνοῦτακοῦ
 is-lo pi-n-a ioudaios-gou-n ourouou
 WH-LOC exist-PRS.2/3SG-PRED Jew-PL-GEN king
 ounn-outak-o-l
 bear-PASS-PST1-DET
 'Where is the born king of the Jews?'

In (22) we find a syntactically rare construction in which the main verb in a question has inverted without showing any special morphology (usually we find an affirmative suffix as in (23)). The constituent order follows exactly the Greek *Vorlage* and it may well be that underlyingly the subject has moved to a higher position in the clause. But again this is not visible.

- (23) DBMNT 713.9.16–10.3
 κῦριακεν οὐκοῦρ εἰνῆνον ἀπογγῆλ ἄπιπῆλαδω κεῖα κίενα
 kuriake-n oukour ein-in-non apogg-il dipp-id-dō
 Sunday-GEN day be-PRS.2/3SG-TOP sailor-DET village-DET-SUP
 ked-a ki-s-n-a
 ascend-PRED come-PST2-2/3SG-PRED
 'And as it was Sunday, the sailor went up to the village.'

In (23) we find a highly uncommon construction in which an entire subordinate clause is marked by the topic marker. Again we would have to assume that the subject has moved out of its original position, with the subject clitic licensing the empty position.

Finally, we have also one example of clitic doubling within a non-coreferential relative clause, with a genitive-marked subject:

- (24) DBMNT 1391.6.4–7
 ἔλονδεῖον δεκκιγῆμενδρελοῖ εἴεῖοῦ εἰν οὐννα ἀικα ἔκιδροῦκ
 elon-de-eion dekk-igir-men-d-r-e-lo ἡεῖου ein
 now-CONJ-TOP conceal-CAUS-NEG-INTEN-PRS-1SG.PRED-FOC thing DEM.PROX
 oun-na ai-ka ekid-r-ou-k
 2PL-GEN 1SG-ACC ask-PRS-1/2PL-ACC
 'And now I will not conceal the thing that you asked me.'

Non-coreferential relative clauses do not allow for a topic position, and on the surface it appears as if the subject has not moved to a higher position. A possible explanation for the presence of the explicit subject *ounna* in the relative clause could be to disambiguate the verbal form.

More data are needed to explain the precise distribution of clitic doubling beyond the clear-cut topicalization cases. Fuß (2005: 132) indicates that clitic doubling constructions can easily be misinterpreted as agreement configurations and are therefore often a hinge in the historical development from clitics to agreement. As we will argue below, this is precisely what happened in the transition from Old Nubian to contemporary Nile Nubian languages.

3.2 Morphological criteria

Low degree of host selectivity (promiscuous attachment) Agreement affixes are usually more rigid in their host selectivity than clitics. Old Nubian subject clitics are generally only found on verbal roots or nouns to which a verbalizer has been attached. There is one attestation of a subject clitic that appears to attach to a question word, but the form, which is a hapax, may very well have a different analysis:

- (25) DBMNT 1385.1.7–9
 ΓΑΕΙἈ ΟΥΚ ΟΚΙΘἈΡΡΕ· ΤΙΚΑΝΕΓΟΥἘΜΑ ΣΕΝἈ· ΜΕΝΕΝΝ[ΟΝ] ΚΟΡΟΣΕΓΟΥἘΜΑ·
 ἡαει-a ou-k ok-ij-ar-r-e tikan-e-goue-ma
 who-PRED 2PL-ACC call-PLACT-INTEN-PRS-1SG.PRED sheep-PL.PRED-PL.PRED-AFF
 s-en-a menennon koros-e-goue-ma
 WH-PRS.2/3SG-PRED and.not shepherd-PL.PRED-PL.PRED-AFF
 ‘What shall I call you, are you sheep and not shepherds?’

Morphological and semantic idiosyncracies Old Nubian subject clitics have no morphological effect on their host words and show no semantic idiosyncracies.

Arbitrary gaps Old Nubian subject clitics used in regular declarative sentences show no arbitrary gaps. However, on verb forms featuring the so-called affirmative suffix (used in emphatic contexts) there may be a gap with 2SG and 2PL verb forms. For first and third person affirmative verb forms we find the regular subject clitics (with assimilation to the affirmative suffix):

- (26) DBMNT 713.6.8–10
 ἈΛΕCἸ ΟΥΝΡΕ ἘΝΕΝΝΟΝ· ΧΡΙCΤΙΑἸΝΟCΑΓΑΔἸΜΜΕ·
 ale-sin oun-r-e en-en-non
 true-EMP bear-PRS-1SG.PRED be-PRS.2/3SG-TOP
 khristianos-aḡ-ad-imm-e
 Christian-INCH-INTEN-AFF.PRS-1SG.PRED
 ‘And if it be that I give birth, I will become a Christian.’

- (27) DBMNT 1004.i.11–12
 ἈἰἈΓἸΛΛΕ ΠῶCἸ ΔΙΕΝΚΕΤἈΛ· ἈΨἈΔἸΜΜἈ·
 ai-a-gil-le pis-eil di-en-ketal añ-ad-imm-a
 1SG-DAT-DIR-INT believe-DET die-PRS.2/3SG-also live-INTEN-AFF.PRS.3SG-PRED
 ‘Even if someone who believes in me dies, he will live.’

For second persons, however, we find suppletive forms without a subject clitic from the same series, ending in -λη *-lē* for 2SG and -λκε *-lke* for 2PL. The origin of these suppletive forms is unknown, but 2PL -κε *-ke* also appears on certain vetitive forms and in vocative contexts.

- (28) DBMNT 1004.ii.24–25
 ἈΛΕCἸ ΠῶCἸ ΕΥΕΝ ΤἸΛἸ ἘΟΚΚἈ ΓἈΔἈΡἈΛἸἈ·
 ale-sin pisteu-en till-in ἡok-ka
 true-EMP believe-PRS.2/3SG God-GEN glory-ACC
 ἡad-d-r-a-lē-a
 see-INTEN-PRS-PRED-AFF.2SG-QUOT
 ‘If you believe, you will see the glory of God.’

- (29) DBMNT 715.ii.4–5
 ουκκεταλ· εν̄εταλκε ογρογ·εν̄ οεν̄ τρικα δελογε̄δκα·
 ouk-ketal en-et-a-lke ourouei-n oei-n tri-ka
 2PL-also take-COMPL-PRED-AFF.2PL each.other-GEN foot-GEN pair-ACC
 jeloue-j-ka
 wash-PLACT-ACC
 ‘You also take up washing each other’s feet.’

4 Focus

Old Nubian exhibits effects of what Siewierska (2004: 159) calls “focus hierarchy,” the restriction of cross-referencing to non-focus-marked constituents. She provides several examples, including from the Chalcatongo Mixtec language (Macaulay 1996). Chalcatongo Mixtec is an VSO language, where a focus-marked subject precedes the verb. Topics move even further to the left.

- (30) *Chalcatongo Mixtec* (Macaulay 1996: ex. 203a)
 ñãʔã wáã xínũ
 woman the run
 ‘The woman is the one who is running.’

- (31) *Chalcatongo Mixtec* (Macaulay 1996: ex. 203b)
 ñãʔã wáã xínũ = ñá
 woman the run = 3F
 ‘The woman is running.’

(30) shows a full subject DP in preverbal focus position and a verb without subject clitic. In (31), the subject is the topic of the sentence, and therefore a subject clitic is allowed.

We find a similar distribution in Old Nubian. Although clitic doubling has been attested with definite DPs, it is absent when the DP in question is marked with the focus marker -λο/-λω -lo/-lō.¹²

- (32) DBMNT 1385.17.22–23
 δΟΥΝ̄δΟΥΡ̄ΤΛΟ ς̄αλλω ΔΟῩΑΡ̄Α· ς̄α[λλον] Τ̄λλιλ̄αλο [Δ]ΟῩΑΝ̄Α·
 joun-jour-t-lo sal-lō dou-ar-a sal-l-on
 go ~ INT-NMLZ-LOC word-FOC exist-PST1-PRED word-DET-TOP
 till-ila-lo dou-a-n-a
 God-DAT-FOC exist-PST1-2/3SG-PRED
 ‘In the beginning was the Word, and the Word was with God.’ (Jn 1:1)

In the first clause of (32), the subject *sallō* ‘word-FOC’ is marked with the focus marker -lō, while the main verb *douara* ‘exist-PST1-PRED’ remains without subject clitic. In the second clause, *sallon* has become the topic, leaving a subject gap, while the focus has shifted to *tillilalo* ‘God-DAT-FOC.’ As a result, we find a subject clitic on *douana* ‘exist-PST1-2/3SG-PRED.’ This example shows clearly how topic and focus marking and subject clitics interact.

In general, it appears that the presence of the focus marker -lo is correlated with the absence of movement:

¹² The only counterexample I have been able to find is in a bilingual psalm, DBMNT 1009.i.12–16.

- (33) DBMNT 713.1.5–7
 εῤῥοῦ οὐελλο ἀπποῦ οὐελλα ἀοῦᾶρα· ἀλεζανδρεν· ὠῤῥοῦλα·
 [_{TP} eittou ouel-*lo* dippou ouel-la dou-ar-a]
 woman one-FOC village one-DAT exist-PST1-PRED
 alezandre-n šik-gou-la
 Alexandria-GEN district-place-DAT
 ‘A woman lived in a village, in the district of Alexandria.’
- (34) DBMNT 713.10.4–6
 μᾶν ἀππιλαιον παρθενου ἑσσοῦ μαριαν κῆσσελλο ἑονῶδρα·
 man dipp-ila-eion_i [_{TP} parthenosou ηῖssou maria-n kisse-l-*lo*
 DEM.DIST village-DAT-TOP virgin holy Mary-GEN church-DET-FOC
 t_i ηonj-ar-a]
 stand-PST1-PRED
 ‘In that village stood the church of the Holy Virgin Mary.’

Thus the behavior of the Old Nubian focus marker complements our other data. Focus-marked subjects do not move leftward and are therefore correlated with the absence of subject clitics on the verb.

5 From subject clitic to agreement

Fuß (2005: 2) remarks that “it is a long-standing observation in historical linguistics that verbal agreement morphology develops from (originally independent) personal pronouns” and that clitics play a key role in the transition from pronoun to regular agreement. Based on previous literature he proposes the following grammaticalization scheme:

- (35) independent pronoun → weak pronoun → clitic pronoun → affixal
 (agglutinative) agreement marker → fused agreement marker → ∅

In the case of Old Nubian subject clitics, it appears that it is possible to establish a historical relation between pronouns and subject clitics:

- (36) Old Nubian subject clitics deriving from personal pronouns
- 1SG pronoun *ai* > 1SG clitic *-i*;
 - 1PL.EXCL pronoun *ou*, 2PL pronoun *our* > 1/2PL clitic *-ou*.
- (37) Old Nubian subject clitics deriving from demonstrative pronouns
- *ein* ‘this’ > 2/3SG clitic *-n*;
 - *man* ‘that’ > 3PL clitic *-an*.¹³

The different origins of first/second person and third person clitics, personal and demonstrative pronouns respectively, is not uncommon. Oswald Szemerényi argues that Proto-Indo-European person suffixes developed along the same lines (see Fuß 2005: 18n4). It is unclear at which stage in the history of Old Nubian the development from weak pronoun to clitic pronoun took place, but it appears that the incorporation of pronominal elements in the verbal complex was not restricted to cross-referencing with the

¹³ The demonstrative *man* itself replaced the proto-Nubian demonstrative **te*, which in Old Nubian became the 3SG pronoun *tar* (Rilly 2010: 429).

subject. For example, Smagina (2017: §46) argues that the passive marker *-tak*, derives from an incorporated 3SG.ACC pronoun *tak(ka)*.

The impetus for the reinterpretation of these subject clitics as agreement morphology in the Nile Nubian languages Nobiin and the closely related language varieties Mattokki (Kenzi) and Andaandi (Dongolawi) may have very well been the clitic doubling constructions with specific DPs discussed above. In Nobiin, the subject clitics have fused with tense morphology, and have become a stable agreement paradigm that is obligatory for any main verb (Bechhaus-Gerst 2011: 75–84).¹⁴ Mattokki, on the other hand, seems to have preserved the Old Nubian system, with only little change (Table 2).¹⁵

Fuß (2005: 233) claims that “[n]ew verbal agreement morphology arises only for those slots of the agreement paradigm where the existing verbal inflection is non-distinctive.” The data from Nobiin confirm this. Whereas the Old Nubian subject clitic paradigm had several syncretic forms (2/3SG and 1/2PL), Nobiin features innovative 2SG and 2PL forms. As may be observed in Table 2, the 2SG and 2PL agreement suffixes differ considerably from the Old Nubian tense + subject clitics, creating new, distinctive forms. The *-k* in the 2PL form can be traced back to the Old Nubian 2PL clitic *-κε* *-ke* (see (29)).¹⁶

- (38) DBMNT 714.21.15–22.1
 MNΛ OΥΛΓΡΙΜΕΝΑΚΕ ΠΑΡΤΑΚΟΚΚΑ·
 mn-a oulg-r-imen-a-ke par-tak-o-k-ka
 WH-PRED ear-TR-NEG-PRED-2PL write-PASS-PST1-DET-ACC
 ‘Don’t you hear what is written?’

Although the appearance of the clitic *-ke* is uncommon in Old Nubian texts, its nascent development should most probably be correlated with the grammaticalization process described above, with its usage in Nobiin becoming generalized up to the point that it became part of the 2PL agreement suffix. As for the second part of the innovative Nobiin agreement suffixes, *-(a)m*, we see a reflex of the Old Nubian finite predicate marker *-a* and the affirmative marker *-m(Δ)* *-m(a)*.

Table 2: Cross-referencing morphemes in Old Nubian, Nobiin (Werner 1987), and Mattokki (Abdel-Hafiz 1988).

		Old Nubian	Nobiin	Mattokki
Present	1SG	-(i)P-1 -(i)r-i	-ir/-il (-ri)	-r-i
	2SG	-(i/e)-N -(i/e)n	-nam	-i
	3SG	-(i/e)-N -(i/e)n	-ir	-i
	1PL	-(i/e)P-OY -(i/e)r-ou	-ir/-il (-ur/-ul)	-r-u
	2PL	-(i/e)P-OY -(i/e)r-ou	-rokom/-lokom	-r-u
	3PL	-(i/e)P-ΔN -(i/e)r-an	-inna	-r-a (n)

¹⁴ Agreement suffixes are not the only morphology in Nobiin that is the result of grammaticalization. Bechhaus-Gerst (2011: 137–81) devotes an extensive part of her historical study of Old Nubian and Nobiin to the grammaticalization of verbal complexes, including the development of applicatives from the verbs for ‘to give’ and the several proclitics derived from auxiliary verbs. She doesn’t, however, treat Nobiin agreement within the same framework.

¹⁵ Like Old Nubian, Nobiin, Mattokki, and Andaandi have retained basic SOV structure (Bender 1997: 39).

¹⁶ Cf. Zyhlarz (1928: 105); Bechhaus-Gerst (2011: 76).

- (39) DBMNT 714.20.3–6
 ταν ἀελλα πεσεν ἱερεῶσιλοτῶ κῆμῆσσομ γεῖμῆσσομα·
 tan aeil-la pes-en iereos-ilo-tjō
 3SG.GEN heart-DAT say-PRS.2/3SG priest-LOC-with
 kim-mis-s-o-m ηει-mis-s-o-ma
 eat-NEG-PST2-1/2PL.PRED-AFF drink-NEG-PST2-1/2PL.PRED-AFF
 ‘If he says in his heart that we did not eat or drink together with the priest.’

Again this morpheme rarely appears in Old Nubian in this form, but as is clear from (25), it appears in contexts where disambiguation may have been necessary, which led to a grammaticalization of the form in both 2SG and 2PL agreement markers in Nobiin.¹⁷ We may therefore posit the following historical development:

- (40) Innovative agreement markers in Nobiin

- *-nam* < **n-a-m(a)*
- *-rokom* < **ro-ke-a-m(a)*

As is clear from Table 2, Mattokki appears to be more conservative than Nobiin in its preservation of the neutral tense paradigm. The same appears to be true of the past tense, where Mattokki shows a preservation of the *-s* from the Old Nubian second preterite, whereas Nobiin has a syncretic paradigm combining forms from the Old Nubian first and second preterite (Bechhaus-Gerst 2011: 82–83).¹⁸

The development of agreement in contemporary Nile Nubian languages has led to the complete collapse of the Old Nubian discourse marking morphology. Both the topic marker *-eion* and focus marker *-lo* have disappeared without any trace. Considering the interaction and interdependence of topic and focus marking and the series of subject clitics that we described above, this may perhaps not be surprising, but begs the question about how the distribution of these morphemes in Old Nubian, and their eventual disappearance, can be modeled. Fuß’s approach only allows us to explain the development from subject clitic to agreement, but lacks an explanation for the larger collapse of the Old Nubian discourse marking system.

At the same time, it appears that Nobiin and Andaandi/Mattokki have developed a new series of clitics based on several Old Nubian auxiliary verbs. The first are the future tense clitics *fa(a)-* (Nobiin) and *b(i)-* (Andaandi/Mattokki) from the Old Nubian verb παλ/πελ *pal/pel* ‘to come out’:

¹⁷ It developed into a copula marker in Mattokki (Abdel-Hafiz 1988: 203).

¹⁸ There is still debate about the precise relation between Nobiin and Andaandi/Mattokki. Two main proposals are on the table. Bechhaus-Gerst (1989: 92) denies the existence of a genetically related Nile Nubian family, suggesting that Andaandi/Mattokki should be grouped together with Birgid and Kordofan Nubian. In this scheme, Andaandi/Mattokki would be only remotely related to Nobiin, whose direct ancestor is Old Nubian, which she consistently refers to it as “Old Nobiin” (Bechhaus-Gerst 2011). The great overlap in vocabulary would be the result of prolonged language contact. Based on extensive comparative work, however, (Rilly 2010, 2015) convincingly argues for a genetically related Nile Nubian family, consisting of an Andaandi/Mattokki branch and a Nobiin branch, with Old Nubian being the direct ancestor of the latter, while containing a large substrate of pre-Nubian loan words. As regards the relation between Old Nubian and Nobiin and Andaandi/Mattokki, Bechhaus-Gerst (1989, 2011) proposes a direct ancestral relation between Old Nubian and Nobiin, whereas Rilly (2010: 166) claims that Old Nubian is a *koinē* that is the result of the Andaandi/Mattokki incursion into Nobiin territory. He bases this suggestion upon the fact that of the 165 Old Nubian words remaining in contemporary Nile Nubian languages, 107 can be found in both, 22 only in Andaandi/Mattokki, and 36 only in Nobiin.

- (41) L 100.5–6
 ΤΙΛΛΙΛΛΩ ΕΔΔΑΛ ΠΕΛΑ ΔΟΥΛΛ[Δ]ΕΑΡΡΑ
 till-il-lō ed-dal pel-a
 God-DET-FOC 1PL.EXCL-COM come.out-PRED
 doull-aŋ-ar-r-a
 exist-INCH-INTEN-PRS-PRED
 ‘God will be with us.’
- (42) *Nobiin* (Bechhaus-Gerst 2011: 158)
 tan-gii-n as-ka fa-ed-i
 his-uncle-GEN daughter-ACC FUT-marry-PRS.3SG
 ‘He will marry his uncle’s daughter.’
- (43) *Mattokki* (Abdel-Hafiz 1988: ex. 113a)
 asalgi bi-juu-r-i
 tomorrow FUT-go-NEUT-1SG
 ‘I will go tomorrow.’

The second are the progressive/habitual clitics *aa(g)*- (*Nobiin*) and *a*- (*Andaandi/Mattokki*) from the Old Nubian verb *ak* ‘to sit, remain.’

- (44) DBMNT 1010.ii.20–21
 ἄκογπαρρασῆ κῖττογτογκα ογτῶλλε
 ak-oup-ar-r-a-sin kipt-ougou-ka ou-gil-le
 sit-fall-TR-PRS-PRED-EMP people-PL-ACC 1PL.EXCL-DIR-INT
 ‘He is overturning peoples for us.’
- (45) *Nobiin* (Bechhaus-Gerst 2011: 166)
 aademi-ri tan-dooro aag-jigg-inani
 people-PL he-about HAB-laugh-PRS.3PL
 ‘The people are laughing about him.’
- (46) *Mattokki* (Abdel-Hafiz 1988: ex. 122)
 iskarti-cci saay-g a-nii-r-a
 guest-PL tea-ACC PROG-drink-NEUT-3PL
 ‘The guests are drinking tea.’

6 Syntax or morphology?

Following an earlier proposal from Julien (2002), Fuß (2005: 209–14) proposes a syntactic solution to the development of agreement from subject clitic constructions in SOV languages. Whereas the subject clitic construction involves a complex “roll-up” including multiple leftward movement, the resulting surface order would then at a later stage of the language be reinterpreted as agreement. The drive behind the transition from a clitic to an agreement system would therefore be the reduction of movement and the simplification of the underlying syntactical structure.

Fuß’s solution is based on an analysis of subject agreement in the Mongolian SOV language Buryat, whose agreement suffixes clearly derive from independent nominative pronouns. This situation would be comparable to the subject agreement in contemporary Nile Nubian languages discussed above. Fuß’s shows that its ancestral language, classical

the ordering of specific clitics, as for example in (26) where the subject clitic precedes the predicate marker and (29) where subject clitic appears to follow it.

7 Conclusion

In this paper, I have argued that the Old Nubian “personal endings” can best be analyzed as subject clitics, based on their syntactical distribution and morphology. They interact with other discourse markers in the sentence. Topicalization of the subject, marked by *-eion*, is correlated with the presence of a subject clitic on the main verb in order to license the subject trace. Conversely, focus marking of the subject by *-lo* signals that the subject has stayed in situ and is therefore correlated with the absence of a subject clitic. Subject clitics also appear in pro-drop constructions, and definite subjects that are neither topicalized nor focus-marked may be doubled by a subject clitic.

Although overall the diachronic syntactical model developed by Fuß (2005) is helpful to think through the transition from the Old Nubian subject clitic system to the agreement system of contemporary Nile Nubian languages, his purely syntactic approach clashes with several aspects of the Old Nubian clitic system, perhaps most problematically the distribution of the predicate marker *-a*. Conversely, a morpho-phonological approach such as proposed by Anderson (2005) may allow us to properly model the behavior of Old Nubian clitics, but lacks explanatory power on a diachronic scale.

In their broad overview of the different theoretical approaches to clitics, Spencer & Luís (2012: 231–32) suggest that a morphological approach à la Anderson may be more productive than a purely syntactic approach, “[w]hat seems clear, though, is that grammatical theory has to have some way of accommodating the fact that some clitics are exponents just of morphosyntactic properties while other clitics are exponents of representations with more semantic content, possibly even full-blown semantic predicates.”

To this important observation we should add that such a grammatical theory should come up with a convincing approach toward diachronic data as presented in this paper. If indeed a fully syntactic approach à la Fuß is too cumbersome, a morphological approach should be able to account for the forms of reinterpretation discussed above. Moreover, on a more general level, we need to continue to seek a complete account in which the reanalysis of subject clitics as agreement has been accompanied by the complete collapse of a rich discourse marking system.

Abbreviations

Glossing abbreviations: 1 – first person; 2 – second person; 3 – third person; ACC – accusative; AFF – affirmative; APPL – applicative; ASP – aspect marker; CAUS – causative; COM – comitative; COMM – command marker; COMPL – completive; CONJ – conjunction; DAT – dative; DET – determiner; DIR – directive; EMP – emphasis marker; EXCL – exclusive; F – feminine; FOC – focus marker; FUT – future tense; GEN – genitive; IMP – imperative; INCL – inclusive; INT – intensive; INTEN – intentional; LOC – locative; M – masculine; NEG – negative; NMLZ – nominalizer; PASS – passive; PL – plural; PRACT – pluractional; PRED – predicate marker; PROG – progressive; PRS – present tense; PST1 – preterite 1 tense; PST2 – preterite 2 tense; REL – relative pronoun; SUP – superessive; TR – transitive; SG – singular; TOP – topic marker; WH – wh-word. The nominative is marked by a zero morpheme and has not been glossed.

Competing Interests

The author has no competing interests to declare.

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