

# Number marking in Datooga nouns

Roland Kießling, Hamburg

## 1. Introduction

The descriptions of Rottland (1982: 165f., 1983) and Creider/Rottland 1997 have shown that the nominal number system of Datooga is as complex as in other Southern Nilotic languages (Tucker/Bryan 1962, 1964, 1965, 1966: 461ff.). Nevertheless, the analysis is far from completed, since it seems as if some phonological conditions that determine correlations of singular and plural forms and the role of tone have largely been underestimated so far. So the present article is a further attempt at a more adequate description of the Datooga nominal number system that should be read as a sequel to Creider/Rottland1997.<sup>1</sup>

## 2. The structure of the Datooga noun

The nominal root in Datooga can be modified by a number of affixes. Basically, there is a distinction of primary and secondary suffixes<sup>2</sup>: root - ps -ss. Some modifications - the possessives, the referential and the distal demonstratives - build on the secondary form of the noun. Others - the near demonstratives, the indefinite and the numeral "one" - build directly on the primary form without any secondary suffix intervening.

## 3. Number marking and number concepts

Several nominal categories in Datooga, such as the possessives (Rottland 1982: 170ff., Creider/Rottland 1997: 80), the near and the distal demonstratives (Rottland 1982: 169, Creider/Rottland 1997: 79) and the secondary suffixes, are inflected for number. With respect to the secondary suffixes, *-ga* indicates the plural, *-da*, however, is not confined to singular

nouns, it also occurs with collectives, e.g. *mùdùl-da* "ostrich's feathers", *lúgò:-da* "warriors", *bú:nè:-da* "people", *dàbí:d-da* "things, utensils, weapons", *nàyé:gù:-da* "Iraqw people", *qó:rjà:f-da* "divining stones". Therefore, the term singular is unprecise. The form may best be called "unit reference form" (Hayward 1984: 160ff.), as it refers to individual entities and to functional units or associations of individual entities as well. Datooga nouns clearly do not only display binary oppositions with respect to number, but also ternary oppositions into singulatives (individual reference form), collectives (unit reference form) and plurals (multiple reference form). Thus, the individual reference forms *gìsìllá:nda* (*gìsìl-já:n-da*) "sheep", *njó:rjá:nda* (*njó:r-já:n-da*) "pumpkin (sp.)" and *há:lácà:nda* (*há:lád-jà:n-da*) "water hole" are opposed to unit reference forms *gìsìlda* (*gìsìl-0-da*), *njó:rù:da* (*njó:r-ì:-da*), *há:ládè:da* (*há:lád-è:-da*) and to multiple reference forms *gìsìlga* (*gìsìl-0-ga*), *njó:ràjé:ga* (*njó:r-àjé:-ga*), *há:látka* (*há:lád-0-ga*), respectively. In the individual reading, all of these nouns display the primary singulative suffix *-ja:n*. The unit reference form is characterized by the primary suffixes *-i:*, *-e:* and *0* and goes together with the singulative in that it takes the secondary suffix *-da*. This functional syncretism of singular and unit reference form is also found in the pronominal possessives: *bú:nè:dæ:ju* "my people" semantically refers to a functional unit of several individual entities, morphologically it goes together with the singular, as is reflected in the presence of the secondary suffix *-da* and the possessive suffix *-ju* 1sg of the singular set.

#### 4. Primary and secondary forms

The semantics of the opposition of primary vs. secondary forms could best be characterized in terms of specificity. The secondary form refers to a specific item, whereas the primary form is unspecific and highlights the concept of the nominal stem in its most general form (cf. Rottland 1982: 169, Creider/Rottland 1997: 76f.). Secondary forms are more frequent than primary forms. Nouns in their primary form tend to be used at the beginn-

ing of narrative texts to introduce certain protagonists, sometimes they are used in terms of address such as *gwá:rgwè:* "old man!" and, more revealing still, in idiomatic phrases such as *dì:ŋd qà:ŋ* "look at" (lit. "let the eye climb"), *sì:k qà:ŋ* "let o.'s eye travel" where the primary form *qà:ŋ* occurs, rather than secondary *qà:ŋ-da*. The indefinite form of the noun, morphologically distinct from the unspecific form, is derived from the unspecific basis by the suffix *-i!* (Rottland 1982: 169, Creider/Rottland 1997: 81).

## 5. Primary suffixes

Most of the primary suffixes have a number connotation. Some are ambivalent, i.e. they show up on both sides in number oppositions - in nominals that refer to individuals as well as in nominals with a collective connotation that convey the "unit reference" meaning; e.g. suffix *-é:* occurs in singulars such as *ò:rj-é:-da* "son, friend" or *gùd-é:-da* "dog" and in plurals such as *mà:ŋ-é:-ga* "front legs" or *gé:bg-é:-ga* "veins".<sup>3</sup>

The suffixes for individual reference are: *-ja:n ~ -a:n*, *-dò:*, *-è:*, *-ò:* and *-ù:*. Suffixes for unit reference that occur to both ends in number oppositions are *-ì:*, *-ú:*, *-é:*, *-è:*, *-ó:* and *0*. And the suffixes for multiple reference are:  $(L_0)L-ó:$ ,  $(L_0)H-é:$ ,  $(L_0)H-ì:$ ,  $(L_0)H-ìn:$ ,  $(L_0)L-àn:$ ,  $(L_0)L-àjé:$ ,  $(L_0)L-ó:jì:$ ,  $(L_0)H-gwà:!$ ,  $(L_0)H-gá:!$ ,  $(L_0)L-gwé:$ ,  $(L_0)H-je:!$ ,  $L-jé:n$ ,  $(L_0)H-á:!$ ,  $(L_0)H-à:!$ ,  $(H_0)H-yè:$ ,  $(L_0)H-ú:!$ ,  $(L_0)H-ú:d ~ (-á:d, -ó:d)$ ,  $(L_0)L-ú(:)nàd$ ,  $(L_0)H-úŋgwà:!$  and tonal conversion into +H.<sup>4</sup>

## 6. The role of tone

Datooga is a tone language. The extent to which tone plays a part in the nominal morphology has not been recognized yet. There is of course the case system with the opposition of the absolutive versus the nominative form that operates on a tonal basis exclusively, as has been noted by Rottland (1982: 172) and Creider/Rottland (1997: 82f.). But tone also has

an impact on number morphology as well. There are at least two lexical tone classes of nouns, class 1 with a final high tone on the nominal root (e.g. *bé:f-da* "elephant", *ɲùfáb-da* "tongue"), class 2 with a final low tone (e.g. *qà:ɲ-da* "eye", *ùhù:-da* "head").

The lexical tone of the root determines the plural form to some extent. The plural suffixes may be grouped to form three classes, depending on the lexical tones of the root, the first pluralizing class 1 roots (e.g. *-à!*, *-gá:!*, *-gwà:!*), the second class 2 roots (e.g. *-gwé:!*), and a third one without any affiliation (e.g. *-é:!*). With respect to tonal behaviour, we have to identify tone-integrative suffixes, i.e. suffixes that impose tone patterns onto the noun as a whole overriding lexical tone patterns. All of the plural suffixes do so. Moreover, there is a process of tone conversion by which plurals are derived from singulars.

## 7. Morphophonological rules

The most important morphophonological rules that apply in number derivation are denasalisation, deletion of *di* as a second syllable, assimilation of *j* and devoicing.

### 7.1. Denasalisation

Two types of denasalisation apply to Datooga nominals: oralisation of the palatal nasal and nasal deletion.

If root final palatal nasals collide with the secondary suffix *-da* of the singular, the nasal is transformed into a palatal approximant (cf. Rottland 1982: 165). Thus, *màdó:yda* "vulture" goes back to *\*màdó:jn-da*, the palatal nasal surfacing in the plural *màdó:jàka*.

Nasal deletion applies, if a root final alveolar nasal collides with the secondary suffix *-da* of the singular. Thus, *sá:rè:da* "nose" and *qá:lò:da* "leather strap" go back to *\*sá:rè:n-da* and *\*qá:lò:n-da*, respectively. The

nasal surfaces in the near demonstrative as in *sàrè:n-ì* "this nose" and in the plurals, e.g. in *sàré:n-ú!-ga* and *qà:ló:n-ì-ga*.<sup>5</sup>

## 7.2. Deletion of *di(:)*

The deletion of *di(:)* as a second syllable applies to stems with the structure *CVdi(:)C-ps-ss*. Thus, *bù:l-é:-da* "claw, fingernail, hoof" and *gìn-é:-da* "teat" go back to *\*bù:díl-é:-da* and *\*gìdín-é:-da*. The lost *di* surfaces in the plurals *bù:díl-ga* and *gìdín-ga*.

## 7.3. Delabialisation of velars in non-coronal environment

The allomorphy of the plural suffixes *-gá:!* and *-gwà:!* is determined by the coronality of the preceding root final consonant: *-gá:!* goes with non-coronals, *-gwà:!* with coronals only. Underlying *-gwà:!* is subject to delabialisation in the environment of grave consonants. So we find *qá:tkwà:ka* "necks" (< *qá:d-gwà:!--ga*), but *gò:dápka:ka* "elbows" (< *gò:dáb-gá:!--ga*).<sup>6</sup>

## 7.4. Assimilation of *j*

The initial consonant in the suffix *-ja:n* for the singulative is totally assimilated to preceding liquids. As a result geminated liquids occur in singulatives such as *bállà:nda* "boy" (< *bál-jà:n-da*), *gìsìllá:nda* "sheep" (< *gìsíl-já:n-da*), *mùdùllá:nda* "ostrich's feather" (< *mùdúl-já:n-da*). If, however, the preceding consonant is a palatal, singulative *-ja:n* is reduced to *-a:n*, *j* is deleted, e.g. *fì:yá:ndò:da* "excrement" (< *fì:y-já:n-dò:-da*). And if the preceding consonant is *n*, both consonants, *n* and *j*, merge into *n*, e.g. *dàbíjána:nda* "feather" (< *dàbín-já:n-da*), *bújána:nda* "enemy" (< *bú:n-já:n-da*).

The initial consonant in the plural suffix *-je:!* is deleted if it collides with a preceding liquid *l* or a palatal nasal *ɲ*, as in *gwá:ɲé:ka* "years" (< *gwá:ɲ-je:!-ga*) and *hàlúlé:ka* "shoulder blades" (< *hàlúl-je:!-ga*).

### 7.5. Devoicing

Voiced consonants undergo devoicing in contact with voiceless one, e.g. *sò:ska* "small baskets" (< *sò:s-ga*). If two voiced consonants collide, both of them are devoiced, as in *gá:tka* "arrows" (< *gá:d-ga*). Quite frequently devoicing also occurs in connection with certain suffixes, e.g. the plural suffixes *-á:!*, *-je:!*, *-ú:!*, *-gá:!*, *-gwà:!*, *-úɲgwà:!*<sup>7</sup> trigger devoicing in the initial consonant of the successive secondary plural suffix.<sup>8</sup>

Devoicing and fusion is also attested with roots that terminate in approximants: root final *w* merges with the initial voiced velar in the secondary plural suffix *-ga* into *k* as in *gùjáka* "horns" (< *gùjáv-ga*), *gé:ka* "shoes" (< *gé:w-ga*) and *màsté:ka* "branding irons" (< *màstér-w-ga*).

## 8. Correlations of singular and plural classes

Singulars, collectives and plurals seem to form classes which could be defined on the basis of their primary number suffixes and their correlations with other primary suffixes in number oppositions.

### 8.1. Individual reference forms<sup>9</sup>

The singular suffix *-è:* takes plurals in *-é:* (*má:ɲ-è:-da* "front leg", *áp-è:-da* "buttock, bottom", *gá:l-è:-da* "stomach"), *0* (*mó:n-è:-da* "finger", *gé:w-è:-da* "shoe", *gìfá:d-è:-da* "hearth stone") and *-ó:ɲi* (*wá:q-è:-da* "womb", *áv-è:-da* "day, sun", *hábi:y-è:-da* "hyena"). The singular suffix *-é:*<sup>10</sup> takes plurals in *-u:!* (*sás-é:n-da* "body"), *-àjé:* (*mùrd-é:-da* "side, hip", *gùd-é:-da* "dog"), *0* (*no:d-é:-da* "rope", *gùjáv-é:-da* "horn", *gè:fád-é:-da* "tooth"), *-i* (*mál-é:(n)-da* "honey", *gwàl(l)-é:-da* "female servant"), *-in* (*sìb-é:-da* "bride", *bùɲ-é:-da* "grave"), *-ó:d* (*mùhá:l-é:-da* "cattle room

inside the house"), *-ú:d* (*gìrgwà:g-é:-da* "council"), *-o:* (*ò:rj-é:-da* "son, friend"), *-ó:jì* (*háràŋ-é:-da* "beehive in earth", *dàgàl-é:-da* "dewlap", *hámarj-é:-da* "shoulder").<sup>11</sup>

The singular suffix *-ò:* takes plurals predominantly in *-gwe:* (*šágé:r-ò:-da* "ostrich", *íj-ò:-da* "female being", *fáy-ò:-da* "arrow type"), *-àjé:* (*šímq-ò:-da* "arrow type", *málá:mb-ò:-da* "trough", *ìnqáq-ò:-da* "chicken"). Three nouns pluralize in *-ú:nàd* (*gúró:r-ò:-da* "heart"), *0* (*ìcìb-ò:-da* "snake"), and *-e:* (*ŋásám-ò:-da* "point of arrow"), respectively. The singular suffix *-ó:*<sup>12</sup> takes plurals predominantly in *-àjé:* (*jó:m-ó:-da* "axe", *nà:m-ó:-da* "wild cat", *jò:rj-ó:-da* "snail-shell"). There are two nouns that pluralize in *-gwe:* (*fúr-ó:-da* "arrow poison"), and *-e:* (*gé:b(g)-ó:-da* "vein"), respectively. Semantically, there seem to be restrictions in this class. All body parts in *-ó:* or *-ò:* pluralize by *-gwe:* or *-ú:nàd*, and all nouns for animals pluralize by *-gwe:* or *-àjé:*, respectively.

The singular suffix *-u:* pluralizes by *-àjé:* (*ná:w-ù:-da* "cat", *mùrùg-ù:-da* "shaft of spear") and *-ì* (*dáh-ù:-da* "cooking pot").

The singulative suffix *-dò:* pairs with collective bases in *0* (*ŋó:g-dò:-da* "louse", *sé:ŋ-dò:-da* "twig with green leaves", *qwé:n-dò:-da* "firewood") or *-é:* (*fì:y-jà:n-dò:-da* "excrement"). The suffix is also contained in the ethnonym *dátó:ga* which could be analysed as *dàd-dò:-'ga*, a singulative pluralized by tonal conversion.

The singulative suffix *-a:n* takes plurals predominantly in *-é:* (*fù:-á:n-da* "bow-string", *ŋáf-á:n-da* "word", *šì:mŋ-á:n-da* "tail"), *0* (*qaráj-à:n-da* "travelling gourd", *mí:ŋw-à:n-da* "star", *dámà:l-à:n-da* "branch"), marginally in *-ó:* (*màrà:nq-w-á:n-da* "glutton"), *-à!* (*dàrúr-à:n-da* "bird"), *-ye:* (*bá:rb-à:n-da* "Barabaiga person") and *-ó:jì* (*gìsìrj-á:n-da* "hoe (old word)", *màgé:mŋ-à:n-da* "hoe (new word)"), respectively.

The singulative suffix *-ja:n*<sup>13</sup> predominantly pairs with collectives and plurals in *0* (*gìsíl-já:n-da* "sheep", *rábás-jà:n-da* "guest", *gílé:n-já:n-da* "bead"), *-e:* (*sè:lè:l-já:n-da* "hair of mane", *dàbà:q-já:n-da* "Maasai", *há:lád-jà:n-da* "water hole"), *-ì* (*dàbín-já:n-da* "feather", *bàqás-jà:n-da* "young male elephant", *dà:gé:d-jà:n-da* "butter (arch.)", *-ó:jì* (*bál-já:n-da* "boy", *dìqñ-já:n-da* "balance of spear", *ɲwà:n-já:n-da* "iron tool"), marginally with *-i:* (*qú(dí)n-já:n-da* "iron bracelet", *njó:r-já:n-da* "pumpkin sp."), *-àjé:* (*qànd-já:n-da* "baboon"), *-je:!* (*bìj-já:n-da* "pig").<sup>14</sup>

The singulative *-ja:n* also has a diminutive connotation: *mò:h-é:-da* *mò:hé:da* "savanna" derives the plural *mò:h-àjé:-ga* "savannas" which may be singularized to form *mò:hàjá:nda* (< *mò:h-à(jé:)-já:n-da*) "small area of savanna; plain".

## 8.2. Unit reference forms

The suffix *-i:* patterns predominantly with plural suffix *-àjé:* (*gùnd-í:-da* "ball of the thumb", *dù:mb-í:-da* "beer-sieve", *gùnd-í:-da* "granary from dried cow dung", *gìràng-í:-da* "pipe") and with singulative suffix *-ja:n* (*qùd-í:-ga* "iron bracelets").

Suffix *-ì* patterns with plural suffixes *-ú:d* (*sìmá:nd-ù:-da* "piece of leather"), *-e:n* (*búlál-ì:-da* "bed above fireplace") and *-àjé:* (*njó:r-ù:-da* "pumpkins sp.") and with singulative suffix *-ja:n* (*náyég-ù:-da* "Iraqw people", *iràŋ-ù:-da* "Langi people").

The singular in *0* predominantly pairs with collectives and plurals in *0* (*qù:wá:ŋ-da* "bow", *gà:tín-da* "arm", *qwaràŋ-da* "he-goat"), *-ì* (*é:n-da* "river", *qwà:n-da* "father", *gè:d-da* "tree", *íd-da* "ear")<sup>15</sup>, *-ìn* (*já:d-da* "hind leg", *dó:f-da* "door, clan", *jè:s-da* "belly"), *-àn* (*gè:f-da* "leg", *qà:ŋ-da* "eye"), *-ú:!* (*bàná:g-da* "palm", *hìdé:n-da* "racine", *gìbé:s-da* "upper leg"), *-gá:!* (*gùlúb-da* "club", *ɲùsáb-da* "tongue", *gò:dáb-da* "elbow"), *-gwà:!* (*gáy-da* "giraffe", *gùwóy-da* "liver", *qá:d-da* "neck"), *-úngwà:!*



(*dúmò:(n)-da* "penis", *hùlán-da* "resting place in shadow"), *-je:!* (*gúmá:r-da* "present for a hero", *rúr-da* "back side of upper leg", *bà:s-da* "fire"), *-á:!* (*hú:g-da* "hump", *háv-da* "calf of leg", *hàrágw-da* "wooden tray"), *-à!* (*dáró:r-da* "landscape", *màdójn-da* "vulture", *bé:f-da* "elephant"), marginally in *-je:n* (*dú:m-da* "dance, song", *dím-da* "forest"), *-ójì* (*hàmíd-da* "food"), *-únàd* (*dáqád-da* "chest", *mànan-da* "hip"), *-é:* (*dà:ró:y-da* "spiral bracelet").

Plurals in *0* pair with singulars in *0* (*gìsíl-ga* "sheep", *gàtín-ga* "arms", *qú:wá:ŋ-ga* "bows"), *-e:* (*gùjáv-ga* "horns", *gè:fád-ga* "teeth", *bè:yó:n-ga* "fire-twirls"), *-a:n* (*qàráj-ga* "travelling gourds", *qàmí:làl-ga* "bees (sp.)"), *-ja:n* (*bàdád-ga* "bark; crocodiles", *dàbás-ga* "hollows, depressions", *dàbíd-da* "weapons, tools"), *-dò:* (*ŋó:g-ga* "lice", *sé:ŋ-ga* "twigs with green leaves", *qwé:n-ga* "firewood").

### 8.3. Multiple reference forms

The suffix *-ó:* in plurals imposes a tone pattern ( $L_0$ )*L-ó:* onto the noun and pairs with singulars in *-e:* (*ò:rj-ó:-ga* "sons, friends") and *-a:n* (*màrà:nq-w-ó:-ga* "gluttons", *sìrò:nj-ó:-ga* "contents of intestines of sheep and goats", *sò:mj-ó:-ga* "male servant").

Plural suffix *-é:* imposes a tone pattern ( $L_0$ )*H-é:* onto the nominal stem and predominantly pairs with singulars in *-a:n* (*fú:-é:-ga* "bow-strings", *gìfáj-é:-ga* "ribs") and *-ja:n* (*sè:lél-é:-ga* "mane", *qàráh-é:-ga* "skinners"), marginally with *0* (*gè:káy-é:-ga* "pieces of wood to twirl fire on"), *-o:* (*gè:bg-é:-ga* "veins"), *-à* (*(h)àgw:-é:-ga* "leather garments"), *-e:n* (*dáy-é:-ga* "kids of goat").<sup>16</sup>

Plural suffix *-ì* imposes a tone pattern ( $L_0$ )*H-ì* onto the stem and pairs with the singulars in *0* (*dàràwéd-ì-ga* "swalas", *íd-ì-ga* "ears", *géd-ì-ga* "trees") and *-ja:n* (*bùŋgàró:d-ì-ga* "pregnancies", *dàbín-ì-ga* "feathers",

*bàqá:s-ì-ga* "young male elephants"). Phonologically, it is restricted to stems that terminate in alveolar consonants such as *d, s, n, l*.<sup>17</sup>

The plural suffix *-ìn* imposes a tone pattern  $(L_0)H-ìn$  onto the stem and pairs with singulars in *0* (*jà:d-ìn-ga* "hind legs", *jé:s-ìn-ga* "bellies", *dó:f-ìn-ga* "doors, clans") and *-e:* (*bùṅá:d-ìn-ga* "graves"). Phonologically, it is restricted to stems that terminate in coronal consonants.

The plural suffix *-àn* imposes a tone pattern  $(L_0)L-àn$  onto the stem and pairs with singulars in *0* (*gè:f-àn-ga* "legs", *qà:n-àn-ga* "eyes"). Phonologically, it is restricted to stems that terminate in coronal consonants; semantically, it is restricted to body parts.

The plural suffix *-àjé:* imposes a tone pattern  $(L_0)L-àjé:$  onto the stem and pairs with singulars in *-e:* (*gùd-àjé:-ga* "dogs", *lùqm-àjé:-ga* "fingerrings from leather"), *-i:* (*dùmb-àjé:-ga* "beer-sieves", *gìnd-àjé:-ga* "granary from dried cow dung"), *-o:* (*jò:rj-àjé:-ga* "snail-shells", *nà:m-àjé:-ga* "wild cats", *bàrjò:m-àjé:-ga* "acacias"), *-u:* (*jà:w-àjé:-ga* "cats", *mùrgw-àjé:-ga* "shafts of spears") and *-ja:n* (*qànd-àjé:-ga* "baboons").

The plural suffix *-ó:jì* imposes a tone pattern  $(L_0)L-ó:jì$  onto the stem and pairs with singulars in *-e:* (*hàmàrj-ó:jì-ga* "shoulders", *wà:q-ó:jì-ga* "wombs", *hàbiy-ó:jì-ga* "hyenas"), *-ja:n* (*bàl-ó:jì-ga* "boys", *dìqñj-ó:jì-ga* "balances of spears") and *-a:n* (*màgè:mb-ó:jì-ga* "hoes (new)", *gìsìrj-ó:jì-ga* "hoes (old)").

The plural suffixes *-à!*, *-á!*, *-je:!* and *-e:!* are interrelated by a complex pattern of complementary distribution which is conditioned by the coronality of the stem final consonant and the ATR-quality of the root:

	final C in root	ATR-quality of the root	singular suffix	tone class of root
$(L_0)H-je:!$	[+cor]	+ATR	<i>0, -ja:n, -a:n</i>	mixed
$(L_0)H-e:!$	[+cor]	+ATR	<i>0</i>	LHL (1)

$(L_0)H-\grave{a}!$	[+cor]	-ATR	$0, -ja:n$	H, LH (1)
$(L_0)H-\acute{a}!$	[-cor]	-ATR	$0$	H, LH (1)
$L-j\acute{e}:n$	[-cor]	+ATR	$0$	H (1)

The plural suffix  $-\grave{a}!$  imposes a tone pattern  $(L_0)H-\grave{a}!$  onto the stem and pairs with singulars of tone class 1 in  $0$  (*bé:f-à!-ga* "elephants", *màdó:y-à!-ga* "vultures", *mùfó:d-à!-ga* "leather sacks", *dàró:r-à!-ga* "landscapes") and  $-a:n$  (*dàrí:r-à!-ga* "birds"). Phonologically, it is restricted to stems that terminate in coronal consonants (and a syllable with a long vowel), whereas plural suffix  $-\acute{a}!$  operates on stems only that terminate in grave consonants. This suffix imposes a tone pattern  $(L_0)H-\acute{a}!$  onto the stem and pairs with singulars of tone class 1 in  $0$  (*ñò:rág-á!-ga* "hard palates", *háw-á!-ga* "calves of legs", *hú:g-á!-ga* "humps", *ró:q-á!-ga* "quivers", *há:yw-á!-ga* "garments", *qàrá:yw-á!-ga* "areas", *bàyo:g-á!-ga* "calabashes with long necks", *hàrá:gw-á!-ga* "wooden trays", *gú:dy-á!-ga* "knees").

The plural suffix  $-je:!$  imposes a tone pattern  $(L_0)H-je:!$  onto the stem and operates on singulars in  $0$  (*bá:s-jé:!-ga* "fires", *gì:má:r-jé:!-ga* "presents for heroes", *mú:s-jè:!-ga* "carcasses", *rí:r-jè:!-ga* "back sides of upper legs") and  $-ja:n$  (*bí:j-jé:!-ga* "pigs"). Phonologically, it is restricted to stems that terminate in coronal consonants. If, more specifically, this consonant is  $n, \eta, y$  or  $l$ , the initial consonant  $j$  of the suffix is deleted, e.g. in *hàlúl-(j)é:!-ga* "shoulder blades", *gwá:y-(j)é:!-ga* "years", *ηà(di)η-(j)é:!-ga* "lions", *qàlà:láy-(j)é:!-ga* "holes", *rà:ηdá:y-(j)è:!-ga* "songs of glory".

The plural suffix  $-j\acute{e}:n$  imposes the tone pattern  $L-j\acute{e}:n$  and occurs with two nouns that terminate in grave consonants, *dù:m-jé:n-ga* "dances, songs" and *dìm-jé:n-ga* "forests", both of which have singulars in  $0$ .

On a narrow comparative basis, it could be suspected that the distribution of the allomorphs  $-\grave{a}!$  and  $-\acute{a}!$  on the one side, and  $-je:!$ ,  $-e:!$  and  $-j\acute{e}:n$  on the other side, was conditioned by ATR-quality. Thus, roots of the

+ATR set took the allomorphic set with *e*-vowels (e.g. *dù:m-jé:n-ga* "dances, songs" (PKal \**tu:m*) and *dìm-jé:n-ga* "forests" (PKal \**tim*)), whereas roots of the -ATR set took the allomorphic set with *a*-vowels (e.g. *màdó:ŋ-à!-ga* "vultures" (PSN \**mɔtɔ:ŋ*), *dàrí:r-à!-ga* "birds" (PSN \**tarɪt*), *hú:g-á!-ga* "humps" (PKal \**yɔ:k*), *ró:q-á!-ga* "quivers" (CD *rɔ:q*)).

The plural suffix *-ye:* imposes a tone pattern  $(H_0)H$ -*ye:* and pairs with the singulative *-a:n* (*fó:já:n-yè:-ga* "stains of blood", *bá:rbá-yè:-ga* "Barabaiga people").

The plural suffix *-ú:!* imposes a tone pattern  $(L_0)H$ -*ú:!* and operates on singulars in  $\emptyset$  (*bàná:g-ú:!*-*ga* "palms", *bàdáh-ú:!*-*ga* "backs", *gìbé:s-ú:!*-*ga* "front sides of upper legs", *màdá:ŋ-ú:!*-*ga* "cheeks", *màqás-ú:!*-*ga* "wooden containers", *qàmár-ú:!*-*ga* "wooden digging instruments").<sup>18</sup>

The distribution of the plural suffixes *-gá:!*, *-gwé:* and *-gwà:!* is determined by a complex pattern of phonological and morphological conditions, i.e. by the coronality of the stem final consonant, the singular suffix and the tone class of the root:

	final C in root	singular suffix	tone class of root
$(L_0)H$ - <i>gá:!</i>	[-cor]	$\emptyset$	LHL (1b)
$(L_0)L$ - <i>gwé:</i>	[+cor]	- <i>ò:</i>	L (2)
$(L_0)H$ - <i>gwà:!</i>	[+cor]	$\emptyset$	H (1)

The labialisation of the velar in these suffixes is determined by the quality of the final root consonant. Grave consonants trigger delabialisation<sup>19</sup>, coronal consonants do not. Thus, *-gá:!* pluralizes roots that terminate in grave consonants, *-gwà:!* and *-gwé:* are restricted to roots that terminate in coronal consonants. The distribution of the latter allomorphs, the choice of *a* or *e* in the suffixes, is determined by the tone class and the suffix of the singular. Singulars in *-ò:* (and therefore tone class 2) pluralize by *-gwé:*, whereas the others (singulars of tone class 1) take *-gwà:!*. Probably the mid vowel in *-ò:* raised the vowel of the plural suffix to mid level, here.<sup>20</sup>

The plural suffix *-gá:!* imposes a tone pattern  $(L_0)H-gá:!$  onto the stem and operates on singulars in  $\emptyset$  (*gò:dáb-gá:!*-ga "elbows", *ɲùsáb-gá:!*-ga "tongues", *gùlúb-gá:!*-ga "clubs", *gùɲúg-gá:!*-ga "handles") that belong to tone class 1. The plural suffix *-gwé:*, however, imposes a different tone pattern,  $(L_0)L-gwé:$ , onto the stem and operates on singulars of tone class 2 with suffix *-ò:* (*gì:y-gwé:-ga* "pleura", *jàgè:r-gwé:-ga* "ostriches", *ìj-gwé:-ga* "females", *fùr-gwé:-ga* "portions of arrow poison", *fày-gwé:-ga* "shafts of arrows", *gè:s-gwé:-ga* "huge calabashes for honey beer", *mà:j-gwé:-ga* "amulets, charms"). The plural suffix *-gwà:!*, then, imposes a tone pattern  $(L_0)H-gwà:!$  onto the stem and operates on singulars of tone class 1 with suffix  $\emptyset$  (*qá:d-gwà:!*-ga "necks", *mùgúl-gwà:!*-ga "upper arms", *gùsád-gwà:!*-ga "vaginas", *bár-gwà:!*-ga "knives; calabashes for beer", *gùwóy-gwà:!*-ga "livers", *gáy-gwà:!*-ga "giraffes").

The plural suffix *-ú:d* imposes a tone pattern  $(L_0)L-ú:d$  onto the stem and operates on singulars in *-e:* (*ò:r-ú:d-ga* "pieces of meat", *gìrgwà:g-ú:d-ga* "councils"), *-i:* (*sìmà:nd-ú:d-ga* "pieces of leather") and  $\emptyset$  (*gídè:stàw-ú:d-ga* "calabashes"). The plural suffix *-á:d* occurs in *qád-á:d-ga* "calabashes" (sg. *qád-è:-da*) only, plural suffix *-ó:d* in *mùhà:l-ó:d-ga* "cattle rooms inside houses" (sg. *mùhà:l-é:-da*). It is not clear, if these suffixes are related as phonologically conditioned allomorphs.

#### 8.4. Tone conversion

There is a process of tone conversion which is utilized as a pluralization technique. Generally speaking, a switch from tone class 2 to tone class 1 derives a plural form from singulars in  $\emptyset$  and in *-è:*.

Nouns with primary suffix  $\emptyset$  that display tone conversion:

singular	plural	meaning
<i>dì:yà:yda</i> HL	<i>dì:yà:ɲga</i> LH	animal
<i>mà:stè:wda</i> HL	<i>mà:stè:ka</i> LH	branding iron
<i>sìdà:gè:da</i> HHL	<i>sìdà:gè:ɲga</i> LLH	awl

Nouns with primary suffix *-é:* that display tone conversion:

singular	Plural	meaning
<i>gù:je:da</i> HL	<i>gù:je:(ŋ)ga</i> LH	mountain
<i>má:ŋe:da</i> HL	<i>má:ŋe:ga</i> LH	front leg of animal
<i>gá:le:da</i> HL	<i>gá:le:ga</i> LH	stomach
<i>náqe:da</i> LL	<i>náqe:ga</i> LH	fat
<i>ŋe:da</i> L	<i>ŋe:ga</i> H	moon, month
<i>fùqare:da</i> HHL	<i>fùqare:ŋga</i> LHH	cleverness, wit
<i>hùrje:da</i> LL	<i>hùrje:ŋga</i> LH	front side of house
<i>ape:da</i> HL	<i>ape:ga</i> LH	bottom, buttock

Tonal conversion must also be held responsible for the high tone in the ethnonym *dàtó:ga* which could be analysed as *dàd-dò:-'ga*, a singulative in *-dò:* pluralized by tonal conversion.

### 8.5. Multiplurals

Suffixes may combine to form complex "multiplurals". In some cases, all of the suffixes involved also occur as plural suffixes on their own. This is the case in *bùŋá:d-ìn-ga* "graves" (sg. *bù:ŋ-é:-da*) and *sìbá:d-ìn-ga* "brides" (sg. *sìb-é:-da*) where the plural suffixes *-á:d* and *-ìn* combine, and in *màl-à:s-á:d-ì-ga* "portions of honey" where *-à:s*, *-á:d* and *-ì* combine. The suffix *-à:s* is reminiscent of the Nandi plural suffix *-V:s* (Creider and Creider 1989: 34) which is otherwise not paralleled in Datooga.

Sometimes, only the outer suffixes could be identified with a plural suffix that also occurs in isolation, the inner suffix seems to be a formative that has no plural function on its own. This is the case in *dàh-ó:n-è:d-ì-ga* "cooking pots" (fusion of formative *-o:n* with plurals *-e:d* and *-ì*), *sàs-án-ú:!'-ga* "bodies" (fusion of formative *-an* with plural *-ú:!*) and *sì:y-è:n-á:d-ì-ga* "husbands" (fusion of formative *-e:n* with the plurals *-á:d* and *-ì*).

The plural suffix *-úŋgwà:!*, a fusion of the plural suffixes *-ú(:)nn* and *-gwà:!*, imposes a tone pattern  $(L_0)H-úŋgwà:!$  onto the stem and operates

on singulars with the suffix *0* (*fú:n-ún-gwà:!/ga* "anuses", *dùmó:n-ún-gwà:!/ga* "penisses", *qàlín-ún-gwà:!/ga* "vaginas", *hùlán-ún-gwà:!/ga* "resting places in the shadow", *bàdó:n-ún-gwà:!/ga* "steep slopes"). Phonologically, it is restricted to stems that terminate in coronal consonants. Semantically, there is a preference for tabooed body parts. In combination with *-un*, only the *-gwà:!* allomorph occurs, due to the coronality of the preceding nasal.

The plural suffix *-ú(:)nàd* is a fusion of the plural suffixes *-ú(:)n* and *-à:d*. It imposes a tone pattern  $(L_0)L-ú(:)nàd$  and operates on singulars with the suffixes *0* (*mànan-ú:nàd-ga* "hips", *dàqàd-ú:nàd-ga* "chests") and *-o:* (*gùrò:r-ú:nàd-ga* "hearts"). Phonologically, it is restricted to stems that terminate in coronal consonants. Semantically, it is restricted to body parts.

#### 8.6. Resingularisation

The singulative suffix *-ja:n* is used to resingularize plurals, e.g. *dà:mú:yá:nda* "hair of beard" (< *\*dà:m-ú:!/já:n-da*), derived from the plural *dà:mú:ka* (< *\*dà:m-ú:!/ga*) and *lùgò:nó:cà:nda* "warrior" (*lùg-ò:n-ó:d-jà:n-da*), derived from the unit reference form *lùgò:da* via the intermediary plural form *\*lùgò:nó:tka* (< *\*lùg-ò:n-ó:d-ga*). Pluralization of singulatives occurs with *múrjà:ŋga* "rats" (< *\*múr-jà:n-0-ga*), which on its turn may be resingularized by *-e:* to *múrjà:ŋé:da* "rat" (< *\*mùr-jà:n-g-é:da*, a pluralized singulative, resingularized by suffix *-é:*).

### 9. Conclusion

The distribution of the primary plural suffixes in Datooga is determined to a large extent by phonological and morphological factors, e.g. by the quality of stem final consonants, the lexical tone class of the root, the primary suffix of the singular. A correlation of ATR-harmonic sets with certain pluralization techniques has been suspected, but is far from being established in any convincing way. Other observations are unexplained

still, e.g. what does it mean that the devoicing effect of some plural suffixes always goes together with a tone pattern  $(L_0)H$  on the stem?

There is still no decisive answer to the question, if there is any semantic basis of the plural classes, but there certainly is a preference of certain semantic fields, e.g. body parts, animals, for certain pluralization techniques within the complex pattern of phonological and morphological determination. Semantic conditions seem to be subordinate to phonological and morphological ones. Maybe a closer approximation to an ultimate answer could be given by a thorough analysis of the status of alternative plural forms<sup>21</sup> and the integration of loans into the system.



## NOTES

<sup>1</sup> The basis of the present description is a collection of some five hundred nouns, extracted from texts in the Gisamjanga dialect as it was spoken in Mbulu and Dongobesh in the 1930's. The data have been collected by Paul Berger during the period from May 1935 to February 1936 where Berger stayed after his separation from the German East Africa expedition 1934-36 under Ludwig Kohl-Larsen whom he had accompanied as a linguistic adviser.

<sup>2</sup> Abbreviations: CD common Datooga, PKal Proto-Kalenjin, PL plural, POD Proto-Omotik-Datooga, ps primary suffix, PSN Proto-Southern-Nilotic, SGV singulative, ss secondary suffix.

<sup>3</sup> Others still have no independent number-denoting function, but seem to be associated with a deverbative meaning sometimes.

<sup>4</sup> Only one example of a plural suffix in a singular noun has been found, that is plural suffix *-gwé:* in *má:tkwé:da* "side wall of the house" (< *má:d-gwé:-da*), pl. *mà:dàjé:ga* (*mà:d-àjé:-ga*). Strangely, both, singular and plural, contain plural suffixes.

<sup>5</sup> Obviously, the deletion rule is restricted to the fossilized suffixes *\*-e:n*, *\*-o:n*, *\*-u:n*. It does not apply e.g. in *hulánda* "resting place in the shadow".

<sup>6</sup> The same rule operates in the verbal inflectional morphology: the allomorphy of subject prefixes for 3sg in the aorist is conditioned by the coronal / grave quality of verb initial consonants (Rottland 1982: 180f.).

<sup>7</sup> The devoicing effect of the plural suffix on the secondary suffix is indicated by *!*, a convention also used by Rottland 1982.

<sup>8</sup> It may be suspected that at some stage in the historical development these suffixes had final consonants (i.e. *\*-á:C*, *\*-je:C*, *\*-ú:C*, *\*-gá:C*, *\*-újgwà:C*) that merged with the secondary suffix by devoicing and degemination.

<sup>9</sup> In contrast to the observation in Rottland/Creider (1997: 78), there is one noun that comes up with a suffix *-à* in the singular: *(h)à:qwàda* "leather garment" (*(h)à:qw-à-da*), pl. *(h)àgwé:ga*.

<sup>10</sup> Both suffixes, *-é:* and *-è:*, seem to be derived from *\*-e:n* (~ *\*-a:n*). The terminal *n* must be reconstructed internally, because it is often restored in the near demonstrative form, e.g. *ém-èn-ì* "this tribe", *sás-èn-ì* "this body". In some cases the *n* surfaces in the singular, e.g. *dàyé:nda* "kid of goat" (pl. *dàyé:ga*).

<sup>11</sup> Many of these singulars in *-é:* and *-è:* contain another fossilized formative suffix *-a:n* ~ *-an* (*làq-á:n-è:-da* "rock", *hò:sn-án-è:-da* "child or calf born too early", *bò:st-án-è:-da* "refugee", *qáfá:ñ-àn-é:-da* "fly", *dì:g-á:n-é:-da* "temple", *mùr-àn-é:-da* "hero", *bàqá:q-àn-é:-da* "cattle to be slaughtered", *qà:rè:m-àn-é:-da* "youth", *rábád-àn-é:-da* "prisoner") or *-o:n* (*bè:y-ó:n-è:-da* "firestick", *sàg-ó:n-è:-da* "tree sp.", *jír-ó:n-è:-da* "shadow"). All of these nouns take their plurals in *0* only.

<sup>12</sup> Both suffixes, *-ó:* and *-ò:*, seem to be derived from *\*-o:n* (~ *\*-a:n*). The terminal *n* must be reconstructed internally, because it is often restored in the near demonstrative form, e.g. *gúk-ó:n-ì* "this calabash", *jóm-ó:n-ì* "this axe".

<sup>13</sup> Some ambivalent cases can be analysed in two ways, e.g. the singulative *sijàrjám:nda* "termite" could be seen as an instance of singulative suffix *-a:n* with the *j* belonging to the root. Then the plural *sijàrjé:ka* must be viewed as containing the plural suffix *-e:!*. But the consonant *j* can also be analysed as part of the suffixes *-ja:n* for the singulative and *-je:!* for the plural.

<sup>14</sup> Many nouns of this class contain a fossilized formative *-o:d* ~ *-a(:)d*, e.g. *gìdàñ-ó:d-jà:n-da* "smith", *wà:q-ó:d-jà:n-da* "wise person", *mà:nàñ-ó:d-jà:n-da* "wealthy person", *sùd-ó:d-jà:n-da* "king, ruler, chief", *jà:gwiśc-ó:d-jà:n-da* "herdsman", *gùlgùl-ó:d-jà:n-da* "pestle", *gùhó:n-àd-jà:n-da* "peg". All of these nouns pluralize by *-ì*, and most of them designate human beings.

---

<sup>15</sup> Some of the singulars that pluralize in *-ì* also contain a formative *-a:n ~ -e:n ~ -u:n* (*sí:y-é:(n)-da* "husband", *díg-è:(n)-da* "donkey", *náw-è:(n)-da* "path", *làgw-é:n-da* "goat", *fáw-ù:(n)-da* "arrow for drawing blood", *hàqw-a:n-da* "calf", *qà:l-ò:(n)-da* "leather strap").

<sup>16</sup> The high-toned suffix *-é:* in the plural could also be a result of tone conversion from the singular *-è:*.

<sup>17</sup> Many nouns of this class contain the fossilized formatives *-e:d* and *-o:d* as in *dà:g-é:d-ì-ga* "butter (arch.)", *sùg-ó:d-ì-ga* "kings, chiefs, rulers", *mà:nàŋ-ó:d-ì-ga* "wealthy people", *gìdàŋ-ó:d-ì-ga* "smiths", *jà:gwù:sc-ó:d-ì-ga* "herdsmen", *sè:gr-ó:d-ì-ga* "messengers".

<sup>18</sup> Some nouns of this class have a fossilized formative *-em*, such as *sàr-ém-ú!-ga* "noses", *hùd-ém-ú!-ga* "portions of racine", that seems to be subject to vowel variation as in *sàs-án-ú!-ga* "bodies" (sg. *sàs-é:(n)-da*).

<sup>19</sup> There is only one exception to the "grave-condition": *ŋùd-gá!-ga* "spears" which takes the plural in *-gá!* although the root terminates in a coronal consonant.

<sup>20</sup> Again, on a narrow comparative basis, it could be suspected that the distribution of the allomorphs with vowel *a*, *-gá!* and *-gwà!*, are restricted to roots of the -ATR harmonic set (e.g. *gáy-gwà!-ga* "giraffes" (CD \**gaj*, POD \**kɔy ~ \*kɔŋ*), *qá:d-gwà!-ga* "necks" (PSN \**kat*)), whereas allomorph *-gwé:* occurs with +ATR roots only. But this hypothesis needs further testing still.

<sup>21</sup> Alternative plurals don't seem to be very common. Only two nouns have been found, *ápè:da* "buttock" with the two alternative plurals *àp-é:-ga* and *àp-ó:jì-ga* "buttocks" and *sò:mjá:nda* "male servant" with *sò:mj-é:-ga* and *sò:mj-ó:-ga*.

## REFERENCES

**Berger, Paul**

1935/36 *Unpublished field notes on Gisamjanga-Datooga.*

**Creider, C. A. and J. T. Creider**

1989 *A Grammar of Nandi.* Hamburg: Buske

**Creider, C. A. and Franz Rottland**

1996 Datooga Nominals: the Morphologization of Vowel Harmony. *Afrikanistische Arbeitspapiere* 45:257-268.

**Creider, Chet and Franz Rottland**

1997 Noun Classification in Southern Nilotic: Datooga. *Afrika und Übersee* 80:71-93.

**Hayward, D.**

1984 *The Arbore Language: A First Investigation.* Hamburg: Buske.

**Rottland, Franz**

1982 *Die Südnilotischen Sprachen.* Berlin: Reimer

**Rottland, Franz**

1983 Southern Nilotic (with an Outline of Datooga). In: Bender, L.M. (ed.). *Nilo-Saharan Language Studies.* East Lansing. Pp. 208-238.

**Tucker, A. N. and M. Bryan**

1962 Noun Classification in Kalenjin: Päkot. *African Language Studies* III:137-181.

**Tucker, A. N. and M. Bryan**

1964 Noun Classification in Kalenjin: Nandi-Kipsigis. *African Language Studies* V:192-247.

**Tucker, A. N. and M. Bryan**

1965 Noun Classification in Kalenjin: Nandi-Kipsigis (Continued). *African Language Studies* VI:117-187.

**Tucker, A. N. and M. Bryan**

1966 *Linguistic Analyses: The Non-Bantu Languages of North-Eastern Africa.* Oxford.