

**Reconstructing Some of the  
Proto – Nile Nubian phonemes and  
words**

**by**

**Dr. Ahmed – Sokarno Abdel Hafiz**

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## **Abstract**

The unity of Nile Nubian language group is assumed and defended in this paper. Classical means of historical reconstruction are used in order to reconstruct some of the proto-Nile Nubian phonemes. An attempt is also made to reconstruct the forms of some individual words. The reconstructions presented are provided with evidence from the data pertaining to the languages under study.

## **1. Introduction**

The Nubian language group, which is a sub-branch of the Eastern Sudanic family (cf. Greenberg 1966), is divided into two types: Nile Nubian and Hill Nubian. Each of the Nile Nubian languages is comprised of two mutually intelligible dialects: Mahas-Fadicca (MF) and Dongolese-Kenzi (DK). Hill Nubian subsumes languages such as Meidob, Kadaru, Birgid, and Deбри (cf. Thelwall 1983). Thus we use the term Dongolese (DN) and Kenzi (KN) whenever we need to differentiate the dialects of DK and we may use the terms Fadicca (FN) and Mahas (MN) whenever we refer to the dialects of MF. Dongolese and Mahas are spoken in the Northern Sudan whereas Kenzi and Fadicca are spoken in Southern Egypt.

Not all scholars accept the terms we employ to refer to the Nile Nubian dialects and languages. Thelwall (1982:15) applies the names Nobiin and Dongolawi to refer to the two Nile Nubian languages. Adams (1982:15) differentiates the Nubian dialects by referring to the "northern dialect of Dongolawi as Kenzi and to the southern as Southern Dongolawi". Bell (1974) rejects such terms as Fadicca or Mahas and prefers to use the term Nobiin (cf.

Werner 1987) in order to refer to the whole language (Mahas-Fadicca); he claims that "the use of terms such as Fadicca or Fadicca-Mahas would lead more to confusion than to classification of the linguistic situation" (Bell 1974:111). But Bell did not provide us with the reasons that led him to accept the term Kenzi-Dongolese (cf. Bell 1974:42).

## 2. Purpose and Scope of the Study

This paper is a comparative study of the dialects of the two Nile Nubian languages: Dongolese-Kenzi and Mahas-Fadicca. Classical historical means are used to compare the dialects of these languages with the purpose of reconstructing some of the phonemes of proto-Nile Nubian. The prefix **proto-** is defined as "a linguistic form or state of a language said to be the ancestor of attested forms/languages." (Crystal 1991:284). Also, an attempt is made to reconstruct the forms of some individual words. Whenever possible, I attempted to explain how these words must have developed in various parts of the Nile Nubian language group.

## 3. Review of Literature

The term proto-Nile Nubian should not be confused with Old Nubian. Old Nubian was the written language of Christian Nubia (cf. Adams 1982:11). A mixture of Greek and Coptic letters was used as an alphabetical system. Texts of Old Nubian are available; our knowledge of Old Nubian rests primarily on four literary monuments: the Menas legend, the Nicene Canons, the Stauros Text, and the lectionary (cf. Brown 1981). In addition, new material was discovered in Qasr Ibrim during the excavations of the sixties. A close examination of such texts reveals that Old Nubian is closely related to Mahas and Fadicca. As Adams (1982:17) points out, "Old Nubian is recognizably ancestral to the Nobiin language spoken today by the Mahas and Fadija Nubians, and all the known manuscripts in Old Nubian seem to have originated in the area where Nobiin is now spoken". For example, the pronoun TΣP (transliterated as ter "they") is third person plural in Old Nubian (cf. Brown 1981) as in Mahas and Fadicca. This pronoun is third person singular in Dongolese and Kenzi.

There is evidence that these dialects are genetically related. Thelwall (1982) has conducted a systematic comparison of basic vocabulary across the whole Nubian language group and concludes that “Dongolese-Kenuzi and Nobiin [or Fadicca and Mahas] are closer to each other than either is to any other language” (p.47). However, Thelwall (1982) has not attempted to reconstruct proto-Nile Nubian. The reconstruction of proto-Nile Nubian, which will be attempted in this paper, should consolidate the idea that the Nile Nubian languages form a genetic sub-group, which is opposed to Kordofanian Nubian. It should, however, be noted that proto-Nile Nubian “is not a language in the same sense as any of its descendant languages, or as the ‘real’ proto-language itself. It is merely “an abstract statement of correspondences” (Crowley 1992:111). As Hock (1986:571) claims “while we may not be able to reconstruct all of prehistoric reality, we can at least approximate such reality through our reconstruction”.

#### **4. Methodology and Data Collection**

The comparative method, which is employed in this paper, is considered “the most important tool in the historical linguists toolkit” (Trask 1996:208). It requires that we obtain systematic corresponding cognates in the four dialects so that we can reconstruct the proto-segments in individual words. Two principles can be instrumental and helpful in reconstructing the shapes of original phonemes and words in a proto-language: (i) The sound with the widest distribution in the daughter languages is reconstructed as the original form. It would be a violation of Occam’s Razor to reconstruct anything but what is found in the majority of languages (Hock 1986:597). (ii) An analysis that highlights natural sound changes is preferred, that is, “we prefer the one [the analysis] which postulates more natural or more common processes.” (Hock 1986:535; cf. Trask 1996:204). The concept of lenition or weakening is reliable in such an exercise. When a phonetic change takes place, it is often in the direction of a strong sound to a weak sound. Sounds can be hierarchically arranged according to their relative strength. Thus stops rank higher than continuants in strength; consonants are higher than semivowels; oral vowels are higher in rank than glottal sounds; and front and back vowels rank higher than central vowels (cf.

Crowley 1992:39). Hooper (1976:206) suggests the following universal strength hierarchy:

|        |         |        |                      |  |                   |
|--------|---------|--------|----------------------|--|-------------------|
| glides | liquids | nasals | voiced<br>continuant | voiceless<br>continuant<br>voiced stop | voiceless<br>stop |
| →      |         |        |                      |  |                   |
| 1      | 2       | 3      | 4                    | 5                                      | 6                 |

The analysis presented in this paper is based on hundreds of cognates that I have sorted out. I worked hard to exclude Arabic loan words from the lexical stock used such that most of the words I relied on come from basic vocabularies, that is, from body-part names (e.g. KN. dugus 'intestine', KN. ur 'head', KN. gumur 'neck' etc.), the lower numerals (e.g. KN. owwi 'two', KN. toski 'three' etc.), livestock (e.g. KN. ti 'cow', KN. eged 'sheep' etc.), color terms (e.g. FN. ge:l 'red', KN. korgos 'yellow' etc.) and food items (e.g. KN. bille 'onion', KN. umbud 'salt' etc.). The data used in this study are mainly derived from different sources: For the Kenzi forms, I heavily relied on Abdel Hafiz (1988; 1999). For the Fadicca forms, I used the data I collected from the Fadicca area in Egypt. The Mahas forms are mainly drawn from several sources (Ayoub 1968; Werner 1987). The Dongolese forms are taken from Armbruster (1960; 1965)

## 5. The Results

This section sums up the results of the research. It shows that it is not impossible to reconstruct some of the proto-Nile Nubian phonemes. Also, it illustrates how the forms of some individual words can be reconstructed.

### 5.1 The Phoneme Inventory of Proto-Nile Nubian

The four Nile Nubian dialects have the following cognates. By examining these cognates, we can reconstruct the original vowel phonemes for proto-Nile Nubian:

| DN     | KN     | MN     | FN     |             |
|--------|--------|--------|--------|-------------|
| dab    | dab    | daf    | daf    | 'disappear' |
| birig  | birig  | firig  | firig  | 'want'      |
| bille  | bille  | file   | file   | 'onion'     |
| bottir | bottir | fottir | fottir | 'chop'      |
| elum   | elum   | ulum   | ulum   | 'crocodile' |

If we examine these vowel correspondences, we note that /a/ in Dongolese corresponds to /a/ in all Nile Nubian dialects. Similarly, /i/, /u/, /e/, and /o/ in Dongolese correspond to /i/, /u/, /e/ and /o/, respectively in all remaining dialects. For example, the word for 'disappear' in all dialects manifests the following correspondences between the sounds:

| DN | KN | MN | FN |
|----|----|----|----|
| d  | d  | d  | d  |
| a  | a  | a  | a  |
| b  | b  | f  | f  |

The /a/ in Dongolese corresponds to an /a/ in all of the remaining dialects. The a = a = a = a correspondence goes back to /\*a/ (the asterisk marks a sound which is not directly attested, but which linguists have regarded as the original sound).

If we now take the word for 'want' and examine its vowel correspondences, we note the following:

| DN | KN | MN | FN |
|----|----|----|----|
| b  | b  | f  | f  |
| i  | i  | i  | i  |
| r  | r  | r  | r  |
| i  | i  | i  | i  |
| g  | g  | g  | g  |

The vowel /i/ in Dongolese corresponds to /i/ in all Nubian dialects, suggesting that the i = i = i = i correspondence points to an original /\*i/

The word for 'onion' involves the following correspondences between the four dialects:

| DN | KN | MN | FN |
|----|----|----|----|
| b  | b  | f  | f  |
| i  | i  | i  | i  |
| l  | l  | l  | l  |
| l  | l  | l  | l  |
| e  | e  | e  | e  |

The vowel /e/ in Dongolese corresponds to /e/ in all remaining dialects. This indicates that the e = e = e = e correspondence refers back to /\*e/.

The word for 'cut down' in all dialects exhibits the following vowel correspondences:

| DN | KN | MN | FN |
|----|----|----|----|
| b  | b  | f  | f  |
| o  | o  | o  | o  |
| t  | t  | t  | t  |
| t  | t  | t  | t  |
| i  | i  | i  | i  |
| r  | r  | r  | r  |

in these forms the vowel /o/ in Dongolese corresponds to /o/ in the other dialects. Thus o = o = o = o correspondence points to an original /\*o/

The final word in the correspondence set, which gives the various words for 'crocodile', involves the following correspondences between the four dialects:

| DN | KN | MN | FN |
|----|----|----|----|
| e  | e  | u  | u  |
| l  | l  | l  | l  |
| u  | u  | u  | u  |
| m  | m  | m  | m  |

the medial vowel /u/ in Dongolese corresponds to /u/ in all dialects. This u = u = u = u correspondence indicates that the original form is /\*u/

Thus the original vowel inventory for proto-Nile Nubian is reconstructed as follows:

|      |     |     |
|------|-----|-----|
| High | * i | * u |
| Mid  | * e | * o |
| Low  | * a |     |

Having arrived at the vowel inventory of proto-Nile Nubian by comparing cognates in the relevant Nile Nubian dialects, we are now in a position to discuss the consonant inventory of proto-Nile Nubian. We start by examining the following cognates in the

four dialects, cognates which exhibit consonant correspondences between the four Nubian languages:

| DN     | KN     | MN     | FN     |             |
|--------|--------|--------|--------|-------------|
| birig  | birig  | frig   | frig   | 'want'      |
| dab    | dab    | daf    | daf    | 'disappear' |
| malti  | malti  | malta  | malta  | 'east'      |
| ge:le  | ge:le  | ge:l   | ge:l   | 'red'       |
| kombo  | kombo  | kumbu  | kumbu  | 'egg'       |
| acci   | acci   | acci   | acci   | 'bite'      |
| e:w    | e:w    | jelew  | jelew  | 'tail'      |
| dungus | dugus  | dungus | dungus | 'intestine' |
| findi  | findi  | finde  | finde  | 'dig out'   |
| be:se  | be:se  | fe:se  | fe:se  | 'water jar' |
| indo   | indo   | hiddo  | hiddo  | 'here'      |
| darbad | darbad | dirbad | dirbad | 'hen'       |
| elum   | elum   | ulum   | ulum   | 'crocodile' |
| benti  | betti  | fenti  | fetti  | 'dates'     |
| bannid | bayid  | bannid | bannid | 'speech'    |
| nawa   | nawa   | nawa   | nawa   | 'skin'      |

If we examine the above correspondence sets, we note that we deal with some correspondences in which the Nubian dialects have the same reflex. Such correspondences include the following:

|      |   |   |   |   |
|------|---|---|---|---|
| /*d/ | d | d | d | d |
| /*t/ | t | t | t | t |
| /*g/ | g | g | g | g |
| /*k/ | k | k | k | k |
| /*c/ | c | c | c | c |
| /*s/ | s | s | s | s |
| /*f/ | f | f | f | f |
| /*ʃ/ | ʃ | ʃ | ʃ | ʃ |
| /*r/ | r | r | r | r |
| /*l/ | l | l | l | l |
| /*m/ | m | m | m | m |
| /*n/ | n | n | n | n |
| /*w/ | w | w | w | w |

We also have sound correspondence sets that only have slight differences among the various dialects:

|      | DN | KN | MN | FN |
|------|----|----|----|----|
| /*b/ | b  | b  | f  | f  |
| /*j/ | j  | j  | y  | y  |
| /*n/ | n  | y  | n  | n  |
| /*h/ | ∅  | ∅  | h  | h  |

In these correspondence sets, /b/ and /j/ in Dongolese and Kenzi correspond to /f/ and /y/, respectively in Mahas and Fadicca. Here we choose /\*b/ and /\*j/ as the original forms: it is the natural sound changes that help us reach this conclusion. Since /b/ and /j/ are stronger than /f/ and /y/, we conclude that lenition or weakening has changed /b/ and /j/ into /f/ and /y/, respectively. Finally, /h/ in Mahas and Fadicca correspond to zero in Dongolese and Kenzi. /h/ is cross-linguistically known to be prone to loss (Lass 1984:179). Therefore, we can claim that /h/ is lenited in the Dongolese and Kenzi word for 'here'. So we can reconstruct /\*h/ as the original form.

## 5.2 Reconstruction of some individual Words

The following section is an attempt to reconstruct the forms of individual words such as:

|    | DN          | KN     | MN     | FN              |
|----|-------------|--------|--------|-----------------|
| 1  | acci        | acci   | acci   | acci 'bite'     |
| 2  | agar        | agar   | agar   | agar 'place'    |
| 3  | nawa        | nawa   | nawa   | nawa 'skin'     |
| 4  | assi        | assi   | assi   | assi 'grandson' |
| 5  | eged        | eged   | eged   | eged 'sheep'    |
| 6  | bale        | bale   | bale   | bale 'wedding'  |
| 7  | og          | og     | og     | og 'chest'      |
| 8  | id          | id     | id     | id 'man'        |
| 9  | tolle       | tolle  | toll   | toll 'pull'     |
| 10 | oddi        | oddi   | oddi   | oddi 'sick'     |
| 11 | uburti      | uburti | uburti | uburti 'ash'    |
| 12 | ur          | ur     | ur     | ur 'head'       |
| 13 | urum        | urum   | urum   | urum            |
|    | 'blackness' |        |        |                 |
| 14 | unatti      | unatti | unatti | unatti 'moon'   |

|    |       |       |       |       |          |
|----|-------|-------|-------|-------|----------|
| 15 | kolod | kolod | kolod | kolod | 'seven'  |
| 16 | i:g   | i:g   | i:g   | i:g   | 'fire'   |
| 17 | buru  | buru  | buru  | buru  | 'girl'   |
| 18 | tissi | tissi | tissi | tissi | 'hate'   |
| 19 | tugur | tugur | tugur | tugur | 'coffin' |
| 20 | kandi | kandi | kandi | kandi | 'dagger' |
| 21 | goj   | goj   | goj   | goj   | 'slay'   |
| 22 | kerri | kerri | kerri | kerri | 'barn'   |
| 23 | dessi | dessi | dessi | dessi | 'unripe' |
| 25 | ko:g  | ko:g  | ko:g  | ko:g  | 'raven'  |

If we compare these words, we note that all of them are identical in both form and meaning. So, we can easily reconstruct the original word for each word in the above list as follows: /\*acci/, /\*agar/, /\*nawa/ etc.

The following correspondence sets are different from the previous ones in that the forms exhibit differences:

|    | DN      | KN      | MN      | FN      |                |
|----|---------|---------|---------|---------|----------------|
| 1  | bassari | bassari | fassari | fassari | 'tasteless'    |
| 2  | be:se   | be:se   | fe:se   | fe:se   | 'water jar'    |
| 3  | bagon   | bogon   | fagon   | fogon   | 'summer'       |
| 4  | barassi | barassi | farassi | farassi | 'weighing can' |
| 5  | bag     | ba:g    | fa:g    | fag     | 'divide'       |
| 6  | bagatti | bagatti | fagatti | fagatti | 'half'         |
| 7  | bille   | bille   | fillle  | fillle  | 'onion'        |
| 8  | bottir  | bottir  | fottir  | fottir  | 'chop'         |
| 9  | birig   | birig   | firig   | firig   | 'want'         |
| 10 | baj     | baj     | fay     | fay     | 'write'        |
| 11 | ba:cci  | ba:cci  | fayitti | fayitti | 'writing'      |
| 12 | dab     | dab     | daf     | daf     | 'disappear'    |

If we compare these cognate forms, we note that where Dongolese and Kenzi have /b/, Mahas and Fadicca have /f/. We also note that /b/ and /f/ contrast in the initial and final position in these dialects. The question is: is it the /b/ that changes to /f/ or /f/ changes to /b/? The knowledge that we have about how sounds change in the languages of the world tells us that it is more plausible for /b/ to change to /f/ than /f/ to /b/. This type of change, which involves 'natural' sound change, is known as weakening or lenition. Accordingly, we can reconstruct the

proto-Nubian sound */\*b/*. Thus the following words that stand for 'tasteless' (1), 'water jar' (2), 'weighing can' (4), 'half' (6), 'onion' (7), 'chop' (8), 'want' (9), and 'disappear' (12) can be reconstructed as follows:

*/\*bassari/*  
*/\* be:se/*  
*/\* barassi/*  
*/\* bagatti/*  
*/\* bille/*  
*/\* bottir/*  
*/\* birig/*  
*/\* dab/*

If you examine the word for 'write' (10), you may note that where Dongolese and Kenzi have /j/, Mahas and Fadicca have /y/. Here we can also claim that /j/ changes into /y/, a weakening change that is considered natural. Thus we can reconstruct the original word for 'write' as */\*ba:j/*. Also in the word for 'summer' (3), we note that whereas Dongolese and Mahas have /a/ in the first syllable, Kenzi and Fadicca have /o/. It is not difficult to decide whether /a/ or /o/ is basic: we can posit /a/ and point out that /a/ is harmonized to the vowel in the second syllable. Thus we reconstruct the word for 'summer' as */\*bagon/*.

### 5.3 Further Reconstructions

Consider the following cognate forms in the four dialects of Nile Nubian languages:

|    | DN     | KN     | MN     | FN     |             |
|----|--------|--------|--------|--------|-------------|
| 1  | elum   | elum   | ulum   | ulum   | 'crocodile' |
| 2  | dogir  | dogir  | dogor  | dogor  | 'ghost'     |
| 3  | ugros  | ugros  | ugre:s | ugre:s | 'day'       |
| 4  | findi  | findi  | finde  | finde  | 'dig out'   |
| 5  | malti  | malti  | malta  | malta  | 'east'      |
| 6  | darbad | darbad | dirbad | dirbad | 'hen'       |
| 7  | kombo  | kombo  | kumbu: | kumbu  | 'egg'       |
| 8  | no:rti | no:rti | nu:rti | nu:rti | 'flour'     |
| 9  | jeleg  | jeleg  | jelig  | jelig  | 'wolf'      |
| 10 | awir   | awir   | awi:r  | awir   | 'wing'      |

The Dongolese and Kenzi word for 'crocodile' (1) is different from that of the remaining dialects (Mahas and Fadicca) in that the first vowel is /e/ in Dongolese and Kenzi whereas it is /u/ in the other two dialects. Both sounds have the same distribution in the four dialects. Here we can posit two hypotheses: either /u/ changes to /e/ or /e/ to /u/. I claim that the latter change is more viable for it is an instance of vowel harmony where a vowel assimilates to another vowel in the same word: we can give an explanation why /e/ changes to /u/ in Dongolese and Kenzi by claiming that the medial vowel /u/ has motivated this change. Thus the proto-Nile Nubian word for 'crocodile' can be reconstructed as /\*elum/.

Whilst the form dogir (2) in Dongolese and Kenzi has /i/ in the second syllable, the cognate form dogor in Mahas and Fadicca has /o/. This is a case of vowel harmony in Mahas and Fadicca. We can reconstruct the original word as /\*dogir/ and argue that vowel harmony is responsible for the appearance of /o/ in the Mahas and Fadicca words.

The word for 'day' (3) in Mahas and Fadicca is characterized by the long medial vowel /e:/; its counterpart is the short /o/ in Dongolese and Kenzi. Is it /e:/ that changes into /o/ or /o/ changes into /e:/? If we adopt the latter solution, we would not be able to explain the change in a principled way: there is nothing that motivates the change from /o/ to /e:/. In contrast, the solution that allows /e:/ to change to /o/ seems to be viable: it is quite natural in human languages to encounter such changes in which a vowel is assimilated to another vowel in the same word. Thus, the unround vowel /e:/ becomes round (/o/) under the influence of the initial round vowel (/u/). So we can suggest that the original word for 'day' in the proto-language must be /\*ugre:s/.

The word for 'dig' (4) in Dongolese-Kenzi has /i/ in the second syllable; the cognate form in Mahas and Fadicca has /e/. Clearly, Dongoles and Kenzi forms manifest vowel harmony: the vowel of the second syllable is in harmony with the vowel in the first syllable. The proto-Nile Nubian word for 'dig out' can be reconstructed as /\*finde/.

The word *malta* (5) in Mahas and Fadica has /a/ in the second syllable whereas its cognate in Dongolese and Kenzi has /i/. This is a case which manifests vowel harmony in Mahas and Fadicca: the vowel of the second vowel is in harmony with the vowel in the second syllable. We can reconstruct the original word as /\*malti/

The word for 'hen' (6) in Dongolese and Kenzi has harmonious vowels: the vowel is /a/ in both syllables. This does not happen in Mahas and Fadicca where the vowel in the first syllable is /i/ but /a/ in the second syllable. We can posit /\*dirbad/ as an original word for 'hen' and argue that in Dongolese and Kenzi the vowel of the first syllable completely assimilates to the vowel in the second syllable.

The word for 'egg' in the list *kombo/kumbu* (7) is problematic for the vowel of the second syllable is harmonized with the vowel of the first syllable in the four dialects. The vowels are /o/ in Dongolese and Kenzi and /u/ in Mahas and Fadicca. So we could give /\*k(uo)mb(uo)/, which would be alternative ways of saying that the evidence points to either /\*kumbu/ or /\*kombo/.

The word for 'flour' (8) in Dongolese and Kenzi has /o:/ in the first syllable; in Mahas and Fadicca, this word has /u:/ in the first syllable. It seems that /o:/ changes to a high vowel (/u:/) under the influence of the high vowel in the second syllable (/i/). So we can reconstruct the word for 'flour' in the proto-Nile Nubian as /\*no:rti/.

The word for 'wolf' (9) in Dongolese and Kenzi has /e/ in both syllables; in Mahas and Fadicca, the first syllable has /e/ whereas the second syllable has /i/. We can claim that it is /i/ that changes to /e/ in Dongolese and Kenzi, which is a case of vowel harmony. The word for 'wolf' can be reconstructed as /\*jelig/.

Finally, the word for 'wing' (10) exhibits the following differences in all dialects: the vowel in the second syllable of this word is short in all dialects except Mahas where it is long. Is it possible to posit the short vowel as basic from which the long one is derived? It would not be viable to claim so; rather, we can say that the long vowel has undergone lenition which is a natural

process in the languages of the world. Note here that we have selected the sound with the least distribution, thus violating our principle which says that the sound with the widest distribution is normally taken as basic and taken into consideration when we reconstruct proto-segments. Thus we can reconstruct the original word for 'wing' in the proto-language as /\*awi:r/.

The following forms show that a change can be realized by an extreme case of lenition, that is, a sound is lost in some forms:

| DN       | KN    | MN     | FN     |             |
|----------|-------|--------|--------|-------------|
| 1 dungu  | dugu  | songir | songir | 'money'     |
| 2 dungur | dugur | dungi  | dungi  | 'blind'     |
| 3 dungus | dugus | dungus | dungus | 'intestine' |
| 4 turug  | turug | tuug   | tuug   | 'wind'      |
| 5 e:w    | e:w   | jelew  | jelew  | 'tail'      |
| 6 nennu  | nennu | nu:r   | nu:r   | 'shadow'    |
| 7 eddi   | eddi  | a:di   | addi   | 'hyena'     |

The Donglese words for 'money' (1), 'blind' (2), and 'intestine' (3) differ from the Kenzi ones in that the latter dialect lacks the nasal sound in the prevelar position. Note that the words for 'money' (1) in Mahas and Fadicca differ from the others in that they start with a fricative sound /s/ and the vowel of the second syllable is /i/ rather than /u/. Here we can claim that /d/ is lenited in Mahas and Fadicca such that it has become /s/, that is, /d/ changes into /s/. In Dongolese and Kenzi, the vowel /i/ changes into /u/ as a result of vowel harmony. The word for 'wind' (4) shows that whereas Dongolese and Kenzi forms preserve the /r/ sound, Mahas and Fadicca forms have dropped it such that the medial vowel has become long, which is considered compensatory lengthening. So the word for 'wind' in the proto-language can be reconstructed as /\*turug/. The word for 'tail' (5) manifests aphasia, for the initial consonant is deleted in Dongolese and Kenzi but has been retained in Mahas and Fadicca. As a result of consonant loss the first vowel is lengthened. Also the /l/ sound, which is retained in Mahas and Fadicca, is deleted in Dongolese and Kenzi; thus the disyllabic word is reduced to a monosyllabic one. So the word for 'tail' can be reconstructed as /\*jelew/. The word for 'shadow' (6) in the correspondence set is complicated. This word has two syllables

in Dongolese and Kenzi but one syllable in Mahas and Fadicca. We might hypothesize that the longer form must be the basic, the shorter form being derived from it. Note that whereas Mahas and Fadicca has /r/ as a final sound in this word, the other dialects lack this vowel (r > ϕ /--#); this sound may have been deleted from this word. Furthermore, this word in Mahas and Fadicca must have lost the initial syllable (nennur > nnur) and then was subject to degemination and compensatory lengthening: nnur > nu:r. So the original word for 'shadow' in the proto-language can be reconstructed as /\*nennur/. The word for 'hyena' (7) in Faddica differs from that of Dongolese and Kenzi in that it has the vowel /a/ in the initial position, whereas Dongolese and Kenzi have /e/ in that position. Mahas has a long vowel /a:/ followed by /d/ rather than /dd/ as in the other dialects. Here we can argue that lenition or weakening has changed /e/ into /a/ in Fadicca; in Mahas degemination has changed /dd/ into /d/. This was followed by compensatory vowel lengthening (a > a:). So we can reconstruct the word for 'hyena' in the proto-language as /\*eddi/. Thus the words in the above set can be reconstructed in the proto-language as follows:

- 1 \*dongir
- 2 \*dungi
- 3 \*dungus
- 4 \*turug
- 5 \*jelew
- 6 \*nennu
- 7 \*eddi

The following words show that various types of assimilation (e.g. regressive, progressive, distant) have occurred in all dialects of the Nile Nubian group: recognition of such a process helps us reconstruct the original words from which these words are derived:

|   | DN      | KN      | MN      | FN      |         |
|---|---------|---------|---------|---------|---------|
| 1 | benti   | beti    | fenti   | fetti   | 'dates' |
| 2 | sunti   | sutti   | sunti   | sutti   | 'nail'  |
| 3 | iskitte | iskitte | iskinte | iskinte | 'mouse' |
| 4 | kiddi   | kiddi   | kindi   | kindi   | 'drown' |

|   |        |        |        |        |         |
|---|--------|--------|--------|--------|---------|
| 5 | kulti  | kulti  | kutti  | kutti  | 'flies' |
| 6 | silti  | silti  | sitti  | sitti  | 'hay'   |
| 7 | jummud | jumbud | jumu:d | jumu:d | 'foam'  |
| 8 | ummud  | umbud  | imi:d  | imi:d  | 'salt'  |
| 9 | mumud  | mumud  | mumun  | mumun  | 'dumb'  |

Both Dongolese and Mahas have retained the alveolar nasal /n/ in the word for 'dates' (1) and 'nail' (2); in Kenzi and Fadicca, the nasal has completely assimilated to the following alveolar stop /t/ (n > t) such that a geminate is formed (nt > tt). So the original words for 'dates' and 'nail' in the proto-language can be reconstructed as /\*benti/ and /\*sunti/, respectively. The word for 'mouse' (3) shows that both Mahas and Fadicca have retained the alveolar nasal /n/ in the second syllable. This /n/ was subject to regressive assimilation in Dongolese and Kenzi such that a geminate is formed (/nt/ > /tt/). So the word for 'mouse' can be reconstructed as /\*iskinte/. The word for 'drown' (4) shows that complete regressive assimilation of /n/ has occurred in Dongolese and Kenzi (nd > dd) but the nasal sound remains intact in Mahas and Fadicca. The original word for 'drown' can be reconstructed as /\*kindi/. The words for 'flies' (5) and 'hay' (6) have a lateral sound /l/ before the alveolar stop /t/ in Kenzi and Dongolese. This sound has undergone complete regressive assimilation in Mahas and Fadicca (lt > tt). So we can reconstruct the original words for 'flies' and 'hay' in the protolanguage as /\*kulti/ and /\*silti/, respectively. The word for 'foam' (7) is complicated: whereas Kenzi has retained the bilabial stop /b/ in the second syllable (jumbud), this sound has undergone complete progressive assimilation in Dongolese (mb > bb) but is lenited in Mahas and Fadicca (mb > m); the loss is compensated by vowel lengthening. Thus the original form to be reconstructed is /\*jumbud/. The word for 'salt' (8) is again complicated: whereas Kenzi has /b/ in the second syllable, Dongolese has assimilated this sound to the preceding /m/ (i.e. mb > mm). The bilabial stop seems to have been lenited in Mahas and Fadicca (mb > m); this lenition is accompanied by vowel lengthening which is a compensatory process. Also, note that whereas Dongolese and Kenzi have /u/ in both syllables of the word for 'salt', Mahas and

Fadicca has /i/ in the first syllable and /i:/ in the second syllable. So the original word for 'salt' can be reconstructed as /\*umbud/ or /\*imbid/. In the word for 'dumb' (9), both Kenzi and Dongolese retain the nasal stop /d/ at the final position but this sound has become a nasal sound in Mahas and Fadicca (d > n). One might argue that this is a case of unconditioned change for there is no immediately following nasal segment to turn it into a nasal sound. This argument is, however, faulted for there are two bilabial nasals preceding this sound, although there is an intervening vowel between this sound and the nasal at the onset of the second syllable. In fact this is a case of distant assimilation in which "a sound is influenced by another sound not immediately to the left or the right of it but further away in the word" (Crowley 1992:55). So, this change is motivated and conditioned. It should also be considered as an example of lenition. So the proto-Nile Nubian word for 'dumb' should be reconstructed as /\*mumud/ instead of /mumun/.

If we examine the following correspondence set, we note that metathesis has occurred; Metathesis simply involves a change in the order of sounds, e.g.

|           |           |           |           |          |
|-----------|-----------|-----------|-----------|----------|
| <b>DN</b> | <b>KN</b> | <b>MN</b> | <b>FN</b> |          |
| korgos    | korgos    | kogros    | kogros    | 'yellow' |

We observe that where Dongolese and Kenzi have /gr/, Mahas and Fadicca have /rg/. This represents a difficult case for it is difficult to decide whether /\*korgos/ or /\*kogros/ is the proto-Nubian word for 'yellow'. However, the following sets exhibit several changes:

|           |           |           |           |         |
|-----------|-----------|-----------|-----------|---------|
| <b>DN</b> | <b>KN</b> | <b>MN</b> | <b>FN</b> |         |
| masil     | masil     | masa      | masa      | 'sun'   |
| terko:l   | terko:l   | terko:    | terko     | 'alone' |

the last sound in the word for 'sun' (and 'alone') is the alveolar lateral /l/ in both Kenzi and Dongolese; this lateral sound does not appear in Mahas and Fadicca. Instead the word in the latter dialects ends in a vowel (masa and terko:/terko). Although the latter dialects have /i/ in the second syllable of the word for 'sun', the former dialects have /a/. It seems that vowel harmony has

occurred in Mahas and Fadicca. Furthermore, the first consonant of the second syllable in this word is a voiceless alveolar fricative in Dongolese and Kenzi, whereas it is a voiceless alveopalatal fricative in Mahas and Dongolese. The Old Nubian form for 'sun' can be given as /masal/ but Old Nubian is historically known to be close to Mahas and Fadicca and cannot represent the proto-language. I argue that the proto-form must have been /\*masil/. The Fadicca-Mahas form is derived as follows: first the alveolar fricative is palatalized (s > s) because of the following front vowel /i/. Then vowel harmony has changed the vowel of the second syllable into /a/. In Dongolese and Kenzi, the word for 'alone' ends in a lateral consonant, which is deleted in Mahas and Fadicca. As a result, the long vowel is shortened in Fadicca (terko) but it remains long in Mahas. We can reconstruct the original words for 'alone' in the proto-Nile Nubian as /\*terko:l/.

The following forms in the Nubian dialects show difference in the vowel only:

| DN    | KN    | MN     | FN     |                            |
|-------|-------|--------|--------|----------------------------|
| kamis | kamis | kami:s | kami:s | 'the day before yesterday' |
| kasir | kasir | ka:sir | ka:sir | 'turban'                   |
| ge:le | ge:le | ge:l   | ge:l   | 'red'                      |
| tolle | tolle | toll   | toll   | 'pull'                     |

Note that in Dongolese and Kenzi the vowel of the second syllable of the word for 'the day before yesterday' is short (e.g. *kamis*); in Mahas and Fadicca, this vowel is long (e.g. *kami:s*). The word for 'turban' in Mahas and Fadicca shows that the vowel of the first syllable is long, whereas in Dongolese and Kenzi this vowel is short (*kasir*). This can be considered as cases of vowel lenition where the long vowel is made short in Dongolese and Kenzi. So the proto-Nile Nubian words for 'the day before' and 'turban' are /\*kami:s/ and /\*ka:sir/, respectively. The word for 'red' and 'pull' exhibits extreme cases of vowel lenition or apocopi: the Dongolese-Kenzi forms have a final vowel in the second syllable of the word for 'red' and 'pull', Mahas and Fadicca have no final vowel such that the word is no longer disyllabic. So the proto-Nubian word for 'red' and 'pull' should be /\*ge:le/ and /\*tolle/, respectively.

## 6. Conclusion

Nubianists have always been interested in Old Nubian which is ancestral only to Mahas. They have never attempted to reconstruct a proto-Nile Nubian which would encompass the four Nile Nubian dialects (i.e. Dongolese-Kenzi and Fadicca-Mahas). This paper has been an attempt to fill this gap. Using classical means of historical reconstruction, we have endeavored to reconstruct some of the proto-Nile Nubian phonemes and to reconstruct the forms of some individual proto-Nile Nubian words. Hopefully, this study has referred to the supposed unity of Nile Nubian. However, further research should be conducted before any claim is made concerning a full-fledged proto-Nile Nubian.

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### A List of Nubian Symbols

|          |                                   |                         |
|----------|-----------------------------------|-------------------------|
| <b>b</b> | a voiced bilabial stop            | <b>buru</b> 'girl'      |
| <b>t</b> | a voiceless dental stop           | <b>ta</b> 'come'        |
| <b>d</b> | a voiced dental stop              | <b>di</b> 'die'         |
| <b>g</b> | a voiced velar stop               | <b>goy</b> 'build'      |
| <b>k</b> | a voiceless velar stop            | <b>ka</b> 'house'       |
| <b>j</b> | a voiced palatal affricate        | <b>ju</b> 'go'          |
| <b>c</b> | a voiceless palatal affricate     | <b>icci</b> 'milk'      |
| <b>f</b> | a voiceless labiodental fricative | <b>fatti</b> 'swirl'    |
| <b>s</b> | a voiceless dental fricative      | <b>sunne</b> 'smell'    |
| <b>ʃ</b> | a voiceless palatal fricative     | <b>sundi</b> 'lips'     |
| <b>h</b> | a voiceless glottal fricative     | <b>hanu</b> 'donkey'    |
| <b>l</b> | a lateral                         | <b>el</b> 'find'        |
| <b>m</b> | a bilabial nasal                  | <b>mando</b> 'there'    |
| <b>n</b> | a dental nasal                    | <b>nennu</b> 'shade'    |
| <b>ɲ</b> | a palatal nasal                   | <b>unni</b> 'increment' |
| <b>r</b> | a flap approximant                | <b>ur</b> 'head'        |
| <b>w</b> | a labio-velar approximant         | <b>warri</b> 'far'      |
| <b>y</b> | a palatal approximant             | <b>eyye</b> 'neck'      |

