THE LOSS OF SYLLABLE-FINAL PROTO-NUBIAN

CONSONANTS

Angelika Jakobi

1 INTRODUCTION

Nubian languages are scattered over a vast area comprising western Sudan, the Nile valley of northern Sudan, and southern Egypt. The Nubian language group includes Midob and Birgid of eastern Darfur, Kordofan Nubian spoken in the northern Nuba Mountains, and the languages of the Nile valley, Kenzi, Dongolawi, Nobiin, and its medieval predecessor, Old Nubian. As these languages share many lexical and grammatical similarities it is assumed that they are genetically related, i.e. that they are the descendants of a common ancestor language. This hypothetic ancestor language is called Proto-Nubian.

In order to gain insights into the different degrees of genetic relationship between the individual Nubian languages, several scholars have endeavoured to reconstruct the Proto-Nubian sound system. While ZYHLARZ’s (1949/50) reconstruction is restricted to the consonant system, BECHHAUS-GERST (1984/85, 1989) and RILLY (ms 2003) deal with the consonant and the vowel system. Thanks to RILLY’s thorough comparative study, the consonantal changes in initial position are fairly well understood now. Although he also accounts for the even more complex consonantal changes in non-initial position, the loss of consonants in syllable-final position has not been investigated in detail. These phenomena are in the focus of this paper.

RILLY’s model of the Nubian language family and its subgroups (see Diagram 1) is based on phonological innovations, particularly on consonantal changes in word-initial position. The question mark indicates that the affiliation of Kenzi-Dongolawi is doubtful. Does it form a sub-group along with Old Nubian and Nobiin or, as BECHHAUS-GERST (1984/85, 1992) argues, does it rather belong to the Midob-Kordofan-Nubian-Birgid branch?
BECHHAUS-GERST assumes that the pre-Nobiin speakers were the first to split off from the rest of the Nubian group and that they immigrated to the Nile valley long before the pre-Kenzi-Dongolawi speakers did. The numerous lexical, phonological and morphological similarities between Kenzi-Dongolawi and Nobiin would then be due to close contact and borrowing rather than to close genetic relationship.

Diagram 1:

The Nubian language family (adapted from RILLY ms 2003: 264)

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Proto-
Nubian

Midob Kordofan Birgid
Nubian

? Kenzi-
Dongolawi

Nobiin
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The data for this historical comparative study come from various published and unpublished sources: Kenzi data from MASSENBACH (1933), Dongolawi data from ARMBRUSTER (1965), Birgid data from THELWALL (1977) and IDRIS (ms 2004), Midob data from THELWALL (1983) and WERNER (1993), Nobiin data from LEPSIUS (1880) and WERNER (1987), and Old Nubian data from BROWNE (1996). The Kordofan Nubian data, particularly those drawn from the Tagle and Karko dialects, originate in my own mostly unpublished field notes which I collected in collaboration with Gumma Ibrahim Ghulfan and Ahmad Hamdan Farah (JAKOBI ms 2001). Among the languages mentioned above, Birgid is the least documented one. In the tables below, Birgid data are therefore often missing.

Historical linguists assume that all parts of a language may change in the course of time: the structure of phrases, the structure and meaning of lexical items and the sounds. Sounds are prone to change in certain positions, especially in syllable-initial and syllable-final position. Sounds in syllable-initial position tend to increase their consonantal strength – though weakening and loss do occur, too (see, for example, the loss of *k in Midob, Table 5 below). Sounds in syllable-final position tend to decrease their consonantal strength (cf. VENNEMANN 1988 and his critic BERG 1990). The
extreme case of decreasing consonantal strength in syllable-final position – also called coda weakening – is the complete deletion or loss of a sound.

According to VENNEMANN (1988: 8) sounds have different degrees of consonantal strength. They may be arranged on a scale according to their “phonetic degree of deviation from unimpeded (voiced) air flow, called Universal Consonantal Strength”. The arrow in Diagram 2 shows the increase of consonantal strength, in reverse direction there is an increase in sonority; for this reason this scale is also known as “sonority hierarchy” (HOCK 1991: 22). It is a useful tool that helps determine the direction of sound change.

Diagram 2:
Increasing consonantal strength (adapted from VENNEMANN 1988: 9)

voiceless plosives
voiced plosives
voiceless fricatives
voiced fricatives
nasals
lateral liquids (/l-sounds)
central liquids (/r-sounds)
high vowels
mid vowels
low vowels

The basic syllable structure of Proto-Nubian is *(C)V(V)(C). This formula covers both an open syllable of the type (C)V(V) and a closed syllable of the type (C)V(V)C, each with a short or long vowel, V or VV, respectively. Two consonants may follow each other but solely in medial position of polysyllabics. Such a consonant sequence is always separated by a syllable boundary which is marked by a full stop (.) in the lexical items discussed in the tables below. It is the loss of the syllable-final consonant C with which this paper is concerned, X(C)V(V)C.CV(V)(C), where X may represent another syllable.

Some western Kordofan Nubian dialects have lost the final vowel V of polysyllabic Proto-Nubian lexical items. Proto-Nubian items having the structure X(C)V(V)C.CV are rendered in Karko, for example, by two consonants in final position, that is, with a X(C)V(V)CC syllable structure: ərāamb ‘Arab’, wēēnd ‘soil’, kōnd ‘knife’, kēēnj ‘four’, jēēld ‘saliva’. As the examples show, the sequence of consonants is restricted, however, admitting a nasal or the liquid l plus a voiced plosive, only. Other sequences are reduced to one consonant by deleting the pre-final consonant (see Table 2
Reconstructed Proto-Nubian items are marked by an asterisk *. They may consist of a mono- or polysyllabic root, only, e.g. *ur ‘head’, *kop ‘face’, *eeb ‘tail’, *wiil ‘yesterday’, *geele ‘red’. But more often lexical items are composed of the root plus one or more suffixes, e.g. *kur-ti ‘knee’, *Vsi-kidi ‘dust’, ‘sand’. The most frequent nominal suffix is *-ti, which RILLY (ms 2003: 230) identifies as collective and dual marker.

Note: In this paper I am only concerned with changes of consonants. If I am not sure of the quality of a specific vowel, I will simply replace it with the symbol V.

2 LOSS WITHOUT COMPENSATORY LENGTHENING

Where a syllable-final consonant is lost, this change is either accompanied by compensatory lengthening of the preceding vowel or the consonant loss does not leave any apparent trace. I will consider the latter case first, dealing with the loss of syllable-final *s in Tagle, Karko (Table 1) and in Midob (Table 3).

Table 1. Loss of syllable-final *s in Tagle and Karko

<table>
<thead>
<tr>
<th>gloss</th>
<th>Proto-Nubian</th>
<th>Old Nubian</th>
<th>Nobiin</th>
<th>Ke-Do</th>
<th>Birgid</th>
<th>Tagle</th>
<th>Karko</th>
</tr>
</thead>
<tbody>
<tr>
<td>grand-child</td>
<td>*as.ti</td>
<td>-</td>
<td>a.si</td>
<td>as.si</td>
<td>as.sa</td>
<td>-</td>
<td>á.tàn</td>
</tr>
<tr>
<td>horn</td>
<td>*ηVs.ti</td>
<td>-</td>
<td>nǐ́,jí</td>
<td>nį́,jí</td>
<td>nį́s.tí</td>
<td>dó.tí</td>
<td>nát</td>
</tr>
<tr>
<td>louse</td>
<td>*is.ti</td>
<td>-</td>
<td>is.si</td>
<td>is.si</td>
<td>-</td>
<td>í.tú</td>
<td>ít</td>
</tr>
<tr>
<td>water</td>
<td>*Vs.ti</td>
<td>*c.c.c</td>
<td>c.c.e</td>
<td>c.e.e</td>
<td>c.t.t.o</td>
<td>ès.sí</td>
<td>e.e.jí</td>
</tr>
</tbody>
</table>

The four reconstructed items in Table 1 share two structural features: they are all composed of a monosyllabic root ending in *s and they exhibit the collective and dual marker *-ti. The consonant sequence *st is preserved only in Birgid yiṣtī ‘horn’. In the other items there are some consonantal changes of which the geminated ss in Old Nubian c.c.c, c.c.e, Nobiin issi, èssi, and Kenzi-Dongolawi assi, assa, issi, essi is easily recognizable as resulting from perseverant or progressive assimilation, *st > ss. Old Nubian c.t.t.o, in contrast, results from anticipatory assimilation, *st > tt. The fact that Old Nubian has three phonetically similar lexical items c.c.c, c.c.e, c.t.t.o denoting ‘water’ could be due to dialectal variation within Old Nubian.
The geminated alveopalatal fricative šš in Kenzi-Dongolawi niffi ‘horn’, instead of the expected ss, is considered to be a secondary change triggered by the palatalizing influence of the adjacent high vowels. While s in Nobin asi could be explained as the outcome of the degemination process ss > s, the fricative š in Nobin niffi appears to originate in four successive changes: 1) assimilation *st > ss, 2) palatalization ss > šš, 3) loss of the first member of the geminate fricative, and 4) compensatory lengthening of the preceding vowel. Compensatory lengthening will be discussed in Table 4 and 5 below.

As for the Kordofan Nubian dialects, Table 1 shows that three of the four Tagle items end in -tu or -tw. These are regular reflexes of Proto-Nubian *-ti, the appearance of either [+ATR] -tu or [-ATR] -tw being determined by the root vowel(s). The fourth Tagle item, ātān ‘grandchild’, in contrast, is extended by the suffix -an which marks terms of close relationship, e.g. āyn-ān ‘aunt’, bikid-ān ‘friend’, ēr-ān ‘master’. In Karko, the suffix *-ti is regularly rendered as -t (or -d in case of assimilation) because the final vowel of polysyllabic items is lost. Since the Tagle and Karko items show no traces of Proto-Nubian *s, and in view of the fact that *s is the final consonant of the syllable, its loss can be attributed to decreasing consonantal strength.

It is clear that *s is lost in Tagle and Karko only in syllable-final position. If *s occurs as syllable-initial consonant, for example after the liquid *r, it is not lost in Tagle and Karko but rather shifts to the dental plosive t (see Table 2 below). The shift *s > t is, therefore, explainable in terms of syllable-initial strengthening.

In Tagle, *rs is realized as tt which suggests that *rs first shifted to rt which was then, due to anticipatory assimilation, realized as tt. In Karko, syllable-final *r was lost before t as the sequence rt is not admitted.

The corresponding Kenzi-Dongolawi items køris and ʊrs suggest that the sequence *rs, and its metathesized variant rVs, is preserved. Metathesis of word-final segments is also attested in the Kenzi-Dongolawi numerals kemis ‘four’, gorij ‘six’ and idiw ‘eight’ which correspond to Nobin kemso, gorjo, and idwo, respectively.

Table 2. Shift of syllable-initial *s > t in Tagle and Karko

<table>
<thead>
<tr>
<th>gloss</th>
<th>Proto-Nubian</th>
<th>Ke-Do</th>
<th>Birgid</th>
<th>Tagle</th>
<th>Karko</th>
<th>Midob</th>
</tr>
</thead>
<tbody>
<tr>
<td>*rs</td>
<td>*rs &gt; rs</td>
<td>-</td>
<td>*rs &gt; rt &gt; tt</td>
<td>*rs &gt; rt &gt; t</td>
<td>*rs &gt; rc</td>
<td></td>
</tr>
<tr>
<td>shoe</td>
<td>*kor.si</td>
<td>kor.is</td>
<td>koor.ti</td>
<td>kstå.tù</td>
<td>kwát</td>
<td>-</td>
</tr>
<tr>
<td>root</td>
<td>*Vr.sV</td>
<td>ur.se</td>
<td>-</td>
<td>it.tì.dà</td>
<td>ît.tîlq</td>
<td>îr.ci.di</td>
</tr>
</tbody>
</table>

Table 3 below shows the loss of syllable-final *s in Midob. This can be
explained in terms of decreasing consonantal strength. Old Nubian, Nobin and Kenzi-Dongolawi, in contrast, have retained *s.

Table 3. Loss of syllable-final *s in Midob

<table>
<thead>
<tr>
<th>gloss</th>
<th>Proto-Nubian</th>
<th>Old Nub.</th>
<th>Nobin</th>
<th>Ke-Do</th>
<th>Birgid</th>
<th>Tagle</th>
<th>Karko</th>
<th>Midob</th>
</tr>
</thead>
<tbody>
<tr>
<td>dust, sand</td>
<td>*Vs.kidi</td>
<td>ṭ.ƙă</td>
<td>is.kiď</td>
<td>es.ked</td>
<td>iz.zidi</td>
<td>(òrò)</td>
<td>(òld)</td>
<td>ò.kùdĩ</td>
</tr>
<tr>
<td>nine</td>
<td>*Vs.kVdi</td>
<td>oc.kotā</td>
<td>òs.kòd, òs.kódi</td>
<td>is.kood</td>
<td>(i récupidi)</td>
<td>(wìdù)</td>
<td>(wéed)</td>
<td>ò.fùdĩ, ò.kùdĩ</td>
</tr>
</tbody>
</table>

The geminate zz in the Birgid item izzidi originates in the sequence *sk of *Vs kidi. Two consonantal changes are assumed: i) The shift of *s > z is regular and attested in several other items (e.g. tiizi ‘oil’ in Table 4 and keemzi ‘four’ in Table 5). ii) The geminate zz results from a perseverant assimilation of the adjacent consonants, zg > zz. The velar g is the initial of the suffix -gidi which is attested in several other Birgid items, e.g. nigidi ‘mosquito’, kulagidi ‘ostrich’, fergidi ‘vein’, mergidi ‘worm’.

The free alternation of the labial f and the velar k is restricted to the Midob items ûfûdĩ and ûkûdĩ ‘nine’. This is probably due to the fact that they both share the acoustic feature [+ grave]. In other languages this alternation is said to be restricted to syllable-final position (cf. Hock 1991: 96), e.g. German lach- [lax], English laugh [laʃ].

Tagle òrò, Karko òld, Birgid i récupidi, Tagle wìdù, and Karko wéed ‘nine’ are put into parenthesis because they are not considered to be genetically related to the other items in the corresponding sets. While the origin of the first three items is yet unknown, wìdù and wéed appear to be borrowings based on Nyimang wèdù ‘nine’.

3 LOSS WITH COMPENSATORY LENGTHENING

If a consonant is lost and the preceding vowel is lengthened this process is termed compensatory lengthening. It can be depicted in the following formula: XVCY > XVVY. The motivation behind this process is to preserve the original syllable weight, because a heavy syllable can both have the shape (C)VVC and (C)VV. De Chene and Anderson (1979), however, propose another interpretation of the emergence of a long vowel after the loss of a postvocalic consonant. According to their analysis, the consonant is first weakened to a glide. The sequence of vowel plus glide then goes through a transitional stage of a diphthong which is finally re-analysed as a
long monophthong. This interpretation appears to be confirmed by the Nubian data presented in Table 4 and – though less clear – in Table 5 below.

Table 4. Loss of syllable-final *b and *s in Birgid

<table>
<thead>
<tr>
<th>gloss</th>
<th>Proto-Nubian</th>
<th>Old Nub.</th>
<th>Nobin</th>
<th>Ke-Do</th>
<th>Birgid</th>
<th>Tagle</th>
<th>Karko</th>
<th>Midob</th>
</tr>
</thead>
<tbody>
<tr>
<td>sand</td>
<td>*sib, *sib.di</td>
<td>cirt</td>
<td>piv</td>
<td>sów</td>
<td>*fud</td>
<td>*fwiid</td>
<td>*sə.wi.dí</td>
<td></td>
</tr>
<tr>
<td>green</td>
<td>*des.si</td>
<td>ðec.c-</td>
<td>dés.sí</td>
<td>des.sí</td>
<td>ðëj.ðè</td>
<td>ðëj</td>
<td>ðès.sé</td>
<td></td>
</tr>
<tr>
<td>oil</td>
<td>*nVs, *nVs. ti</td>
<td>ðoëi</td>
<td>nóoy</td>
<td>des</td>
<td>tìi.zì</td>
<td>ðjn</td>
<td>ðëj</td>
<td>ðès.sí</td>
</tr>
<tr>
<td>water</td>
<td>Vs. ti</td>
<td>ðc.cì</td>
<td>*es.sí</td>
<td>es.sí</td>
<td>ee.jí</td>
<td>ð.tò</td>
<td>ðt</td>
<td>ð.ə.cì</td>
</tr>
</tbody>
</table>

In the preceding table there are four sets of cognates. Three of the reconstructable Proto-Nubian items have a first syllable ending in *s, one of the items has a first syllable ending in *b. The set of cognates denoting ‘sand’ suggests that two reconstructions are possible, i) the plain root *sib as reflected in Old Nubian cirt, in Nobin piv, and in Kenzi-Dongolawi sów, and ii) the root *sib extended by the suffix *-di as reflected in Midob səwidi, Karko fwiid, Tagle fud, and Birgid fëfi.

The syllable-final labial plosive of *sib has been retained in Old Nubian where it is represented by the letter r. As RILLY (ms 2003: 224-226) convincingly argues, this letter represents the voiced labial plosive b rather than its voiceless counterpart p. In Nobin, Kenzi-Dongolawi, and Midob, syllable-final *b is weakened to the labial approximant w. In Midob sə.wi.dí one also notices a change of the syllable structure from *CVC.CV to CV.CV.CV, being motivated by the optimal syllable structure with alternating consonants and vowels (VENNEMANN 1988: 69). Presumably the weakening of *b = w occurred when this consonant was still in syllable-final position.

Tagle fud and Karko fwiid are monosyllabic items suggesting that they result from several consonantal and structural changes including metathesis. It is conceivable that Karko fwiid has developed in the following way: *sibdi > *fiwdi > *fiwid > fwiid. While the labialization f > f is a secondary development, labialization of obstruents in Karko and in several other Kordofan Nubian dialects is otherwise triggered by the shift of Proto-Nubian *o > wa, e.g. *kolod > kwalad ‘seven’, *nob- > ðwab- ‘stir’, *korsi > kwat ‘shoe’. As for Tagle fud, the following development is assumed: *sib-di > *fiw-di > *fiw-d > *fiw-d > fud. The prefinal stage
*fiw-d – realized with a long vowel – is, in fact, attested in fiu̯d, which I have recorded in two neighbouring dialects, Ghulfan and Dilling. The shortening of the vowel in Tagle fiud is probably motivated by the syllable structure CVC because a closed syllable tends to promote vowel shortening (HOCK 1991: 140).

In view of the various reflexes of syllable-final *b, it is assumed that the long vowel in Birgid seefi results from the following processes: *b has weakened to the labial glide ły, and after a transitional diphthongal stage, the unattested sequence iy has been re-analysed as the long monophthong ee. Moreover, as a result of distant assimilation, the reflex of the suffix-initial *d has adopted the features of the initial alveopalatal fricative ʃ so that *d is realized as ʃ. In short, the changes are assumed to have included the following steps: *sib-di > *śib-di > *śiŷ-di > *see-di > see-fi.

The loss of syllable-final *s in Birgid teeze ‘green’ has probably been preceded by the following changes including syllable-initial strengthening *d > t and the regular shift *s > z motivated by consonant weakening in syllable-final position. After the perseverant assimilation of the adjacent consonants zs to zz, the syllable-final z has weakened to the unattested palatal glide ʃ. This development has been followed by the emergence of the long monophthong ee. In brief: strengthening *des.si > *tes.si, assimilation *tez.si > *tez.zi, weakening to a glide *tez.zi > *też.zi, and finally emergence of a monophthong *też.zi > tee.zi.

As for Birgid tiizi ‘oil’, I assume that it originates in Proto-Nubian *nVs-ti which exhibits the collective and dual marker *-ti. This suffix is also reflected in the final syllable of Midob tēs.sī. The syllable-final voiceless fricative *s of the reconstructed root *nVs- has been retained in Midob tēs- and in Kenzi-Dongolawi des. The other cognates suggest that syllable-final *s has successively weakened to the voiced palatal plosive j as attested in Karko jēej, then to the palatal nasal n as attested in Tagle jīn, and finally to the palatal approximant y as attested in Nobiin nōoy and Old Nubian foel. The weakening of syllable-final *s to the Old Nubian and Nobiin palatal approximant y is also documented in *os-ti > Nobiin óōy ‘foot’. Nobiin nōoy and Old Nubian foel have preserved the initial nasal *n. The correspondence of the initial consonants Old Nubian ē : Nobiin n : Kenzi-Dongolawi d : Birgid t : Kordofan Nubian t is “irregular” and not attested in any other sets of cognates. I believe, however, that it provides evidence of the distinct position of Old Nubian/Nobiin within the Nubian language family.

Presumably Birgid tiizi ‘oil’ has passed through several stages including consonantal strengthening in syllable-initial position *nVs.ti > *dVs.ti >
*tis.ti. In syllable-final position, consonant weakening has changed *tis.ti to *tiz.ti. Perseverant assimilation has changed *tiz.ti to *tiz.zi, followed by the weakening of syllable-final z to the unattested palatal glide y in *tiy.zi, or rather *tiij.zi, which finally has given rise to the long vowel in tiizi.

Birgid eejj and Midob ādī ‘water’ will be discussed in connection with Table 5 below.

Table 5 below contains 10 sets of cognates. Before I discuss the various Proto-Nubian consonants that are lost in syllable-final position in Midob, I will comment on the intrusive consonant changes in initial position.

Table 5. Loss of syllable-final *m, *n, *l, *g, *b, and *t in Midob

<table>
<thead>
<tr>
<th>Gloss</th>
<th>Proto-Nubian</th>
<th>Old Nub.</th>
<th>Nobii</th>
<th>Ke-Do</th>
<th>Birgid</th>
<th>Tagle</th>
<th>Karko</th>
<th>Midob</th>
</tr>
</thead>
<tbody>
<tr>
<td>four</td>
<td>*kem.sı</td>
<td>KEMCO</td>
<td>kém.só</td>
<td>ke.mis</td>
<td>keem.zi</td>
<td>kín.nú</td>
<td>kéepj</td>
<td>èe.jí</td>
</tr>
<tr>
<td>knife</td>
<td>*kVn.di</td>
<td>KANÁ-thorn</td>
<td>kán.dí</td>
<td>kan.dí</td>
<td>(nupiʃi)</td>
<td>(kɔjár)</td>
<td>kánd</td>
<td>ɔo.dí</td>
</tr>
<tr>
<td>hair</td>
<td>*del.ti</td>
<td>(jigirti)</td>
<td>dil.ti</td>
<td>til.de</td>
<td>ūl</td>
<td>téel</td>
<td>tée.dí</td>
<td></td>
</tr>
<tr>
<td>millet Pennisetum</td>
<td>*en.dee</td>
<td>(EMEL)</td>
<td>or.ree</td>
<td>er.dee en.de</td>
<td>-</td>
<td>ë.né</td>
<td>ënd</td>
<td>ɔo.dí</td>
</tr>
<tr>
<td>shade, shadow</td>
<td>*nog.di</td>
<td>FOYP</td>
<td>nùur</td>
<td>nuur, nuu</td>
<td>no.go.di</td>
<td>ðù.wá</td>
<td>ðúk.li</td>
<td>tóo.dí</td>
</tr>
<tr>
<td>slave</td>
<td>*nog.di</td>
<td>-</td>
<td>-</td>
<td>nu.gud ‘male slave’</td>
<td>dód.dó</td>
<td>dó.gòd</td>
<td>tóo.dí</td>
<td>‘female slave’</td>
</tr>
<tr>
<td>stir</td>
<td>*nob-stir, cook</td>
<td>nif.fir-cok</td>
<td>nob-stir, cook</td>
<td>-</td>
<td>ðòi-stir</td>
<td>ðwab-stir</td>
<td>tóo.dí</td>
<td>‘stirring stick’</td>
</tr>
<tr>
<td>horn</td>
<td>*ŋVs.ti</td>
<td>-</td>
<td>níf.ʃi</td>
<td>níʃ.ʃi</td>
<td>nis.ti</td>
<td>dó.tú</td>
<td>nàt</td>
<td>kóo.cf</td>
</tr>
<tr>
<td>louse</td>
<td>*is.ti</td>
<td>-</td>
<td>is.si</td>
<td>is.si</td>
<td>í.tú</td>
<td>ít</td>
<td>ii.dí</td>
<td></td>
</tr>
<tr>
<td>water</td>
<td>*Vs.ti</td>
<td>EC.CI AC.CE ET.TO</td>
<td>ès.si ‘soup’</td>
<td>es.si</td>
<td>ee.jí</td>
<td>ð.tó</td>
<td>ðt</td>
<td>ɔo.ci</td>
</tr>
</tbody>
</table>

Contrary to the aforementioned tendency of syllable-initial strengthening, *kemsi > Midob eejj ‘four’, *kVndi > Midob ādī ‘knife’ provide evidence of initial weakening to loss. That is, initial Proto-Nubian *k, which is
otherwise retained in the Nubian languages, is regularly lost in Midob. Because of the lost initial \*k, originally distinct items may be neutralized in Midob: The reflexes of \*kVndi ‘knife’ and \*endee ‘millet’, for example, have an identical segmental realization, əədi. According to my own (very limited) Midob data, however, there is a tonal distinction: The reflex of \*kVndi ‘knife’ is realized with a high-high pattern, the reflex of \*endee ‘millet’ with a high-low pattern. This tonal distinction is not recorded in Werner’s Midob data.

Initial Proto-Nubian nasals have been retained in Old Nubian and Nobiin (*nVgdi > çoyp, niuur ‘shade’, ‘shadow’, *nVb- > nif-fir- ‘cook’), Kenzi-Dongolawi (*nVgdi > nuur, nuu ‘shade’, ‘shadow’, *nogdi > nugu ‘male slave’), and Birgid (*nVgdi > nogodi ‘shade’, ‘shadow’, *ηVsti > ηisti ‘horn’). In the Kordofan Nubian dialects and Midob, however, the Proto-Nubian initial nasals have been successively strengthened and realized as voiced and voiceless plosives, respectively. Thus in Tagle and Karko initial *n is reflected by the voiced apico-alveolar retroflex Ɂ as attested in diwā, dūklīi, də-, and dqwab- and in Midob by voiceless t as attested in təədi and təəd. Initial Proto-Nubian *η, however, is regularly reflected in Midob by k, but in Tagle and Karko, by Ɂ. This suggests that the distinction between the Proto-Nubian alveolar *n and the velar *η is neutralized in Tagle and Karko Ɂ.

In these dialects initial Ɂ may undergo another change. Due to distant anticipatory assimilation, the initial Ɂ is realized as dental Ɂ if it is followed by a dental t or d. It is therefore assumed that Proto-Nubian *nogdi has first been reflected in Tagle by *dōddu which then has changed to dōddō, and in Karko first by *dōgōd which then has changed to dōgōd. As for *ηVsti ‘horn’, we notice in Tagle the regular reflex *dōtu > dōtu but instead of the expected Karko reflex dət there is nət with an initial nasal. I assume that the nasal is an irregular reflex. Its presence is due to analogy to the plural form nə-n where the original nasal feature of *η has regularly been retained if it is followed by another nasal. In this case the nasal is represented by the plural suffix -n. It is comparable to the Tagle suffix -ni of nətni, the plural form of dōtu ‘horn’.

As for consonant changes in non-initial position, Nobiin niuur and Kenzi-Dongolawi nuit, nuu ‘shade’, ‘shadow’, can be recognized as reflexes of *nugdi if it is assumed that several changes have occurred. These changes have included metathesis of the final segments: *nugdi > *nugid, perseverant vowel assimilation, *nugid > *nugud, the loss of the intervocalic velar *nugud > *nuud and the weakening of the final *d > r, *nuud > nuur. The loss of the voiced velar *g in intervocalic position is well-known from other Nubian languages, for instance, *agil which is
reflected by Midob aal ‘mouth’, *ugud by uul ‘day(light)’ as well as *nigidi by Birgid niidi ‘clay’.

The reflexes of Proto-Nubian *kemsi ‘four’ show various changes conditioned by the mutual assimilation of the voiced labial nasal *m and the alveolar(-palatal) fricative *s. In Tagle and Karko, *s is regularly reflected by the voiced palatal plosive j. Tagle kípípí suggests a reciprocal assimilation, i.e. the nasal *m has adopted the place of articulation of the following palatal j, and this consonant has adopted the mode of articulation from the preceding nasal. In Karko këgëgë the nasal has adopted the place of articulation of the following palatal. Midob èefi shows that the regular reflex of *s > s has not been retained but has shifted to j. This is, no doubt, because of the loss of the preceding nasal whose feature [+ voice] has been adopted by the following consonant. The same assimilatory process is assumed in respect to the shift of *t > d from *delti to Midob ëdëdi ‘hair’.

The reflexes of *endee ‘millet’ show an alternation of the nasal n and the liquid r which is not attested in any other set of cognates. The geminate rr of Nobin orree results from a perseverant assimilation (*nd >) rd > rr. The regular loss of *d in Tagle ènè is a characteristic feature of this dialect, compare Tagle mánë to Karko mánd ‘grass’.

As for the deletion of syllable-final consonants, the Midob items suggest that the voiced plosives *b and *g, the nasals *m and *n, the lateral *l, and the dental *t (rather than the fricative *s, see below) are lost. In each case, the loss is accompanied by compensatory lengthening of the preceding vowel. The assumed transitional diphthongal stage through which the vowel plus the weakened consonant have passed before they have been re-analysed as long monophthong is, however, attested in three items only. i) The high vowel i of Tagle dëjëi ‘stir’ can be regarded as the glide j that reflects the weakened labial *b of the root *nob- although one would rather expect the glide y to reflect the labial *b. ii) In Tagle dùwàdà ‘shadow’ the labial approximant w can be considered as the glide y reflecting the velar *g of *nVgdi. After the weakening the syllable structure has changed from *CVC.CV to CV.CV.CV, that is from *qVw.dì to *qVwV.dì, a change that is also attested in Birgid nò.gò.dì. The final change from *qVwV.dì to dùwàdà is probably due to contraction of the two final syllables resulting in the low vowel aa with a falling tone. A comparable case is presented by *nigidi ‘clay’ which is reflected in Tagle by diddàdà.

The last three sets of cognates in Table 5 are reconstructed as *ñVsti ‘horn’, *ísti ‘louse’, and *Vsti ‘water’. The reconstruction is based on the rather regular reflexes in the Old Nubian, Nobin, Kenzi-Dongolawi, Tagle, and Karko items discussed in connection with Table 1 above. The
corresponding Midob items kāćī, iidi, óći, and Birgid eeji ‘water’ however, pose a problem. The Midob palatal plosive c is usually a reflex of *j or, after r, of *s (see "rcidī" in Table 2). I suppose, therefore, that the original sequence *st has metathesized to *ts. The syllable-final segment of the resulting consonant sequence *ts has been weakened to an unattested glide j which has first given rise to a transitional diphthong and then to the long monophthong as attested in kāćī and óći. The syllable-initial segment of *ts has been strengthened and is therefore reflected by c. In Midob there are several examples of metathesis, compare: i) Kenzi toski, Birgid tizzig, Midob taasi < *tagsi < *tasgi ‘three’, ii) Kenzi ulug, Birgid ọgel, Midob ulgi ‘ear’.

In regard to the assumed development of Midob kāćī and óći, one would expect iidi ‘louse’ to be realized as iici. As there are no other items attesting the shift from *st > d with compensatory lengthening, the reflex d cannot be explained yet.

Birgid eeji ‘water’, in turn, does not appear to be a regular reflex of *Vsti because Birgid ụsti ‘horn’ suggests that the consonant sequence *st of *ŋVsti is retained. I therefore assume that Birgid eeji is a borrowing from the neighbouring Midob language, the borrowing being based on Midob óći ‘water’. As the central vowel ə(ə) and the palatal c do not belong to the phoneme inventory of Birgid, these sounds have been replaced by (ē)e and j, respectively.

4 SUMMARY

This study of the loss of syllable-final consonants shows that each Nubian language is characterized by a distinctive pattern and amount of consonant loss. Midob is certainly the language in which the largest variety of Proto-Nubian consonants are deleted: Thus *s is lost before *k without compensatory lengthening (Table 3), and – in connection with compensatory lengthening – the voiced plosives *b and *g, the nasals *m and *n, and the lateral *l are lost. Moreover, I assume that *t is deleted in Midob if *t occurs in the metathesized sequence *st > *ts (Table 5). In Birgid, syllable-final *b and *s are lost, the loss being accompanied by compensatory lengthening (Table 4). In the Kordofan Nubian dialects, *s is always lost before *t but, in contrast to Birgid, compensatory lengthening does not occur (Table 1). The loss of other syllable-final consonants is a characteristic feature of individual Kordofan Nubian dialects, such as the deletion of *d in Tagle or the loss of *r in Karko. As for Kenzi-Dongolawi, very few examples of consonant loss are found, the loss being restricted to liquids. Their deletion is accompanied by compensatory lengthening, e.g. *salme > saamee,
saama ‘beard’ and *marg- > maag- ‘steal’. These findings confirm RILLY who states that Kenzi-Dongolawi is the least innovative (or most conservative) Nubian language (RILLY ms 2003: 265). Old Nubian and Nobiin basically show the same pattern as Kenzi-Dongolawi, with one noteworthy exception as pointed out in the commentary on *nVsi-ti ‘oil’ (Table 4).

Many Nubian sets of cognates support DE CHENE and ANDERSON’s interpretation of compensatory lengthening as a process in which a syllable-final consonant is first weakened to a glide and then, after a transitional diphthongal stage, gives rise to a long monophthong. Two questions still remain to be answered, however: i) Which factor determines the loss of a syllable-final consonant with or without compensatory lengthening? ii) Does the loss of consonants trigger tonal changes?

5 REFERENCES


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