

2 Phonology

2.1 Inventory of consonant phonemes

	Bilabial	Alveolar	Palatal	Velar	Lab. Velar	Glottal
Expl. vl.	p	t	c	k	k ^w	ʔ
Expl. vd.	b	d	j	g	g ^w	
Implosive	ɓ	ɗ	ɟ	ɠ		
Fricative		s				
Lateral		l				
Rolled		r				
Nasal	m	n	ny	ŋ		
Glides	w		y			

2.1.2 Consonant realization rules and allophonic variation

2.1.2.1 Notes on plosivity and voice

In earlier works on the phonology of So (Tucker and Bryan 1966:392-3; Heine 1974/5: 265-8), it was stated that voicing is a distinctive feature of obstruents. Heine (ms.), however, revised his view and came to the conclusion that it is not only the opposition voiced/voiceless that is distinctive, but also the opposition explosivity/implosivity. In this work, I shall adhere to Heine's revision, since there is indeed a three-way opposition between the plosives, namely voice, explosivity and implosivity. Taking first the opposition between the voiced and voiceless explosives, it is clear that the voiceless plosives tend to be unaspirated, thus in normal fast speech making them almost undistinguishable from their voiced counterparts. In isolation, however, or when I asked an informant to repeat single words in order to ascertain the plosive involved, the distinction was quite perceivable. In word-final and in particular in utterance-final position, a distinction is clearly made, that is, the voiceless plosives are voiceless and aspirated.

Voiced explosives word-initially and -medially are also clearly perceivable but in word-final and utterance-final position they are often unreleased. The implosives, which are always voiced, are hard to distinguish from the voiced explosives because they are for the most part unreleased, particularly in word-final position. Thus, in order to ascertain whether a given sound was implosive or voiced explosive

in word-final position, I had to elicit these sounds in isolation. Furthermore, in word-final position, the plosives [b,d,g,j] and [ɓ,ɗ,ɠ,ɟ] were always unreleased and could only be established by my insisting that an informant release these, which he would do but only after a long period of closure. However, due to the fact that there are so few words in So which contain an implosive, not distinguishing an implosive from a voiced explosive does not hamper communication since they are hardly ever minimally distinct. That implosivity is distinctive is evidenced by examples such as: **ɟud** “lower arm” and **cuɗ** “headdress”. In the following description of the phonemes, word-final [ɓ,ɗ,ɠ,ɟ] are marked with a final superscript - in the phonetic transcriptions to indicate non-release.

Furthermore, it should be clear that voice is distinctive as can be seen in the minimal pair **ɗak** “fire” and **taɗ** “find (v)”.

In this work, I shall adhere to the following orthographic conventions:

The (voiced) implosives shall be written with the symbols **ɓ**, **ɗ**, **ɠ** and **ɟ**. Otherwise the usual symbols for voiced and voiceless obstruents will be recorded as I heard them.

2.2 Syllable structure

The syllable consists of an onset, a peak and a coda.

Possible onsets in So are zero (0), a consonant (C), or the glottal stop (ʔ). Complex onsets are not permissible. The nucleus generally consists of a short vowel, as stated above, long vowels in So are rare. The coda can be a consonant (C) or zero (0).

Possible syllable structures in So are the following:

VC, CV, VV, CVC, CVV, CVVC.

The preferred quality of the vowel in the VC, CV and CVC syllable types is open.

2.3 Stress

So has variously been described as a stress-accent language and a tone language, or one where both play a role together. I found no evidence for So being a tone language. Tone has no distinctive role, neither on the lexical nor on the syntactic level. It seems to me, however, that stress-accent is important in So, not on the paradigmatic level, but rather on the syntagmatic level. Thus a lexical unit is not specified for accent in the lexicon as it is for other paradigmatic prosodic contrasts, that is, for example, length.

Following Beckman (1986), stress-accent is an organizational feature in So and not a distinctive one.

Within the domain of a bisyllabic word stem, stress falls on the first syllable, for example:

'lak^wan “child”

If a derivative suffix is added, however, then stress generally falls on the final syllable, for example:

lak^wa'n-a

child-1.SG.POSS

“my child”

ko-ken-'k-as

FUT-kill-IMPS-1.SG.OBJ

“I will be killed.”

uru'm-ac

gather-VEN

“gather up”

It is surely no coincidence that the intonation contour rises clause-finally and that most accented syllables are found in an immediate pre-pausal position, where a pause (for the role of pause in syntactic structures, see Serzisko (1992)) clause-finally signals the delimitation of a syntactic unit, and clause-internally a segmentation of the clause elements into prominent/non-prominent elements, or alternatively, it assigns a prominence peak for information relevance. Compare the

following examples:

'g^wes g^wa's-at ɛdɛ 'g^was-t-uk
 women woman-SG certain woman-SG-GOA
 “women; a woman; a certain woman”

'nyet nye't-at ɛdɛ nye't-at-uk
 men man-SG certain man-SG-GOA
 “men; a man; a certain man”

2.4 Consonant clusters

Apart from one exception, namely **belgen** which would seem to be a compound of some sort, consonant clusters are not permitted in the word root itself. In fact, Weatherby (s.a.) records a sound correspondence **r /l** in Nyang'ea and So respectively, where in Nyang'ea the verb **berr** means “to create, build or make” (cf. the So verb **ber** “to build”) and its derivation **berrgan** “evil spirit”, and hence relates this to the So **belgen** meaning “God”.

In conjunction with derivational endings, however, clusters of not more than two elements are formed on the basis of vowel elision, some of which have become lexicalized. This process can be seen in section 2.6.5.

A further restriction is that of geminate consonants. That these are not allowed, not even when involving derivational endings, can be seen where a vowel deletion rule is blocked (see 2.6.5.) if it would result in a geminate consonant, for example:

g^was-t-uk
 woman-SG-GOA
 “to the woman”

but

nyet-at-uk
 man-SG-GOA
 “to the man”

not

***nyet-t-uk**

2.5 Phonological rules involving consonants

2.5.1 Voice assimilation

If a consonant cluster occurs after the elision of a vowel (see below) and the first position of the cluster is voiced, then the second generally also becomes voiced, for example:

ebət-at-ide → **ebd-at-ide**

tie-HAB-2.PL

“you always tie.”

ibat-ɔn → **ibd-ɔn**

field-PL

“fields”

If a lateral occurs in second position of a cluster, then there is regressive assimilation. Compare the following two examples with a lateral in first and second position:

el	“well (SG)”	el-tin	“well (PL)”
kəkəl	“planet (SG)”	kogl-an	“planet (PL)”

2.5.2 Apocope

There is an unproductive rule whereby in a small number of mostly disyllabic nouns, the final **r** is elided in the noun stem but is reproduced when number is marked (see also plosive obstruents for **c**), for example:

sɔ, **sər-at**

So, So-SG

“a So”

ɛmɛ, **emr-an**

valley, valley-PL

“valley”

bugu, bugar-ek
 heart, heart-PL
 "heart"

2.6 The vowel phonemes

So has a nine-term vowel system, with the following values: [a, e, ε, i, ɪ, o, ɔ, u, ʊ]. These vowel phonemes have a phonetic realization approximating that given by the respective symbols. The phonemic status of the vowels is illustrated by the following examples:

er	"return (v)"	ɛr	"smallstock"
se	"wash (v)"	sɛ	"blood"
ir	"house"	ɪr	"cultivate (v)"
g^wɪf	"army worm"	g^wɪf	"shave (v)"
bogo	"country"	bɔn	"reproduce (v)"
cɔnut	"always"		
yatuk	"tomorrow"		
yut-ac	"milk-VEN (v)"		
put-ua	"snatch-IT (v)"		

2.6.1 Vowel harmony

Taking into account the fact that So has been greatly influenced by the surrounding Nilotic languages where vowel harmony obtains, along with the fact that vowel harmony in So is not fully consistent in nature, it is not clear whether vowel harmony is an original feature of the language, or whether we are dealing here with assimilation in a contact situation (cf. Ik where there is no vowel harmony). If we take the former case, then we can say that the vowel harmony system, which may have been based on a +/-ATR system, has for all intents and purposes broken down, evidenced by the inconsistencies found in the data. On the other hand, if one considers the sociolinguistic situation that has been prevailing over the last decades, it would seem

more likely that this inconsistent vowel harmony system is in fact an attempt at assimilation to the neighbouring Nilotic languages.

2.6.1.1 Vowel co-occurrence restrictions

Vowel harmony within roots is not applicable in So since polysyllabic roots are rare, and the few examples at hand are either loans or do not exhibit vowel harmony, for example:

kopir-at “feather-SG”

ɲigra-tɛs “be.pregnant-INGR”

2.6.1.2 Vowel harmony alternations

Since harmonic processes, based on the distinction between close and open vowels, do take place, we can establish the following rules. Taking /a/ as a neutral vowel (for the status of a, see 2.6.1.4.), we are left with two sets of vowels, namely (a) close vowels, and (b) open vowels:

(a) /i,e,o,u/

(b) /ɪ,ɛ,ɔ,ʊ/

The morphemes of the language are classified into two sets, namely those which are harmonically dominant and which trigger a vowel harmony process, and those which are recessive and undergo a change in the harmony process. It should be noted here that both roots and suffixes, but not prefixes, can be dominant. Dominant morphemes are generally those which have a close vowel in their root and which cause an open vowel in a preceding or following morpheme to become close. Most nominal plural markers are from the dominant set of morphemes and are the only suffixes which are dominant. These can be seen in the list below followed by examples:

Dominant plural markers

-ek

-tin

-e

-ot

-an

-uk**-is****-i**

an, en-ek	“hand”
εb, eb-ek	“friend”
εl, el-tin	“well”
re, re-tin	“trough”
tεg, tεg^w-e	“foot, leg”
tεem, teem-ot	“arrow for bleeding cattle”
tεket, tekt-an	“roof”
wam, wem-uk	“elder”
ad, ed-is	“tree”
ηal, ηel-i	“sharp”

The alternation which is found in the vowel harmony process is given in the following schema:

a	→	e
ε	→	e
i	→	i
ɔ	→	o
u	→	u

Further examples of these alternations are illustrated below.

The vowel of the verbal durative marker **-εs** becomes close if the preceding root vowel is close, for example:

ani yon ir-εs yog
 then when plant-DUR people
 “Then when the people are planting”

nɔ-tak ica yog tuɔɔn nɔ-weit-es
 NAR-find 3.SG people there NAR-drink-DUR
 “And he found people there drinking”

Likewise the vowel of the perfective marker **ɪd-** becomes close, that is, **id-** if the root vowel is close, for example:

i-tak-isa rapen

PERFV-get-1.SG food

“I got food”

i-mi-k-asa g^was-at

PERFV-give-IMPS-1.SG.OBJ woman-SG

“They have given me a wife”

Similarly the vowel of the narrative marker **nɔ-** becomes close if the vowel in the following syllable is close, for example:

no-cer nao-at

NAR-see raider-SG

“And the raider ran away.”

no-ko-nyen

NAR-FUT-see

“And (we) will see.”

The vowel of the stative marker **-ug** becomes close if it follows a close vowel in the root, for example:

nɔ-bet-ug

NAR-beg-STAT

“...and begging.”

ani yo ŋilai ib-ug lɔ

then when finish beat.on-STAT cattle

“And when they have finished choosing the cattle (Lit. beating the cattle).”

The second set consists of recessive morphemes, generally those with an open vowel in the root which becomes close in the immediate environment of a dominant morpheme with a close vowel, or alternatively which retain their vowel in the immediate environment of another open vowel in a recessive morpheme. An example of a recessive morpheme is the nominal case marker for the circumstantial case (see 5.4.3.), which takes its vowel quality from the noun root. Likewise other examples from the recessive set are the verbal derivational suffixes whose vowel becomes close if the vowel in the verb root is close

Thus if a noun or a verb, the only two word categories that can be suffixed or prefixed, has an open vowel in its root and is immediately followed or preceded by a recessive affix, then the vowel of this affix will likewise be open. In the following some examples are given to illustrate the case and verbal derivational suffixing morphemes. With the circumstantial case marker, **-uk**, a preceding close vowel in the root causes the suffix vowel to become close, that is **-uk**, for example:

ɛbl-uk

knife-CIRC

“with a knife”

beet-uk

pipe-CIRC

“with a pipe”

2.6.1.3 The scope of vowel harmony

The scope of vowel harmony does not extend beyond a preceding or following syllable, for example:

ɛskək, pl. **ɛskək-e** “gate”

Having given a short description of the vowel harmony process above, it should be added here that there is much variation and hence what would seem to be many exceptions to this process. These exceptions, however, would seem to be simply a laxness and general non-adherence to the above underlying, or perhaps overlaid, system. Nevertheless, a certain degree of consistency is present in the behaviour of the vowels [a,ɔ,u], a description of which follows.

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