The Egyptian Museum of Florence, in collaboration with the University of Florence, hosted the Eleventh International Congress of Egyptologists which took place from 23rd to 30th August 2015, under the patronage of the IAE – International Association of Egyptologists.

This volume publishes 136 papers and posters presented during the Congress. Topics discussed here range from archaeology, religion, philology, mummy investigations and archaeometry to history, offering an up-to-date account of research in these fields.

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Proceedings of the XI International Congress of Egyptologists

Florence Egyptian Museum
Florence, 23-30 August 2015

edited by

Gloria Rosati and Maria Cristina Guidotti

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Monika Zöller-Engelhardt

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Pottery from the early Roman rubbish dumps in Berenike harbour

Agnieszka Dzwonek

A sequence of five 13th Dynasty structures at Memphis

Rabee Eissa

Funerary culture of the Memphite region during the Early Dynastic Period

Barbora Janulíková

3D-Reconstructions of Late Roman fortresses in Egypt

Dmitry Karelin, Maria Karelina and Tatiana Zhitpeleva

The Roman Imperial cult temple at Luxor: its architecture and possible connection between Roman and Egyptian cultures

Irina Kulikova and Dmitry Karelin

One of the earliest discovered houses at Memphis

Hanan Mahmoud Mohamed

Reden und Rufe, are they kingly patterns? A first step towards an explanation of the origin(s) of speech captions in ‘daily life’ scenes in private tombs

Aurore Motte

Étude pluridisciplinaire de têtes de momies (Lyon)

Annie Perraud, Matthieu Ménager, Pascale Richardin and Catherine Vieillescazes

Progetto Osiris: valorizzazione delle piccole collezioni egizie

Massimiliana Pozzi Battaglia e Federica Scatena

Study and restoration of two mummies from the Moulins Museum

Noëlle Timbart

List of papers presented at ICE XI

Massimiliano Franci
The ang-morphs in Coptic and their grammaticalization in Later Egyptian

So Miyagawa

Collaborative Research Centre 1136, Universität Göttingen / Kyoto University / Japan Society for the Promotion of Science

Abstract
This study explores the possibility that the so-called ang-morphs, i.e., the phonologically reduced forms of independent personal pronouns in Coptic, are copulas. The literature states that Coptic has copulas that are derived from demonstrative pronouns, but there is no argument that the ang-morphs are copulas. However, these reduced forms are only used in nominal sentences, and they show a strong paradigmatic parallelism with the pe copulas. In order to indicate this, first, I typologized the grammaticalization patterns of copulas of diverse languages across the world, with reference to the literature on linguistic typology. I determined that there are three types of grammaticalization of copulas: (1) from an existential verb, (2) from a demonstrative pronoun, and (3) from a personal pronoun. Various languages have Type 3 copulas. Specifically, classical Syriac has the phonologically reduced forms of the independent personal pronouns as copulas. Their phonological reduction and semantic breaching are similar to the ang-morphs in Sahidic. From this typological point of view, the ang-morphs have the potential to be seen as copulas. Next, I conducted a corpus research on the digitized version of the Sahidic New Testament. The results show that anok ang-NP sentences occur with indefinite NPs, and that the anok pe NP sentences tend to occur with definite NPs. Thus, we can see the paradigmatic relationship of the ang-morphs and the pe copulas in these copulative sentences. Finally, I explored the degree of grammaticalization of the ang-morphs. The dialectal and historical research suggests that Sahidic and Mesokemic have the most reduced forms of the ang-morphs, and the equivalents to the Coptic anok ang-NP sentences in Demotic and Late Egyptian are rare. These factors suggest a high possibility that the grammaticalization of the ang-morphs as copulas from independent personal pronouns in Later Egyptian were most developed in Sahidic and Mesokemic.

Keywords
Coptic, Later Egyptian; copula; personal pronoun; grammaticalization

Introduction

1

The term 'copula' refers to a word that functions as 'a link or mark of relationship between one element and another' (Matthews 2007: 82). The grammaticalization process of copulas is often called 'copularization' (Lohndal 2009: 209). It is known that there are three patterns of copularization: (1) from verbs such as be in English (van Gelderen 2015: 297 and Lehmann 2015: 29), (2) from demonstrative pronouns such as shi in Mandarin Chinese (Lehmann 2015: 29; Li and Thompson 1977: 422; van Gelderen 2015: 291; Chang 2006: 131), and (3) from personal pronouns such as hu in Modern Hebrew (Li and Thompson 1977: 428). First, the Coptic stative verb o' evidently fits within Type 1, as in example (1).

(1) Type 1 in Sahidic Coptic (1 John 3:20)

\[
p-\text{route} \quad o \quad n-\text{not} \\
\text{DEF.ART.SG.M-god.SG.M} \quad \text{be/do.STAT} \\
\text{e-STAT} \\
\text{than-poss.ART.SG.M:1PL-heart.SG.M} \\
\text{‘God is greater than our heart.’}
\]

Abstract

In addition, the existing literature regards pe/te/ne as copulas (e.g., Callender 1984: 6; Allen 2013: 64), and it is well-known that these were derived from the Late Egyptian and Demotic demonstratives p3y/t3y/n3y, which also work as copulas (Allen 2013: 64; Loprieno 1995: 69).

(2) Type 2 in Sahidic Coptic (John 1:21)

\[
tok \quad pe \quad ðías \\
\text{SG,M} \quad \text{COP.SG.M} \quad \text{Elijah.SG.M} \\
\text{‘You are Elijah.’} / ‘It is you that is Elijah.’
\]

(3) Type 2 copulas derived from demonstrative pronouns in Later Egyptian

Sahidic: Demotic and Late Egyptian:

\[
\text{SG.M pe, SG.F te, PL ne} \quad < \quad \text{SG.M p3y, SG.F t3y, PL n3y} \\
\]

A historical change similar to the Coptic grammaticalization of the pe/te/ne copula from the demonstrative pronoun can be seen in Chinese. Compare Mandarin Chinese (4a) with Classical Chinese (4b). Here, you can see the copula shì was derived from the demonstrative pronoun. Moreover, in (4b), the Classical Chinese demonstrative shì and the copula shì exist at the same time.\footnote{This is a traditional interpretation. The Chinese characters of shì shì are 是 in the original text. The second character has been traditionally interpreted as a sign indicating the repetition of the previous character. However, in 2008, Wèi published an article stating that the second character = was not read as the previous character 是, but as the verb wèi 謂 (Wèi 2008). In this theory, the development of the copula shì 是 as found in Modern Mandarin, only occurred later. In any case, both the theories regard the first shì 是 as a demonstrative understanding that the Modern Mandarin copula shì 是 as grammaticalized from the demonstrative pronoun shì 是.}

(4) Type 2 in Chinese

a. Modern Mandarin Chinese (Li and Thompson 1977: 422)

\[
nèi-\text{ge} \quad \text{rén} \quad \text{shì} \quad \text{xuéshēng} \\
\text{DEM.DIST-CL} \quad \text{man} \quad \text{cop} \quad \text{student} \\
\text{‘That man is a student.’}
\]

b. Classical Chinese (4b)

\[
\text{shì} \quad \text{shì} \\
\text{是} \quad \text{是} \\
\text{是} \quad \text{is} \quad \text{as} \quad \text{found} \quad \text{in} \quad \text{Modern} \quad \text{Mandarin,} \quad \text{only} \quad \text{occurred} \quad \text{later.} \quad \text{In} \quad \text{any} \quad \text{case,} \quad \text{both} \quad \text{the} \quad \text{theories} \quad \text{regard} \quad \text{the} \quad \text{first} \quad \text{shì} \quad \text{是 as} \quad \text{a} \quad \text{demonstrative} \quad \text{understanding} \quad \text{that} \quad \text{the} \quad \text{Modern} \quad \text{Mandarin} \quad \text{copula} \quad \text{shì} \quad \text{是 as grammaticalized from the demonstrative pronoun shì 是.}
\]
b. Third-century BC Classical Chinese\(^8\) (Shuhiudi Qin Bamboo Texts ‘Rishù,’ Jiāzhòng Jiépiān, Bèiyì 27, see Ōno 2005; 51 and Lin 2005: 73)

rem wu guī gōng zhì bù

man without reason guī attack DEM NEG

yī shì shì\(^9\) cigū

stop DEM COP cigū

‘A man is attacked by guī without reason and it does not stop. This is cigū’.

We saw that Coptic has the Type 1 and 2 copulas. Does Coptic then have Type 3? The possibility is seen in the ang-morphs. Coptic has the phonologically reduced forms\(^11\) of the independent personal pronouns, shown in (5), that seem to be functioning like a copula as in (6). Here, I call these reduced forms the ang-morphs. The full forms of the independent personal pronouns can be used in any types of sentence. On the other hand, the ang-morphs are only used in copulative sentences, unlike their full forms.

(5) Sahidic independent personal pronouns and their phonologically reduced forms:\(^12\)

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<td>anok</td>
<td>ntok</td>
<td>ntef</td>
</tr>
<tr>
<td>PL</td>
<td>anon</td>
<td>nteň</td>
<td>nteou</td>
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<tr>
<td>SG</td>
<td>anok</td>
<td>ntk-</td>
<td>nte-</td>
</tr>
<tr>
<td>2SG.M</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2SG.M-DEF.ART.G-Jew</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You</td>
<td></td>
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</table>

They are a Jew.’ / ‘As for you, you are a Jew.’

The possible copulativeness of the ang-morphs has been neglected by grammarians.\(^13\) However, personal pronouns functioning as copulas are attested in various world languages, particularly, in the Semitic languages. Example (7) shows well-known examples of Type 3 from Modern Hebrew (7a) and Palestinian Arabic (7b).

(7) a. Modern Hebrew (Li and Thompson 1977: 428)

Moše hu student.
Moses 3SG.M student.G-M
‘Moses is a student.’

b. Palestinian Arabic (Li and Thompson 1977: 431)

Il bint hiyye le m’alme
DEF.ART girl.LG.F 3SG.F DEF.ART teacher.G.F
‘The girl is the teacher.’

It is interesting that the Sahidic ang-series has no third person equivalents except the hapax legomenon nū\(^14\) according to Layton (2011: 199). On the other hand, Arabic and Hebrew have these types of copulas only in the third person. However, according to Thackston (1999), Classical Syriac has copulas derived from independent personal pronouns in all the personal forms, as shown in (8b). In fact, these reduced personal pronouns are only used in copulative sentences, as is the case with the ang-series in Sahidic Coptic.


a. Independent pronouns:

<table>
<thead>
<tr>
<th>SG</th>
<th>1PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>enā</td>
<td>nāmnan</td>
</tr>
<tr>
<td>2SG.Matt</td>
<td>2PL.M</td>
</tr>
<tr>
<td>2SG.F</td>
<td>2PL.F</td>
</tr>
<tr>
<td>3SG.M</td>
<td>3PL.M hennon</td>
</tr>
<tr>
<td>3SG.F</td>
<td>3PL.F henněn</td>
</tr>
</tbody>
</table>

b. Short pronouns as copulas:

<table>
<thead>
<tr>
<th>SG</th>
<th>1PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>-nā</td>
<td>-nan</td>
</tr>
<tr>
<td>2SGM</td>
<td>-altn</td>
</tr>
<tr>
<td>2SGF</td>
<td>-altn</td>
</tr>
<tr>
<td>3SG.M-u-w</td>
<td>3PL.M -ennon</td>
</tr>
<tr>
<td>3SG.F-i-y</td>
<td>3PL.F -enněn</td>
</tr>
</tbody>
</table>

c. An example of the use of a short pronoun as a copula

enā-nā šliḥā d-ālāḥā
‘I am an apostle of God.’

The typological perspectives of Type 3 suggest that there is a strong possibility that we can consider them to be the ang-morphs, which are the reduced forms of the independent personal pronouns, as copulas. Both Coptic ang- and Syriac-nā are phonologically reduced from their full forms, and are used only in nominal sentences. Therefore, why is the Coptic ang-not a copula like the Syriac -nā? Thus, the fact of the existence of the phonologically reduced forms of the independent personal pronoun, which function as copulas in Afro-Asiatic languages such as Classical Syriac, supports the idea that the phonologically reduced forms of the independent personal pronouns in Coptic, i.e., the ang-morphs, are copulas.

Types of nominal sentences

The nominal sentence or Nominalatsz,\(^15\) is a sentence in which the predicate is nominal. This term is used by many Egyptian-Coptic linguists (Sethe 1916: Iff.; Polotsky 1962: 413; Johnson 1981: 414; Callender 1984: 4ff.; Satzinger 1981: 480, etc.). A large number of Coptic grammarians divide nominal sentences into two categories: binary or bimembral nominal sentences, and ternary or trimembral nominal sentences (Shisha-Haley 1986: 175ff.; Polotsky 1987: 242-243, etc.). At the same time, we can categorize the nominal sentences in another way, by dividing them into the following groups: interlocutive (the subject is in the first or second person) nominal sentences, and delocutive (the subject is in the third person) nominal sentences (Shisha-Haley 1984: 175ff; Layton 2011: 199, etc.). The ang-morph has only the first and second person forms and lacks the third person, and the pe copula

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\(^{8}\) Chinese characters are replaced by pinyin in Modern Mandarin pronunciations such as in Chang (2006: 131-136) because they are more convenient for the publisher.\(^{9}\) See Footnote 8.

\(^{10}\) Layton calls the ang-morphs ‘subject-function personal prefixes’ (Layton 2011: 199), and he describes that they are one of the ‘nexus morphs.’ \(^{11}\) Layton (2011: 199) reports that the third person masculine singular form nyf has only one occurrence in 2 Cor. 10:7.

\(^{12}\) Layton (2011: 199) reports that the third person masculine singular form nyf has only one occurrence in 2 Cor. 10:7.

\(^{13}\) See Footnote 12.

\(^{14}\) Or ‘la proposition nominal’ (Chafné 1955: 11).
retains the function of a third person pronoun as well as the function of a copula (ex. John 8:54: "pe is our God").

Delocutive trimembral sentences are A pe B. Here, A and B are substantives or noun phrases, and an independent personal pronoun can come into the position of A or B. On the other hand, interlocutively trimembral sentences have less freedom of choice. Their construction is A anok pe B, but the reduced personal morph (represented by anok- here) and A (a full form of an independent personal pronoun) must be a first or second person form. Henceforth, for convenience, I will call trimembral interlocutive sentences with an independent pronominal subject anok ang-NP16 sentences and trimembral delocutive sentences18 with an independent pronominal subject anok pe NP sentences.

**Corpus research**

Using the Sahidic New Testament as the corpus, two constructions in which the first element was an independent personal pronoun were examined; anok ang-NP sentences and anok pe NP sentences. Examples were taken from the following sources:

(9) Sahidic New Testament
   - Mt: New York, Pierpont Morgan Library, MS M. 569 (Férez 1984)
   - Mk: Barcelona, P. Palau Rib. Inv.-Nr.182 (Quecke 1972)
   - Lk: Barcelona, P. Palau Rib. Inv.-Nr.181 (Quecke 1977)
   - Joh: Barcelona, P. Palau Rib. Inv.-Nr. 183 (Quecke 1984)
   - Acts: Dublin, Chester Beatty Library, B (Copt. Ms. 814) (Thompson 1932)
   - Pauline Epistles: Dublin, Chester Beatty Library, A (Copt. Ms. 813) (Thompson 1932)
   - Catholic Epistles: New York, Pierpont Morgan Library, MS M. 572 (Schüssler 1991)
   - Revelations: London, British Library, Or. 6803 (Budge 1912)

Digital transcriptions of the texts were originally taken from Takla (2006), in which Coptic texts were transcribed using an ASCII font for Coptic. The texts were well aligned and converted into the Coptic Unicode characters using regular expressions (regexes) via Sublime Text 219 by the author. The concordance research on the co-occurrence of pe series or ang- series and the unbound independent personal pronouns was conducted using Python20 with NLTK.21 Figure (10) shows the result of the analysis.

**Notes:** Other data (anok pe NP; anok ang-NP): bare relative clause (44:0), possessive article followed by a noun (phrase) (7:2), possessive pronoun (0:7), bare numeral (0:2), independent personal pronoun (1:0), the total being (74:42).

The result shows the strongly evident connections of anok pe sentences with definiteness, and of anok ang-NP sentences with indefiniteness; 95% (truncated after the decimal point) of nominal sentences with a definite noun (phrase) and 100% of trimembral nominal sentences with a proper noun take the anok pe NP construction in this corpus. On the other hand, 100% of trimembral nominal sentences with an indefinite noun and 100% of trimembral nominal sentences with an interrogative pronoun take the anok ang-NP construction. Clearly, a definite noun (phrase) is definite in its definiteness, and an indefinite noun (phrase) is indefinite. Moreover, a proper noun is definite in its nature, and an interrogative pronoun (‘what,’ ‘who’) is indefinite in its nature. In total, the proportion of anok pe NP sentences with a definite NP (definite noun phrase; the grey-shaded cells in (10)) is 95% (truncated after the decimal point), while the proportion of anok ang-NP sentences with an indefinite NP is 100%. Therefore, it is evident that the anok ang-NP sentence is connected to indefiniteness, and the anok pe NP sentence is linked to definiteness.

Thus, anok pe NP and anok ang-NP have a nearly complementary distribution with regard to the definiteness of the NP. This nearly complementary distribution, and the parallelism of anok pe NP and anok ang-NP, indicates the strong likelihood of the copulativeness of ang- in the anok ang-NP pattern. In Sahidic, the interlocutive nexus (the ang- morphs) were phonologically reduced from the full independent personal pronouns, and they are used in a way that is similar to copulas only in the nominal sentences, while the full forms are used in wider contexts. The former indicates phonological reduction and the latter indicates semantic breaching, i.e., becoming a more grammatical morph. Since these two factors, namely, phonological reduction and semantic breaching, are typical criteria of grammaticalization (Hopper and Traugott 2003: 3,12,32,72,98), the Sahidic ang- morphs are in the process of grammaticalization.

**With reference to the Greek New Testament**

One can ponder whether the choice of trimembral pe sentences and trimembral ang- sentences might be affected not by the definiteness of the NP, but by the sentence structures of the Greek New Testament, from which the Sahidic New Testament texts were translated. However, the analysis of
the corpus research concerning the Greek New Testament suggests the corresponding Greek copulative sentence with an independent personal pronoun and eini or its conjugated form was translated into both an anok pe NP sentence (ang-), and into an anok ang-NP sentence. The Greek examples have been taken from Aland et al. (2012) and transliterated in this paper.

(11) anok pe NP (Matthew 27:11)

a. Sahidic:

\[\text{ntok pe p-ryo n-n-ioudai} \]
\[
\text{2SG.M COP.SG.M DEF.ART.SG.M-king, GEN-DEF.ART.PL-Jew}
\]

'You are the king of the Jews.' / 'It is you that are the king of the Jews.'

b. Greek:

\[\text{sà eì ho basileús} \]
\[
\text{2SG.M COP.SG.M,PRES.IND.ACT DEF.SG.M,NOM king,SG.M,NOM}
\]

'the king of the Jews.'

(12) anok ang-NP (1 Corinthians 3:4)

a. Sahidic:

\[\text{anok men ang-pa-paulus} \]
\[
\text{1SG FTCL 1SG-POSS.SG.M-Paul,SG.M}
\]

'I am the one belonging to Paul.' / 'As for me, I am the one belonging to Paul.'

b. Greek:

\[\text{egò mên eimi paílou} \]
\[
\text{1SG FTCL COP.1SG.PRES.IND.ACT Paul,SG,M,GEN}
\]

'I am of Paul.'

Degree of Grammaticalization among Coptic Dialects

The dialectal differences between personal pronouns and bound forms in Coptic were studied by Funk (1991).

(13) Funk (1991: 15). An asterisk (*) means that the form is a hapax legomenon, a small circle (°) means that the form has limited use, and square brackets ([)] mean that the form is not attested.

\[\text{1SG A: anok vs. anok-, 1J4: anok vs. anok-, LS: anok vs. anok-, L6: anok vs. anok-, S: anok vs. anok, M(I): anok vs. anok, M(II): anok vs. [] , W: anok vs. [] , F4/F5: anok vs. anok*, B4: anok vs. anok, B5: anok vs. anok} \]
\[\text{1PL A: an an vs. anan-, 1J4: an an vs. anan-, LS: an an vs. anan-, L6: an an vs. anan-, S: an an vs. anan, M(I): an an vs. [] , M(II): an an vs. anan*, F4/F5: an an vs. anan, B4: an an vs. anan, B5: an an vs. anan} \]
\[\text{2SG A: takt vs. nk-, 1J4: takt vs. nk-, LS: takt vs. nk-, L6: takt vs. nk-, S: takt vs. nk-, M(I): takt vs. nk-, M(II): takt vs. [] , F4/F5: takt vs. nk-, B4: m-êk vs. m-êk, B5: m-êk vs. m-êk} \]
\[\text{2PL F: A: ntemâ vs. ntemë, 1J4: ntemâ vs. [] , S: ntemâ vs. ntemë, L6: ntemâ vs. ntemë, S: ntemâ vs. ntemë, M(I): ntemâ vs. ntemë, M(II): ntemâ vs. ntemë, W: ntemâ vs. ntemë, F4/F5: ntemâ vs. ntemë, B4: ntemâ vs. ntemë, B5: ntemâ vs. ntemë} \]

In (13), Sahidic (S) and Mesokemic (I) (M(I)) have the phonologically bound/reduced forms for 1SG. For 1PL, Sahidic and Mesokemic (I) and (II) have the reduced forms, but the Mesokemic (I) form is a hapax legomenon. For 2SG.M, Lycopolitan (L6, L5, L4), S, and M, and Fayyumic (F4/F5) have the reduced forms, and for 2SG.F, L4, S, and M have the reduced forms. For 2PL, S, M, W, F4/F, and B have the reduced forms.

Before Coptic

In Later Egyptian, the most frequently used copula is derived from a demonstrative pronoun (for Late Egyptian, Junge 2008: 175, and for Demotic, Johnson 2000: 14). It is \textit{psi/psi ni}y in Demotic and Late Egyptian, corresponding to \textit{pe/te/ne} in Coptic. On the other hand, the correspondence of the independent personal pronouns and the \textit{ang} -morphs in Later Egyptian are shown in (14).

(14) Independent personal pronouns in Later Egyptian\footnote{In Johnson (2000: 14), \textit{ink} for 1SG and \textit{inn} for 1PL. Johnson uses the so-called 'British style' of transliteration (more precisely, romanizations). I modified them in the 'continental style' for the consistency of the transliteration in this paper.} \footnote{Junge (2008: 175) uses the 'British style' transliteration such as \textit{ink}, for 1SG and \textit{inn} for 1PL. I altered them in the 'continental style.' Similarly, Cerny and Groll (1993: 11) use the 'British style' except \textit{i} for \textit{f} but they used different transliterations for the second and third person. For the second person, they used \textit{nk} for 2SG.M, \textit{nt} for 2SG.F, and \textit{ntn} for 2PL.} \footnote{http://ramous.ulg.ac.be/, accessed on 2016-05-14.} \footnote{http://aaew.bbaw.de/, accessed on 2016-05-15.}

\[\text{1SG} \]
\[\text{anok/ang-} \]
\[\text{ntok/ntk/nto/nte-} \]
\[\text{anom/amn-} \]
\[\text{nêlôn/ntetn-} \]


I performed a corpus research on both linguistic stages of the Egyptian language using two powerful corpora: (i) \textit{Rames Online}, the annotated linguistic corpora of Late Egyptian developed by the University of Liège, for Late Egyptian, and (ii) \textit{Thesaurus Linguae Aegyptiae}, the searchable Ancient Egyptian database with a huge number of texts developed by the Berlin-Brandenburg Academy of Sciences and Humanities, for Demotic. In \textit{Rames Online}, two examples of \textit{jr/jnk/jnk} construction are attested. However, \textit{jr/jnk/jnk} is a preposition; thus, \textit{jr/jn/jn} constitutes a prepositional phrase. Therefore, it is not equivalent to the Sahidic anok ang-.

(15) Late Egyptian

\[\text{jr/jnk/jnk} \]
\[\text{stb 'r' \# phy m-ñw} \]
\[\text{(t)} \]
\[\text{psd} \]
\[\text{as for 1SG} \]
\[\text{1SG} \]
\[\text{1SG} \]
\[\text{1SG} \]
\[\text{1SG} \]

Moreover, only one instance of \textit{mntk m-r-} \textit{mntk} NP was attested in \textit{Rames Online}. However, it is unlikely to be regarded as the equivalent of a Coptic anok ang-NP sentence. Since \textit{m-r-} 'too' is placed after \textit{mntk}, and \textit{mntk m-r-} consists a phrase, it could not be seen as corresponding to an anok ang-NP sentence.
As was the case for Late Egyptian, no equivalent construction to anok ang-NP was found in Demotic in TLA. Thus, no evidence of a case that is equivalent to the anok ang-NP construction in Sahidic Coptic was detected in these two corpora of Late Egyptian and Demotic.

Conclusions

We explored the possibility that the ang- morphs function as copulas in a similar way to the Syriac copulas derived from the independent personal pronouns. The corpus analysis suggests that anok ang-NP sentences tend to be linked to the indefiniteness of the NP, while anok pe NP sentences tend to be linked to the definiteness of the NP. These links indicate the paradigmatic parallelism between the pe series and the ang- series, and support the copulativeness of the ang- series. The dialectal and historical research has found that the extent of the phonologization of the ang-morphs was greatest in Sahidic and Mesekemic, and the existence of the anok ang-NP constructions could only be found in Coptic. These criteria indicate that the ang-morphs in Sahidic and Mesekemic were the most extensively grammaticalized in Late Egyptian.

Bibliography


