19
Otoro
(Central Heiban, Kordofanian)

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19.1 General

Otoro is a member of the "central branch of the Koalib-Moro[1] group" (Schadeberg, p.1) of Kordofanian, spoken in the Nuba Mountains of southern Sudan, a linguistically fragmented area. The current classification of Kordofanian may not be totally reliable. Most linguistic populations in the area are small, there being "upwards of 15,000" (ibid) speakers of Otoro, and approximately 300,000 speakers of the some twenty varieties of Kordofanian. The latter figure excludes a few groups for whom no demographic data is available and may not allow for disruptions caused by political instability in recent years. Kordofanian languages "remain the most poorly documented languages within Niger-Congo" (Williamson & Blench 2000:17), despite current research on some varieties[2].

Our source is Schadeberg (ms), an edited version of a manuscript by R. C. Stevenson (1943), hereafter abbreviated SS (or sometimes just S, for Stevenson). We also consulted material on other Kordofanian varieties, such as Kossmann's (2004) analytical summary of Black & Black (1971), Tucker and Bryan (1966), Williamson & Blench (2000), Jenks & Rose (2006), and Rohde (2006). There is also a San Diego manuscript, which we have not seen. We have corresponded with the Leiden and San Diego groups, and we thank both for their comments.

Otoro has thirteen vowels, of which nine are the "main" vowels, [i, e, ɛ, u, o, ɔ, a, ə, ö], the latter representing a "higher mid central vowel", Stevenson's manuscript belonging to the pre-phonemic era[3]. There are also five diphthongs. The consonant system includes a contrast between alveolar and dental stops, and has three liquids (lateral, rolled *r*, flapped *r*).

Stevenson (1943: 26) says Otoro is not a tone language "in the fullest sense of the term – that is to say, inherent tone plays little part in distinguishing words, dynamic accent or stress being more important". However, some data and some remarks by Schadeberg suggest Stevenson may have misjudged this and tone may be more central than he thought. We ignore prosodic markings[4].

Most syllables are open, consisting of consonant (or consonant combination) plus vowel, although a few consonants may form closed syllables.

Otoro is a noun class language, there being ten singular/plural pairs, an eleventh with singulars only, an infinitive class, and a few anomalous nouns.

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[1] Koalib-Moro corresponds more or less to Williamson and Blench's (2000) Heiban.

[2] Scholars in Leiden and San Diego are presently working on Kordofanian.

[3] "Main" vowels do not necessarily correspond to vowel phonemes. Kossmann describes closely related Moro as having seven contrastive vowels, no distinctive length, and vowel harmony.

[4] Black & Black (1971) and Jenks & Rose (2006) analyze Moro as having tone and stress. The latter mark tone consistently.

19.2 Word order

Otoro is most often S V O (Other). IO appears to precede DO if they co-occur. However, in certain combinations of aspect and pronoun (see §19.5, below) and after certain conjunctions, S is postposed, as is the SM:

(1) **ŋənɔ ḓir-ɔ magari**
when sleep-3s brother
'When my brother was sleeping[5]'

19.3 Verb structure

It is not easy to state a single simple verb structure because of the behaviour of subject and object pronouns, so this template below ignores them, shows the most typical synthetic structure and then discusses other possibilities in §19.5.

n(**a**)- HAB(itual) – SM – **formative** – root – extension – final vowel – OP – (plural) IMP

n(**a**)- 'and, narrative'. SS show this is mainly as proclitic but occasionally as independent of the main verb**.**

HAB: **aṯ (i)**-. The second vowel assimilates to the SM, giving a range of forms, including **aṯ -i-d̪ irɛ** 'I may sleep (HAB)', **aṯ-a-ḓirɛ** 'you may sleep', **aṯ-u-ḓirɛ** '3s may sleep', etc. This and a preceding narrative give [**naṯi**]**.** A full form [**naṯi**] (**n**+**aṯi**) occurs independently phrase initially before a noun (1943:143). This only occurs with SBJ suffix.

SM: Person and class concord markers occur here. Some SM shapes are in listed in (3).

Formative: -**Ø**- (occurs with all three final vowels). In the absence of (T)AM markers in this position, the final vowel alone conveys grammatical meaning (e.g. SBJ, IPFV); **-a-FUT/PROS** (occurs with the SBJ suffix and (negative) IPFV/VEN); **-ma**- Perfect (with SBJ suffix and IPFV); **-aṯi**- Habitual (with SBJ suffix and IPFV/VEN); **-l**-/-**li**-/**la**-[6] "Dependent Future" (only with SBJ suffix).

Root: roots have one, two, or three syllables, thus CV, (C)VCV, (C)VCVCV.

Extension: not all extensions occur with all verbs; not all are equally frequent: some co-occur: some but not all occur with all three final vowels. Examples are given in (4), in the main shape(s) given for each.

5 Also **ŋənɔ ne magari ḓir-ɛ**, lit. 'when and my brother sleep-SBJ'.

6 This **-l** (**V**)- occurs as simple FUT/PROS in neighbouring varieties such as Kwijur and Orombe.

Final vowel: there are three contrasting final vowels[7]. They are, with our interpretation and labels (summarized in tabular form in (2)):

1. [u] or [ɔ] Factative (SS' "first stem")
2. [i] or [ɛ], Subjunctive (SS' "second stem" or "Dependent"[8])
3. Mostly [a], some [o], Imperfective/Ventive (SS' "third stem")[9]. Most Factative [u] and [ɔ] correspond to Subjunctive, [i] and [ɛ], respectively. Verbs with FAC [ɔ] and SBJ [ɛ] always have IPFV/VEN [a], but verbs with FAC [u] and SBJ [i] are less predictable, some having IPFV/VEN [a], others [o]. The reason for labeling this "IPFV/VEN" will be discussed in §6, and exemplified in (4) and (11).

(2) Otoro final vowels:

SS	Stem 1	Stem 2	Stem 3
	FAC	SBJ	IPFV/VEN
	-u/-ɔ	**-i/-ɛ**	**-a/(-o)**
	-ɔ/-jɔ	**-jɛ**	**-ja**

OM: some OM shapes are listed in (3). As far as we can see, only one suffixal OM is allowed.

IMP (plural): **-(i)l** (see §19.7.2).

Subject and object pronouns have several shapes, so in (3) we list just those that appear in this text. In (4) we exemplify the extensions. All other categories mentioned above are exemplified below at various points.

(3) The SM and OM shapes that occur in this text (hyphens omitted):

	Singular	Plural
Independent pronouns (S=O)		
First person	**ŋi, i**	**anaŋa**[10]
Second person	**ŋa, a**	**nyaŋa**
Third person	**ŋu**	**ŋul(ŋa)**
Affixed SM and OM		
General concord	**gwu**[11]	**li**

[7] Within each of the three there is vowel variation. The quality of the final vowels does not result from obvious vowel harmony with the root. Although the occurrence of the allomorphs may have been predictable historically, it is not today and has to be treated as lexically determined.

[8] As far as possible, we would like to keep form and function distinct. We regard "Subjunctive" as a form, which has various functions, including "Dependent".

[9] A smaller number of verbs have only one or two suffix shapes. The distribution of stems and shapes is similar but not identical in Moro. It would be interesting to compare these shapes across Kordofanian.

[10] Only exclusive ('we', not including 'you') is used.

First person	**ŋi, i**	**ana**
Second person	**(a)ŋa, a, o**	**(a)nya**
Third person	**ŋu, u, o**	**l, li, lɔ**

(4) Examples of extensions (plus Reduplication, including the Frequentative)

Dative (**-ijo**) **-ap-a** 'bring' **-ap-ijo** 'bring for'
-man-u 'cook' **-man-ijo** 'cook for'

Passive/Reflexive (**-inu**) **-man-u** 'cook' **-man-inu** 'be cooked'
-pi-ði 'beat' **-p-inu** 'be beaten, beat o.s.'

(The passive can occur with the different final vowels: **-pinu, -pini, -pino**).

Comparative (**-anu**) **-man-u** 'cook' **-man-anu** 'cook better than'

Reciprocal (**-(ag)-iðɔ**) **-man-u** 'cook' **-man(ag)-iðo** 'cook for each other'

Applied/Deprivative (**-ɛði/-öði**) **-y-u** 'drink' **-y-ɛdi** 'drink from'
-akir-i 'break' **-akir-öði** 'break off'

Causative (**-i**) **-umin-ɔ** 'be black' **-umin-i** 'blacken'

Directional (Itive versus Ventive, from and to speaker, or just Ventive)

-ap-ɔ 'take away' **-ap-a** 'bring (to)'
-gul-u 'climb (away) **-gul-o** 'descend toward'
-aḏi 'go in from' **-adi-o** 'go in to'
-man-u 'cook' **-man-a** 'cook and return'
-ḏir-ɔ 'sleep' **-ḏir-a** 'sleep and return'

Frequentative (= reduplication) **-umöði** 'talk' **-umömöði** 'keep on talking'

19.4 Compound verbs: locative 'be' and main verb = Progressive

Otoro has two verbs that correspond to English 'be': equational/copular 'be' (**-ruði, -rɔ, -ruða**), and locative 'be' (**-jɔ, -ɔ, -jɛ, -ja)**. Locative 'be' is anomalous in three ways:

1. it is the only verb to unambiguously distinguish present (5b) and past (5c) reference
2. it has not one but two (**-ɔ, -jɔ**) morphologically "Factative" forms, forms which don't occur elsewhere in the conjugation

[11] **Gwu**- is the concord not only with the singular of persons, but also of two noun classes.

3. the "present" (that is, the form that is morphologically Factative, in (5b)) functions as an Imperfective[12]. We say that because, in our experience, a meaning such as that in (5b) is universally Imperfective.

We can imagine two possible reasons for the irregularity of the 'be'-locative: we don't try to judge between the two. One is that 'be' often has aberrant paradigms cross-linguistically. The other is that, for reasons not clear, the functions of the IPFV in Otoro seem to have shrunk (see §19.6), so maybe the functions of the FAC expanded simultaneously.

Although both 'be' verbs take the same aspectual and modal affixes as regular verbs, they do not behave semantically as other verbs, as seen in the following examples:

(5) a **ŋi gwu-rɔ gwele**
1s CON-be chief
'I am/was a chief.'

b **ŋi gw-ɔ dunu** 'I am at home.'
c **ŋi gwu-jɔ dunu** 'I was at home.'

The 'be'-locative co-occurs with main verbs in the Factative to indicate Progressive:

(6) a **ŋi gw-ɔ gwu-man-u**
1s CON-be.FAC CON-cook-FAC
'I am cooking.'

b **ŋi gwu-jɔ gwu-kur-u likaragɛ**
1s CON-be.FAC CON-hoe-FAC yesterday
'I was hoeing yesterday.'

c **ŋi gw-a-jɛ gwu-ḏir-ɔ**
1s CON-FUT-be.SBJ CON-sleep-FAC
'I'll be sleeping.'

d. **ŋi gwu-ma-jɛ gwu-riṯ-ɔ**
1s CON-PFT-be.SBJ CON-dance-FAC
'I have been dancing.'

e **ŋi gw-aṯi-jɛ gwu-pi-ði**
1s CON-HAB-be.SBJ CON-beat-FAC
'I am always beating.'

[12] SS represent 'be'-locative as: **-jɛ** FAC ("first stem"): **-ɔ/-jɔ** SBJ ("second stem"), **-ja** IPFV/VEN ("third stem"). The vowels of FAC and SBJ here run contrary to the morphological behaviour of most other verbs, and we have taken the liberty of reversing them, so we interpret them as: **-ɔ** (present)**/-jɔ** (past) FAC=first stem, **-jɛ** SBJ= second stem, **-ja** IPFV/VEN= third stem, respectively. In either interpretation, what is seen in (5b) and (6a) is functionally anomalous. As with other verbs, the IPFV/VEN form means 'be in a place and return'. The final vowels of copula 'be' are similarly anomalous.

19.5 Pronominal subject and object marking

SS describe the typical word order SVO as varying. However, as far as we can see, apart from the exception noted in (1), it is the behaviour of the verb structure (V) that varies with different pronominal configurations. The unmarked order in the verb structure is SM - V - OM, as in the two examples in (7a), but other orders occur regularly, depending on the choice of suffix, and the particular configuration of SM and OM. Examples (not exhaustive):

(7) a. SM…V…OM

ŋi # gwu-pi-ð-aŋa
1s # 1s.CON-hit-FAC-2s
'I hit you.'

anaŋa # li-pi-ð-aŋa
1p # 1p.CON-hit-FAC-2s
'We hit you.'

b. SM…PFT… OM…V

ŋi # gwu-m(a)-aŋa-pi
1s # 1s.CON-PFT-you-hit.SBJ
'I have hit you.'

c. SM…OM…V...NEG

ŋ(a)-i-pi-ðo nɔ
2s-1s-hit-IPFV NEG
'Don't hit me.'

d. OM…V…SM

ŋi # gwu-pi-ði(-ŋi)
1s # him-hit-FAC(-1s)
'I hit him.'

anaŋa # gwu-pi-ð-ana
1p # him-hit-FAC-1p
'We hit him.'

e. OM…SM…V

ŋi # gwu-i-pi
1s # 3s-1s-hit.SBJ
'I'll hit him.'

f. OM…PFT…SM…V

ŋi # gwu-m(a)-i-pi
1s # 3s-PFT-1s-hit.SBJ
'I have hit him.'

g. OM…SM…OM…V

ŋi # l-i-l-pi
1s # 3p-1s-3p-hit.SBJ
'I will hit them.'

h. OM…PFT…SM…OM…V **ŋi # li-m(a)-i-l-pi**
1s # 3p-PFT-1s-3p-hit.SBJ
'I have hit them.'

i. OM…V…SM…OM **ŋi # li-pi-ð(i)-i-lɔ**
1s # 3p-hit-FAC-1s-3p
'I hit them.'

19.6 Aspect

As SS, we see a tripartite contrast between what we call Factative (SS's first stem), Imperfective/VEN (SS's third stem), and Subjunctive (SS's second stem). Since we regard Subjunctive as a mood (see §19.7.1, that leaves FAC versus IPFV/VEN as the main aspectual contrast, expressed suffixally (see table in (2)). On top of this are several other aspectual categories, expressed prefixally: Habitual, Perfect, Future/Prospective[13]. Finally, a Progressive is formed by preposing the auxiliary 'be'-locative to a Factative main verb[14].

The fit between SS' first stem and our Factative is reasonably good. With dynamic verbs (the majority), the Factative represents a situation as a complete whole and is indifferent to time-- that is, it can represent past or present situations[15]:

(8) a **liji** **li-riṯ-ɔ**
people CON-dance-FAC
'(the) people dance'

b **liji li-riṯ-ɔ likaragɛ** '(the) people danced yesterday'

Under their long list of examples, SS say the present can be substituted for the past and vice versa. The Factative also occurs in the positive Imperative:

(9) **ɖir-ɔ** 'sleep!', **man-u** 'cook!'

With stative verbs[16], the Factative represents present state. Stative verbs may also occur in the Perfect. The first six examples are Factative, the last two Perfect:

(10) a **mörṯa** **gwu-min-ɔ**
horse CON-black-FAC
'The horse is black.'

[13] We do not see Narrative as an aspect. It occurs with several aspectual and modal categories and is apparently a clitic functioning as a discourse device,

[14] Moro has an almost identical set of categories, but their exponence is different, Otoro having more inflection, Moro greater use of auxiliaries.

[15] We found no clear examples with future reference.

[16] Stative verbs exemplified are: 'be afraid', 'be asleep', 'be big', 'be black', 'be good', 'be heavy', 'be many', 'be missing', 'be red', 'be sick', 'be tall', 'be well', 'go (?)', 'live', 'see', 'understand'. Kossmann has others for Moro.

b **ŋi gwu-ðɔny-ɔ**
1s CON-fear-FAC
'I am afraid.'

c **ŋa gwu-diŋin-u a**
2s CON-hear-FAC Q
'Do you understand?'

d. **ŋi gwu-maŋ-u liji li-riṯ-ɔ**
1s CON-see-FAC people 3p-dance-FAC
'I saw the people dance.'[17]

e **ŋɛnɔ ḏ̱ir-u**[18]
when sleep-3s
'When he was asleep…'

f **ŋa gwu-ḏ̱ir-ɔ**
2s CON-sleep-FAC
'You are/were asleep.'

g **ŋa gwu-ma-ḏ̱ir-ɛ**
2s CON-PFT-sleep-SBJ
'You have slept.'

h **ŋa gwu-ma-ḏ̱ir-a**
2s CON-PFT-sleep-IPFV
'You have slept (and returned).'

The Imperfective/Ventive is listed with a set of functions, viz:

(11) Positive imperative: **ḏ̱ir-a** 'Sleep (and return)!' **man-a** 'Cook (and return)!'

Negative imperative: **(aṯ̱a) ŋa-ḏ̱ir-a** 'Don't sleep!',
(aṯ̱a) ŋa-man-a 'Don't cook!'

Dependent: **abirici-ŋi i-ḏ̱ir-a**
let-1s 1s-sleep-IPFV
'Let me sleep (and return).'

[17] We have changed SS' 'dancing' in this example to 'dance'.

[18] The FAC suffix elides to the postposed SM.

FUT/PROS: **ŋi gw-a-d̪ir-a** ‘I will sleep (and return).’

Habitual: **ŋi gw-at̪i-d̪ir-a** ‘I sleep habitually (and return).’

Habitual Dependent: **abirici-ŋi at̪-i-d̪ir-a**
let-1s HAB-1s-sleep-IPFV
‘Let me sleep (as a rule) (and return).’

at̪-i-d̪ir-a ‘I (may) sleep (habitually) (and return).’

Perfect: **ŋi gwu-ma-d̪ir-a** ‘I have slept (and returned).’
ŋi gwu-ma-man-a ‘I have cooked (and returned).’

Infinitive: **ði-d̪ir-a/ða-d̪ir-a** ‘to sleep, sleeping’

All these functions apparently overlap with that of the Subjunctive (see §19.7.1 and §19.8, below), the only difference being that the Imperfective/Ventive includes the infinitive and negative Imperative. What is the central functional/semantic core of these “IPFV/VEN” forms? Why do their functions overlap with those of the Subjunctive, and how do they differ?

The key seems to lie in the dual nature of the IPFV/VEN, where two suffixes of the same shape apparently co-exist, one IPFV, the other Ventive. SS offer two approaches to this. One is that Otoro has a small set of directional verbs of motion, in which one member of the set has the first (Factative) stem and represents direction away (“Itive”), whereas the other member has the third stem (our Imperfective) and represents movement towards (“Ventive”): thus **-ap-ɔ** ‘carry away = take’ and **-ap-a** ‘carry toward = bring’[19]. While most verbs do not behave like this, it can be seen in (11) that many of the examples are glossed as “verb (and return)”. That is, in the motion verbs, the FAC represents motion away, the IPFV/VEN motion toward the speaker. In all other verbs, the Factative is neutral about motion, while the Ventive represents motion toward. Stevenson (1943:10,27) further says at one point “the function of the 3rd stem is largely directional, and no doubt this was its sole function originally”. However, he seems to have had a later change of mind, as a note in the margin says “purge 3rd stem of all directional implication. Give only neg. imp” (he forgot the infinitive). That is, he realized there were two functions, Imperfective in the negative Imperative and Infinitive, Ventive in all other forms, the majority.

The other approach is, discussing the functions of forms with the same suffix in neighbouring Tira, SS say they have “incomplete/indefinite” meaning (our Imperfective), but that the situation in Otoro is “not quite so clear-cut”. This implies Otoro could once have behaved as Tira but has changed. It is possible to go a little further. SS also include a brief overview of Heiban, and Kossmann (2004) shows Moro, so we have data from Otoro, Tira, Moro, and Heiban. Tira and Moro have the IPFV in a limited range of functions, mainly with present/indefinite reference: Otoro has IPFV (as opposed to

[19] The verbs are: ‘climb up (from, to)’, ‘descend’, ‘enter’, ‘flee’, ‘go back’, ‘go/come’, ‘pull’, ‘push’, ‘run’, ‘take/bring’, ‘take back’.

Ventive) in an even more limited range of contexts (negative Imperative, Infinitive): Heiban is said to have no IPFV **-a** at all. Otoro appears to be the only one with this Ventive meaning.

Are the Imperfective and the Ventive connected, and if so, what was the older situation? We are in a difficult position, having no direct access to real speakers of Otoro. Our approach is systemic. There are three clear stems, suffixally marked. One corresponds reasonably well to Factative, exemplified in (6, 7, 8, 10). Another corresponds fairly well to Subjunctive/Dependent (§19.7.1 and (12)), following). Systemically, the existence of Perfective/Factative usually goes hand in hand with Imperfective: it does cross-linguistically and it does elsewhere in Niger-Congo. So we assume the older situation had a Perfective/Factative and an Imperfective. For unknown reasons, the domain of the Imperfective has shrunk, somewhat in Moro and Tira, further in Otoro, completely in Heiban. The Imperfective is only kept in the Infinitive and negative Imperative, which are quintessentially imperfective in nature, while its older functions of the Imperfective have been distributed among Factative and Subjunctive. At the same time, since this Ventive appears in Otoro and is not apparently so attested in the other dialects, we think it must somehow derive from the older Imperfective, although we are not clear about how the change took place.

If we go back to the start of this discussion, just under (11), above, then in fact the functions of SBJ and Imperfective do not overlap because most of the "Imperfectives" are Ventives, as summarized in §19.8, below.

19.7 Other verbal categories

19.7.1 Subjunctive

SS have a third stem marked suffixally by a single mid [ɛ] or high [i] front vowel. It occurs in a range of functions, viz:

1. "Dependent", that is, after another verb ('come, go, allow, tell, forbid, find, help, find, see, etc; in a "sequence of actions"'[20] ; after certain conjunctions ('when, in order to, so that') to indicate purpose.
2. "Permissive" ('We may sleep', 'May we sleep?'), including the polite Imperative
3. Future, independently and after other verbs.
4. Habitual and Habitual Dependent.
5. Perfect

(12) Dependent: a **id̪i ŋa-d̪ir-ɛ**
go 2s-sleep-SBJ
'Go and sleep.'

[20] The examples with sequences of actions are rather long to quote, so are here summarized. In such a series, the first verb is typically in the Factative (i.e. past) or Future, all subsequent verbs being in the "dependent" Subjunctive, preceded by the conjunction **n**(**a**)-. There is no sense of purpose in these sequences. In a sequence of habitual events, the first verb is in the Habitual, all following verbs being in the Habitual or the Future, itself is based on the Subjunctive.

b **abirico gwukɔŋu gwu-man-i**
let Gwuko CON-cook-SBJ
'Let Gwuko cook.'

c **umödijo gwukɔŋu gwu-ḏ̱ir-ɛ**
tell Gwuko CON-sleep-SBJ
'Tell Gwuko to sleep.'

d **ŋi gwu-bɔj-ɔ liji n-al-riṯ̱-e**
1s CON-find-FAC people NAR-3p-dance-SBJ
'I found the people dancing.' (cf (10d), above)

e **ŋɛnɔ n-i-ḏ̱ir-ɛ**
when and-1s-sleep-SBJ
'When I was sleeping…[21]'

f **ðɛði-ŋi gia y-ɛ-ɛ**
give-1s asida 1s-eat-SBJ
'Give me *asida* to eat' (lit. 'that I may eat')

Permissive: **i-ḏ̱ir-ɛ a** or **i gw-a-ḏ̱ir-ɛ a**
1s-sleep-SBJ Q, 1s CON-FUT-sleep-SBJ Q
'Shall/may I sleep?'

Future: **ŋi gw-a-ḏ̱ir-ɛ** 'I will sleep.'

Future Dependent: **ila a-la-moj-ɛ**
come 2s-FUTDEP-sweep-SBJ
'Come and sweep.'

Habitual: **ŋi gw-aṯ̱i-ḏ̱ir-ɛ** 'I sleep (habitually).'

Habitual Dependent: **aṯ̱-i-ḏ̱ir-ɛ** 'I (may) sleep (habitually).'

Perfect: **ŋi gwu-ma-man-i** 'I have cooked.'

Shared shape would be expected to be linked to shared function and meaning. In this case, where these forms share suffixal [ɛ, i], it is hard to see a single common semantic or functional connection for the whole set, which is presumably why SS chose the neutral label "second stem".

We do see a well-established conventional link between some of the functions listed and the notion of Subjunctive. Subjunctives are widely used crosslinguistically as Permissives and in the range of dependency described. Since Subjunctives and Futures

[21] Also **ŋɛnɔ n-i-ḏ̱ir -a** (IPFV), and **ŋɛnɔ ḏ̱ir -i** (where [i] = FAC 1s).

share the central components of modality and irrealis, Subjunctives often become used in future reference and then become Futures. Elsewhere in Niger-Congo, a mid or high front vowel is the morphological expression of Subjunctive.

However, we do not see a clear path from the foregoing to Habitual[22] or Perfect. Published works on the direction of grammatical change, such as Bybee et al (1991) and Heine and Kuteva (2002), are also silent on subjunctives as a source for Habituals or Perfects. Nor do they offer suggestions as to why Habitual and Perfect might be morphologically linked. We choose to interpret this provisionally as Subjunctive, for the positive reason that a central core of the functions above can be interpreted as Subjunctive or Subjunctive-linked, and the negative reason that no other obvious hypothesis offers any other better solution[23].

19.7.2 Imperative

Singular Imperative consists of root and final vowel. Pronominal objects are suffixed to the final vowel. The plural Imperative suffixes -**(i)l** to the singular. All three final vowels can occur in Imperatives. Dependent (Subjunctive) and Habitual forms also occur.

(13)	Singular	Plural	S + O (pro)	P + O (pro)
FAC	**ɖ̱ir-ɔ** ‘sleep!’	**ɖ̱ir-il**		
	man-u ‘cook’	**man-il**		
	ðeð-i ‘give’	**ðeð-il**	**ðeð-i-ŋi gödo** ‘Give (s) me a book!’	**ðeð-i-ŋi-l gödo** ‘Give (p) me a book!’

IPFV **ɖ̱ir-a** **‘**Sleep (and return).’ **man-a** ‘Cook (and return).’

SBJ **ŋa-ɖ̱ir-ɛ** ‘You may sleep.’

Dependent **iṯ̱i ŋa-ɖ̱ir-ɛ** ‘Go and sleep.’

HAB **aṯ̱-a-ɖ̱ir-ɛ** ‘Sleep habitually.’

Negative Imperatives are expressed by using the IPFV form [unclear here!](for examples, see (15c,d,e) below) or the SBJ (14f), and the sentence-final negator **nɔ**.

[22] In a few Bantu languages there is an apparent connection between Habitual and Future. Habituality may lead to future reference, because if something is habitual, it is predictable and thus likely to occur in the future. But in Otoro, the core seems to be Subjunctive (Dependent, Permissive, Future), which means the path would have been Subjunctive > Habitual, a path we have not seen elsewhere and are at a loss to explain.

[23] In Moro, suffixal **-e** also occurs in some unusual contexts, e.g. present Progressive.

19.8 Summary of co-occurrence of (suffixal) FAC, IPFV/VEN, SBJ with other categories (Our interpretation of the two functions of the **-a**/**-o** suffix is indicated by the content of the brackets.)

	FAC **-ɔ** or **-u**	IPFV/VEN **-a**, **o**	SBJ **-ɛ**, **i**
Ø	yes	yes (Ventive)	yes
Imperative	yes	yes (Ventive)	yes
Negative IMP		yes (IPFV)	
With 'be' = PRG	yes		
-a- FUT/PROS		yes (Ventive)	yes
-la- FUT DEP			yes
-ma- Perfect		yes (Ventive)	yes
-ati- Habitual		yes (Ventive)	yes
#**at-** HAB DEP		yes (Ventive)	yes
ði-/ **ða** INF		yes (IPFV)	

19.9 Negation

The main negative strategy involves the subjunctive form (**-at-ɛ**) of the verb **-at-iði** 'be missing, lack, fail', acting as auxiliary verb before the main verb, followed in sentence final position by the adverb **nɔ** 'no, not'. Some examples in the text show **nɔ** omitted. The following examples are not exhaustive:

(14) a **ŋi gw-at-ɛ gwu-man-u jiði nɔ**
1s 1s.CON-fail-SBJ 1s.CON-cook-FAC meat NEG
'I do/did not cook meat.' (FAC)

b **ŋi gw-at-ɛ gw-ɔ gwu-iṯ-i jiði nɔ**
1s 1s.CON-fail-SBJ 1s-be 1s.CON-eat-FAC meat NEG
'I am not eating meat.' (PRG)

c **ŋi gw-at-ɛ gwu-ma-man-i jiði nɔ**
1s 1s.CON-fail-SBJ 1s.CON-PFT-cook-SBJ meat NEG
'I haven't cooked meat.' (PFT)

d **(ko) gw-at-ɛ ma-ḍir-a nɔ**
(but) CON-fail-SBJ PFT-sleep -IPFV NEG
'…(but) he hasn't slept.' (PFT)

e **ŋi gw-at-ɛ gw-a-man-i jiði nɔ**
1s 1s.CON-fail-SBJ 1s. CON-FUT-cook-SBJ meat NEG
'I won't cook meat.' (FUT)

f **ŋa ila a gw-a-ḍir-ɛ nɔ**
2s go a 2s.CON-**FUT**-sleep-SBJ NEG
'Don't go to sleep.' (FUT)

g **ŋa gw-at-ɛ gw-aṯ-man-i jiði nɔ**
2s 2s.CON-fail-SBJ 2s.CON-HAB-cook-SBJ meat NEG
'You don't cook meat.' (HAB)

h **(ko) gw-at-ɛ gw- aṯ-ḏir-a nɔ**
(but) CON-fail-SBJ CON-HAB-sleep-IPFV NEG
'…(but) he didn't use to sleep.'

The few minor, less frequent, strategies are exemplified in (15) and briefly discussed following:

(15) a …**liji al-riṯ-ɛ nɔ**
… people 3p-dance-SBJ NEG
'…(told) the people not to dance, they shouldn't dance.'

b **ŋa abirico gwukɔŋu gw-a-ḏir-ɛ nɔ**
2s let Gwuko CON-FUT-sleep-SBJ NEG
'Don't let Gwuko sleep!' (lit. 'Don't let that he will sleep')

c (**aṯa**[24]) **ŋa ḏir-a nɔ**
(HAB) 2s sleep-IPFV NEG
'Don't sleep!'

(**aṯa**) **ŋa-man-a nɔ**
(HAB) 2s-cook-IPFV NEG
'Don't cook!'

d **ŋa-(v)il-a ŋa-ḏir-a nɔ**
2s-go 2s-sleep-IPFV NEG
'Don't go and sleep!'

e … **ŋa-riṯ-a nɔ** (NEG IMP)
…2s-dance-IPFV NEG
'(He told you) not to dance' (= 'don't dance')

f **ŋa gw-ɔ gw-a-ḏir-ɛ**
2s 2s.CON-be 2s.CON-FUT-sleep-SBJ
'You are not to sleep.'

g **ŋa gw-ɔ gw-ɛ-lɛ a gw-a-ḏir-ɛ**
2s 2s.CON-be 2s.CON-go a 2s.CON-FUT-dance-SBJ
'You are not to go and sleep.'

[24] SS interpret this initial **aṯa** and the pre-radical **aṯi** as identical, both Habitual.

Structures such as that in (15a) may derive from deletion of **-at-ɛ**, because the text shows an alternative with **-at-ɛ**. The four examples in (15c,d,e) are apparently all the same, all non-subjunctive, all negative imperatives, having in common sentence-final **nɔ**. (15b) probably fits here, too, as the sentence final **nɔ** belongs with **abirico**[25] 'allow, let', leaving 'sleep' as a future positive. (15f,g) involve locative 'be' followed by a Future/Dependent form of the lexical verb ('you are + you will verb'), with no overt marker of negation.

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Also a San Diego ms, which we have not seen.

[25] It is impossible to tell the aspectual status of **abirico**, because its final vowel never changes.