The Position of Numerals in Middle Egyptian:
Evidence from Universals of Word Order[*]

Ruth Kramer, Georgetown University

Abstract

It has long been suspected that Middle Egyptian cardinal numerals are positioned after the noun due to orthographic convention. In this short article, I present novel support for this idea by comparing the word order of noun phrases in Middle Egyptian to typological universals of noun phrase word order. If the numerals were in fact spoken where they are written, then Middle Egyptian would have a word order that is virtually unattested cross-linguistically.

1 Introduction

Many researchers have suggested that Middle Egyptian cardinal numerals are positioned after the noun only due to orthographic convention, i.e., that the numerals were spoken in some other position within the noun phrase.[1] In this note, I provide novel support for this idea by comparing the word order of noun phrases in Middle Egyptian to typological universals of noun phrase word order.[2] If the numerals were in fact spoken where they are written, then Middle Egyptian would have a noun phrase word order that is virtually unattested among the languages of the world. I first present the basic facts of word order in Middle Egyptian noun phrases (Section 2) and then briefly review previous claims about the position of Middle Egyptian cardinal numerals (Section 3). Section 4 contains the new evidence from word order universals in favor of numerals not being spoken where they were written, and Section 5 concludes.

2 Word Order in the Middle Egyptian Noun Phrase

I focus on the relative placement of nouns (N), adjectives (A), demonstratives (Dem), and numerals (Num) since typological research has focused on these categories. Within the Middle Egyptian noun phrase, nouns precede adjectives, as seen in (1).

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1   See e.g., Sethe (1916:49), Spiegel (1935:76-77), Gardiner (1957:193), Loprieno (1986).
2   See e.g., Greenberg (1966), Dryer (2007).

(1)   *šmsw jqr*   ‚the trusty retainer‘ (Sh. S. 1)

Middle Egyptian distal ((2)a) and proximal ((2)b) demonstratives both follow the noun.[3]

(2)   a. *sḫtj pn*   b. *tȝ pf*
              ‚this peasant‘ (Peas. R1.5)   ‚that land‘ (Sin. B 43)

When a demonstrative and an adjective co-occur, the demonstrative precedes the adjective.

(3)   a. *nṯr pf mnḫ*   b. *hrw pn nfr*
              ‚that beneficent god’ (Sin. B 44)   ‚this good day’ (CTI, 3, 10f, B3B0)

Thus far, then, Middle Egyptian noun phrases have the order [N Dem A].
          Like demonstratives and adjectives, numerals follow nouns in Middle Egyptian.

(4)   a. *ḫfȝw 75*   b. *ḫrdw 3*   c. *sqd 120*
              ‚75 snakes‘   ‚3 children‘   ‚120 sailors‘
              Sh.S. 127   Westc. 9, 10   Sh. S. 27

More precisely, the numeral must immediately follow the noun. When a numeral co-occurs with a demonstrative, the numeral is closer to the noun.

(5)   *hrw ȝ pn*   ‚these three days‘ (Siut I, 296)[4]

Similarly, when a numeral co-occurs with an adjective, the numeral is closer to the noun.

(6)   *sp 4 nfrw*   ‚four good deeds‘ (CTVII, 130, 462b, B6C)

The Coffin Texts contains an example of a fully-loaded noun phrase with a noun, a numeral, a demonstrative (albeit in archaic form) and two adjectives, in that order.

(7)   *nṯr 4 jpw ḫȝ jtpw* ‚these four powerful, strong gods‘ (CTI, 1, 2e-4a, B2B0)

Thus, the order of noun, numeral, demonstrative and adjective in the Middle Egyptian noun phrase is as in (8).

(8)   [N Num Dem A]

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3 I set aside *pȝ/tȝ/nȝ* since they were in the midst of becoming definite determiners. See Loprieno (1995:68), *inter alia.*
4 As cited in Gardiner (1957:193).

3 The Position of Numerals is Orthographic: Previous Evidence

It has often been claimed that the numeral was not pronounced immediately after the noun in Middle Egyptian.[5] Here, I briefly review the previous evidence marshaled in favor of this idea.

For numerous diachronic and synchronic reasons, numerals throughout Ancient Egyptian have been argued (i) to be head nouns and (ii) to stand in apposition **before** the noun that they enumerate.[6] The Middle Egyptian word order in (8) flouts this, and to reconcile the attested word order with the apposition analysis, it has been proposed that the position of the numerals must be due to orthographic convention. Many scholars have suggested that scribes used a ‚list' writing for numbers, treating all texts like inventory sheets where the commodity name is specified and then a number of units is provided immediately afterwards.[7] It has also been proposed that that the unusual orthography is because numerals were almost always written using numeric symbols (i.e., *4* instead of *four*).[8] These arguments are not watertight, though: many languages have ‚list' writings that alternate with ‚regular' writings (e.g., Chinese, Sumerian, Biblical Hebrew, etc.[9]), and symbolic writing does not require a separate word order (see English: *4 dollars* or *four dollars*).

Additional evidence for numerals not being written where they were spoken is that the feminine numeral *100* can be written immediately after the noun, but still cause modifying elements to be feminine.[10] It thus acts like a head noun in that it determines agreement on other elements in the noun phrase (as per the apposition analysis),[11] but it is not written in a position associated with head nouns. For example, the (purported) head noun *t* 'bread' in (9) is masculine, but the definite determiner *tꜣ* is feminine. *100* is written immediately after the noun like a numeral, yet triggers agreement on the determiner like a head noun.

(9)   *tꜣ   t   100*   ‚the hundred loaves' (Rhind 65)[12]

If the masculine numeral *1000* is used instead, as in (10), the agreement on the determiner becomes accordingly masculine.

(10)   *pꜣ t 1000*   ‚the thousand loaves' (Rhind 76)[13]

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5   See e.g., Spiegel (1935:76-77), Gardiner (1957:193), Gaskins (1978:187), Loprieno (1986), Hoch (1997:79), Allen (2000:100).

6   For detailed argumentation, see Spiegel (1935:76-77), Loprieno (1986). The major piece of diachronic evidence is that numerals precede nouns (at least in certain contexts) during all other stages of Egyptian.

7   See e.g., Gardiner (1957:193), Allen (2000:100), Grandet and Mathieu (2001:231).

8   See e.g., Sethe (1916:49), Loprieno (1986).

9   For Chinese, see Chao (1968:272-3). For Sumerian, see Thomsen (1984). For Biblical Hebrew, see Kautzsch (1910:432).

10   This example is originally discussed in Sethe (1916:50). See also Loprieno (1986:1313).

11   Head nouns are almost always the controllers of agreement within a noun phrase; see Corbett (2006:13).

12   Cited in Sethe (1916:50).

13   Cited in Sethe (1916:51).

This suggests that the numeral was the head noun of the phrase in the spoken language.

Much of the evidence reviewed here is indirect or suggestive, though, and I now turn to one additional piece of evidence from a less common source: linguistic universals of word order.

4 The Position of Numerals is Orthographic: New Evidence

Over the course of the last forty years, a considerable body of knowledge has accumulated about attested word orders within noun phrases. This body of knowledge is a powerful tool in determining whether certain word orders are common, infrequent, or completely unattested.

The starting point for research on noun phrase word order (as for much research on word order) is Greenberg's (1966) magnum opus[14], where he enumerated many ‚universals' for linguistic word order. Roughly, universals are statements about linguistic properties that are intended to hold across all languages. The relevant universal for noun phrases is Universal 20, which concerns the relative ordering of demonstratives, numerals, adjectives and nouns.

(11)   **Greenberg's (1966) Universal 20**
          When any or all of the items (demonstrative, numeral, and adjective) precede the noun, they are always found in that order. If they follow, the order is either the same or its exact opposite.[15]

This predicts only three possible word orders for noun phrases: one prenominal word order and two postnominal orders.

(12)   **Orders Predicted by Universal 20**
          a. [Dem Num A N]   ← Prenominal
          b. [N Dem Num A]   ← Postnominal
          c. [N A Num Dem]   ← Postnominal

Recall that the order within the Middle Egyptian DP is [N Num Dem A] (see (8)). This order is not among those predicted by Universal 20, a first indication that the word order in Middle Egyptian does not follow typological norms.

Of course, typology has progressed beyond Greenberg's seminal work and more and more languages have had their word orders recorded. Prenominally, the order [Dem Num A] is still essentially considered to be correct.[16] Postnominally, though, it

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14 Greenberg (1966).
15 Greenberg (1966:87).
16 See e.g., Hawkins (1983), Lu (1998), Croft & Deligianni (2001). See also Cinque (2005:315 fn.2) for possible exceptions.

has been claimed that there is vast variation to the point of any order perhaps being permissible.[17]

However, there have been several large-scale typological investigations where all the possible combinations of noun, demonstrative, adjective and numeral have been considered.[18] In those, no language has been found with the order [N Num Dem A].[19] Rather than Middle Egyptian being the only language ever spoken with this word order, it seems more plausible that the 'actual' (i.e., spoken) order was **not** the written order.[20]

Results from typological research, then, support the idea that there is something off about the word order in noun phrases in Middle Egyptian. The typological facts alone do not pinpoint the numeral as responsible for the problem, but they strongly suggest that the order cannot be as written.

I conclude by addressing a potential confound. There is one language which has been claimed to have [N Num Dem A] word order: Haya, a Bantu (Niger-Congo) language spoken in Tanzania.[21] However, in the only published data on noun phrase word order in Haya,[22] the ‚adjectives‘ do not have the category adjective but are in fact relative clauses (e.g., they contain a relative pronominal prefix). Could adjectives in Middle Egyptian also be relative clauses?

At first, it seems plausible that the answer is yes. As is well known, many (if not most) adjectives in Middle Egyptian are, strictly speaking, participles derived from adjectival verbs and can be interpreted as relative clauses.[23] For example, (3)a can be translated literally as ‚that god who is beneficent.‘ However, there is a subset of adjectives in Middle Egyptian that are not derived from verbs, most notably, the nisba-adjectives.[24] The nisba-adjectives are true adjectives derived from nouns or prepositions.[25] If a nisba adjective can be ordered after a demonstrative, then we have more secure proof that the word order of Middle Egyptian is [N Num Dem A].

This is in fact the case: nisbas come last in the noun phrase. One of the most common nisba adjectives is the so-called genitival *nj*, meaning ‚of, belonging to‘. There are a few examples of genitival *nj* in the same noun phrase as a demonstrative, and it follows the demonstrative (recall that demonstratives in turn follow numerals). In (13), the nisba *nj* follows the demonstrative *pn.*

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17 See e.g., Hawkins (1983) and Croft & Deligianni (2001).

18 Lu (1998), Cinque (2005). See also Rikhoff (2002).

19 This order was also not found in Croft & Deligianni (2001), perhaps providing the exception to their claim that "virtually" every order can be found post-nominally.

20 One recent paper by Cysouw (2010) argues that word orders are neither attested nor unattested, but are simply more or less likely to occur according to a model. Regardless of whether one adopts this approach or a more conventional approach, it has universally been found that there is a zero or extremely low frequency of [N Num Dem A]. Middle Egyptian has an order that is either unattested in any language (in the conventional view) or which has an extremely low probability, both of which support the claim that the numerals are not in their 'actual' position.

21 This is the language referred to in Cysouw (2010:284). See Byarushengo, Duranti & Hyman (1977) for grammatical description.

22 Byarushengo, Duranti and Hyman (1977:13).

23 See e.g., Loprieno (1995:87).

24 The ‚true‘ adjectival nature of the nisbas was originally noted by Gardiner (1957:108, n.1a).

25 See e.g., Loprieno (1995:100) as well as Satzinger (1986) and Jansen-Winkeln (1993).

(13)   *ḥqꜣ pn nj rṯnw* ,this leader of Retjenu' (Sin. B 99-100)

Thus, I conclude that adjectives truly were the final component of the noun phrase in Middle Egyptian, and the confound is removed.

5 Conclusion

Word order universals support the claim that Middle Egyptian numerals were pronounced in a different position than where they were written. Up to this point, universals of word order have played little to no role in research on Middle Egyptian syntax,[26] and hopefully these typological tools will prove to be useful in addressing a range of questions relevant to Egyptian linguistics.

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26 There are a handful of papers on syntactic typology that do not discuss word order universals (see e.g., Loprieno (1991), Kammerzell (2000)), and Frank Kammerzell has a comment in the online Universals Archive (http://typo.uni-konstanz.de/archive/intro/) that Old Egyptian is not an exception to Universal 20 since its prenominal numerals were in fact nouns. However, I know of no research that investigates Egyptian specifically with respect to universals of word order.

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