

The predicative use of the infinitive and the expression of the subject in Jóola Fóoñi (Atlantic)

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1. Introduction

Jóola Fóoñi, aka Diola-Fogny, is an Atlantic language spoken in South Western Senegal. The organization of verbal predication in Jóola Fóoñi shows interesting particularities as regards constraints on the expression of the subject argument. On the one hand, depending on TAM and polarity, the subject argument may remain completely unexpressed in plain independent assertive clauses, i.e. in independent assertive clauses that are as neutral as possible in terms of modality or discursive implications. Judging from the available documentation, this is quite exceptional among West African languages. On the other hand, Jóola Fóoñi attests the possibility that, in a language whose indexation system is not homogeneous across the TAM paradigm, the subject NP is syntactically optional across the board, which contradicts a well-known cross-linguistic generalization about the expression of the subject argument.

In Jóola Fóoñi, some of the verb forms that have the ability to act as the nucleus of independent assertive clauses (for example the future form illustrated in (1)), are characterized by obligatory indexation of the subject argument. They will be designated as finite verb forms.

(1a) **ɛniinew pan awañ bajangataab.**¹

‘The man will cultivate peanuts.’

ɛ-niin-e-w pan a-wañ ba-jangata-a-b.

NPRa-man-D-CLa FUT sI:CLa-cultivate NPRba-peanuts-D-CLb

(1b) **(Inje) pan ɪwañ bajangataab.**

‘I shall cultivate peanuts.’

(Inje) pan ɪ-wañ ba-jangata-a-b.

PRO.1SG FUT sI:1SG-cultivate NPRba-peanuts-D-CLb

However, the paradigm of verb forms able to act as the nucleus of independent assertive clauses also includes a form that does not index the subject argument. This form is also found in other contexts with syntactic and semantic properties justifying the label ‘infinitive’. In Jóola Fóoñi, in addition to uses of the type expected from an infinitive, this form is also used

¹ The transcription of Jóola Fóoñi used here departs from the standard orthography in the notation of vowels: we use the IPA symbols for vowels, whereas standard orthography uses marks including +ATR vowels by an acute accent on the first vowel, as in *Jóola* [joolɛ].

by itself (i.e., without having to combine with an auxiliary) as the nucleus of assertive clauses that express the TAM value ‘present’ without any additional modal or discursive nuance. Contrary to superficially similar clauses found in European languages, in terms of modality and discursive implications, the clauses in (2) are as neutral as their English translation:

(2a) **ɛniinɛw ɛwañ bajangataab.**

‘The man cultivates peanuts.’

ɛ-niin-ɛ-w ɛ-wañ ba-jangata-a-b.

NPRa-man-D-CLa INF-cultivate NPRba-peanuts-D-CLb

(2b) **Inje ɛwañ bajangataab.**

‘I cultivate peanuts.’

Inje ɛ-wañ ba-jangata-a-b.

PRO.1SG INF-cultivate NPRba-peanuts-D-CLb

The central topic of this paper is that, in the use of the infinitive illustrated in (2), the subject NP is syntactically optional exactly in the same way as in clauses whose nucleus is a verb form indexing the subject argument. Surprising as it may seem, in Jóola Fóoñi, depending on the TAM value expressed by the verb, independent clauses that may include no mention of the subject argument at all coexist with independent assertive clauses in which the subject argument is minimally represented by an obligatory subject index attached to the verb.

In this paper, after briefly presenting the finite verb forms of Jóola Fóoñi and the construction they form with NPs representing their arguments, we describe the infinitive and its use as the nucleus of independent clauses, and we discuss the contribution of Jóola Fóoñi to the general question of the relationship between the structure of indexation systems and the optional or obligatory nature of the subject NP.

2. The finite verb forms of Jóola Fóoñi

2.1. Introductory remarks

2.1.1. Finite verb forms and the expression of the subject

The verb forms of Jóola Fóoñi designated here as finite include an obligatory subject index (i.e., an index referring to the participant which, whatever its semantic role, is coded in the same way as the agent of prototypical transitive verbs).² In all cases, the subject index immediately precedes the verb stem. As illustrated in (3), the expression of the subject argument by means of a noun phrase or free pronominal form preceding the verb is syntactically optional.

² As regards the alignment between transitive and intransitive predication, Jóola Fóoñi, like the vast majority of Sub-Saharan languages, is a ‘nominative-accusative’ language in which the general rule is that the sole argument of semantically monovalent verbs is coded like the agent of prototypical transitive verbs.

(3a) **ɛniinew ajokot koñulak.**

‘The man did not see the children.’

ɛ-niin-ɛ-w a-jok-ot ko-ñul-a-k.

NPRa-man-D-CLa sI.CLa-see-NEG NPRk₁-child-D-CLbk

(3b) **Ajokot koñulak.**

‘(S)he did not see the children.’

A-jok-ot ko-ñul-a-k.

sI.CLa-see-NEG NPRk₁-child-D-CLbk

(3c) ***ɛniinew jokot koñulak.**

ɛ-niin-ɛ-w jok-ot ko-ñul-a-k.

NPRa-man-D-CLa see-NEG NPRk₁-child-D-CLbk

(3d) **(Inje) ɩjokot koñulak.**

‘I did not see the children.’

(Inje) ɩ-jok-ot ko-ñul-a-k.

PRO.1SG sI.1SG-see-NEG NPRk₁-child-D-CLbk

(3e) ***Inje jokot koñulak.**

Inje jok-ot ko-ñul-a-k.

PRO.1SG see-NEG NPRk₁-child-D-CLbk

Note that the characterization of finite verb forms as including an obligatory subject index is not contradictory with the existence of ‘impersonal’ constructions in which the verb form includes no overt subject index, since the indexation system of Jóola Fóoñi can be analyzed as including a phonologically null prefix expressing ‘3rd person, class D’. In Jóola Fóoñi, class D expresses vague reference. It includes pronominal forms such as **r-ɔɔ** ‘the thing question’, **ɔ-ro** ‘this thing’, **ri-kɛɛn** ‘something’, and precisely, when one of these pronominal forms fulfills the function of subject, finite verb forms show no overt subject index. The apparent absence of subject index is therefore best analyzed as the presence of a phonologically null subject index of class D.

2.1.2. *Objects and obliques*

When they are neither topicalized, nor focalized, objects and obliques follow the verb, and their relative order is quite flexible. They can be represented by indexes suffixed to the verb, but contrary to subject indexes, the indexes referring to objects and obliques are in complementary distribution with NPs or adverbs referring to the same participants – example (4).

(4a) **ɩjokot koñulak dɛɛ kalimisak.**

‘I did not see the children in the room.’

ɩ-jok-ot ko-ñul-a-k dɛɛ ka-limis-a-k.

sI.1SG-see-NEG NPRk₁-child-D-CLbk LOC NPRka-room-D-CLk

(4b) **ɩjokotudo.**

‘I did not see them in it.’

ɩ-jok-ot-u-do.

sI.1SG-see-NEG-I:CLbk-I:CLd’

2.1.3. *The indexes*

Jóola Fóoñi has two paradigms of indexes. The indexes we gloss sI (subject indexes) are prefixes used exclusively to index the subject argument of finite verb forms. The indexes we gloss simply I are suffixes used to index objects, obliques, and adnominal possessors. Subject and non-subject indexes have 3 distinct forms for the 1st person (singular, exclusive plural, and inclusive plural), and 2 distinct forms for the 2nd person (singular and plural); in the 3rd person, they show 15 distinct forms expressing gender-number distinctions (traditionally accounted for in terms of ‘noun classes’ in the descriptions of the Niger-Congo languages that have the kind of gender-number system found in Jóola languages).

In certain conditions, some of the subject indexes (1sg, 2sg, 1pl and class A) are obligatorily preceded by a semantically void pre-prefix **n-**.

2.2. The system of finite verb forms

The set of finite verb forms (in the sense of verb forms expressing person distinctions) includes two forms whose syntactic distribution is quite specific: the form designated here as ‘minimal finite verb form’ (or simply: ‘the minimal’), which includes no overt TAM marking (see section 2.2.1), and the form we label ‘hypothetical’, found exclusively in subordinate clauses (see section 2.2.2). The other finite verb forms divide into two subsets according to their ability to act as the nucleus of independent clauses in which no term is focalized. The finite verb forms that have this ability will be designated as ‘independent verb forms’. Those whose use in independent clauses implies that one of the terms of the clause is focalized are also found in relative clauses, which justifies the label ‘relative verb forms’. Morphologically, independent and relative verb forms are distinguished by two distinct paradigms of TAM markers.³

2.2.1. *The minimal*

Morphologically, the minimal is characterized by the lack of any overt TAM marking. Syntactically, most of its uses are broadly comparable to those of European ‘subjunctives’. For example, in circumstantial subordination, the minimal is obligatory with some conjunctions, as in (5), and in independent clauses, it can express a hortative or optative meaning, as in (6) and (7).

(5) **Kotetey yək balaab burab.**

‘They ran until late in the morning.’

³ In narrative texts (and exclusively in narrative texts), one may find a form whose status with respect to this distinction is problematic, since it combines two markers that, in principle, do not belong to the same paradigm. This question will not be discussed here, since it has no incidence on the topic of this paper.

Ko-tɛ-tɛy yək ba-la-a-b bo-rab.
 sI:CLbk-run-RDPL until NPRba-sun-D-CLb sI:CLb-be.late.in.the.morning

(6) **Koñulak kuniinɛək komaŋotojaa kakaraŋak, kɔkat koñulak konaaraak man kɔkaraŋ.**

‘If the boys do not want to study, they should at least let the girls study.’

Ko-ñul-a-k ku-niine-ɛ-k ko-maŋ-ot-o-jaa ka-karaŋ-a-k,
 NPRk₁-child-D-CLbk CLbk-man-D-CLbk sI:CLbk-want-NEG-EP-HYP INFka-learn-D-CLk
ko-kat ko-ñul-a-k ko-naare-ɛ-a-k man ko-karaŋ
 sI:CLbk-let NPRk₁-child-D-CLbk CLbk-woman-D-CLbk CSC sI:CLbk-learn

(7) **Emitey ɛkaan atai alɔŋi dɪ karambaak !**

‘May God grant that your husband forget you in the bush!’

ɛ-mit-ɛ-y ɛ-kaan a-ta-ɪ a-lɔŋ-ɪ dɪ ka-ramba-ɛ-a-k !
 NPRɛ-God-D-CLe sI:CLe-make NPRa-husband-I:2SG sI:CLa-forget-I:2SG PREP NPRka-bush-D-CLk

The minimal is also used in imperative function, with the particularity that, in the imperative use of the minimal, the 2nd person prefix can optionally be dropped in the singular (but not in the plural).

The minimal is also the form taken by verbs in non-initial position in verb chains of the type illustrated (8). Such verb chains present the events to which each of the verbs refers as successive phases of a complex event without specifying their precise link, and thus constitute a functional equivalent of *and*-coordination of clauses in English.

(8) **Pan oboji ɔsɛn sigutumɛs surɪ.**

‘We shall kill you and give you to the vultures, and they will eat you.’

Pan ɔ-boj-ɪ ɔ-sɛn si-gutum-ɛ-s si-ɪ.
 FUT sI:1PL-kill-I:2SG sI:1PL-give NPRs-vulture-D-CLs sI:CLs-eat

2.2.2. *The hypothetical*

The hypothetical, exclusively used in the protasis of conditional sentences, is marked by a suffix **-jaat** (cf. example (5) above).

2.2.3. *Independent finite verb forms*

The independent finite verb forms act without any particular restriction as the nucleus of independent clauses in which no term is focalized. In contrast, with the exception of the **ɛ**-completive, they are incompatible with focalization.

Some of the TAM markers characterizing the independent finite verb forms are suffixed to the verbal stem, others precede the subject index. With the exception of the past marker **-ɛɛn** (which combines with all the other TAM markers), there are strong restrictions on their possible combinations. However, given the topic of this paper, it is not necessary to develop this point.

2.2.3.1. TAM markers preceding the subject index in independent finite verb forms

The inventory of TAM markers preceding the subject index in independent finite verb forms is as follows:

pan ‘future’
lɛt ‘future negative’
mbu ‘potential’
takom ~ jakom ‘prohibitive’
di ‘sequential’

The sequential, glossable as ‘then’ and labeled ‘development marker’ by Hopkins (1995), underlines a temporal relationship of sequentiality between two events. Its precise analysis is made difficult by the fact that the semantically void pre-prefix **n-** obligatorily added to some subject indexes in certain conditions (cf. 2.1.3) has the same form as the sequential marker in combination with the same subject indexes. There may be a historical link between the sequential marker and the pre-prefix that enlarges some subject indexes in certain conditions, but treating them as one morpheme in a synchronic description (as Hopkins (1995) did) can only lead to inconsistencies.

2.2.3.2. TAM markers suffixed to the verb stem in independent finite verb forms

The succinct presentation of the suffixal inflection of independent finite verb forms given in this section is limited to the enumeration of TAM and polarity markers, and does not take into account the possible presence of other suffixes (centripetal movement marker, object indexes, locative indexes, inclusive marker) variously positioned with respect to TAM and polarity markers.

The inventory of TAM and polarity markers suffixed to the verb stem in independent finite verb forms is as follows:

-ɛ ~ -Ø ‘completive’
-RDPL (reduplicative suffix) ‘completive’
-ot completive negative
-ɛ-RDPL ‘incompletive’
-eriit ‘incompletive negative’
-ɔɔr-ot ‘expectative negative’ (‘not yet’)
-ɛɛn ‘past’

This paradigm of TAM and polarity markers calls for the following comments:

(a) It is impossible to describe the choice of the two allomorphs of the **ɛ**-completive in phonological terms. The null allomorph of this suffix is found in contact with a ‘human’ object index (1sg, 2sg, 1pl, 2pl, class A or class BK), or with the centripetal movement marker.

(b) The **ɛ**-completive and the completive formed by reduplication express the same TAM values but differ in their discursive implications. Both can be used interchangeably in the absence of any focalization, but the completive formed by reduplication can also be found in

contexts suggesting verb focalization, and is incompatible with the focalization of other terms of the clause, whereas the ϵ -completive is compatible with the focalization of NPs or adverbs. A plausible explanation of this situation is that both forms were originally focalizing verb forms and subsequently acquired the possibility of being also used in the absence of any focalization.

(c) In the subsystem of independent finite verb forms, the incomplete is marked by a combination of two suffixes ($-\epsilon$ and the reduplicative suffix) which are not necessarily in immediate contact, since other suffixes may be inserted between them (human object indexes, centripetal movement marker). Hopkins (1995) analyzes incomplete $-\epsilon$ as being underlyingly $-\epsilon r$, but the only justification for this hypothesis is that it makes it possible to decompose the incomplete negative marker **-eriit** (cf. below). Note that, in the subsystem of relative verb forms, the incomplete marker is simply $-\epsilon$, contrasting with the completive marker **-Ø**. Note also that the independent incomplete form (in contrast to the corresponding relative form) is found only in habitual contexts, due to the availability of various constructions based on the infinitive to express other nuances of the incomplete such as progressive or near future.

(d) Originally, the incomplete negative **-eriit** was probably a complex suffix, but decomposing it a synchronic account of Jóola Fóoñi morphology would imply positing an allomorph $-\epsilon r$ of the incomplete marker and an allomorph **-iit** of the negation marker that have no independent justification, and whose selection could not be accounted for by means of a phonological rule.

(e) The expectative marker **-ɔɔr** (homonymous with the derivational reciprocal suffix) exists only in combination with the negative suffix **-ot**, but the decomposition of **-ɔɔr-ot** as a sequence of two suffixes follows from the fact that, if the centripetal movement marker is present, it must be inserted between **-ɔɔr-** and **-ot**.

2.2.4. *Relative finite verb forms*

In contrast to the independent finite verb forms, the relative finite verb forms have an exclusively suffixal inflection. Their inflection includes the same negative suffixes as the independent finite verb forms. Like the independent finite verb forms, they express the completive vs. incomplete distinction, but the markers are different: completive zero vs. incomplete $-\epsilon$.⁴ The main contrast between independent and relative finite verb forms is that the inflection of relative verb forms does not include equivalents of the TAM markers prefixed to independent verb forms, but includes three suffixes that have no equivalent in the inflection of independent verb forms. Following Sambou (1983) and Hopkins (1995), who designate them in French as ‘actualisants’, we refer to them as ‘actualizers’:⁵

⁴ It is plausible that relative verb forms maintain an ancient form of the marking of the completive vs. incomplete distinction, whereas in independent verb forms, the marking of the completive vs. incomplete distinction was modified by the reanalysis of formerly focalizing verb forms as forms that do not necessarily imply focalization.

⁵ There is, however, an important difference between Hopkins’ (1995) analysis and ours. Hopkins treats the final $-\epsilon$ of irrealis relative forms as the same morpheme as completive $-\epsilon$ in the inflection of independent forms, and considers that actualizer 0 is never overtly marked. There may be a historical connection between irrealis $-\epsilon$ in the inflection of relative verb forms and completive $-\epsilon$ in the inflection of independent verb forms, but synchronically, the semantic implications of these two suffixes exclude identifying them as one suffix, and a much more consistent description can be achieved by analyzing the final $-\epsilon$ of irrealis relative verb forms as an allomorph of actualizer 0. In this connection, it is interesting to mention that the paradigm of actualizers is not

- The actualizer we designate as ‘actualizer 0’ neutralizes the completive vs. incomplete distinction. It expresses a meaning that can be characterized as ‘virtual’ or ‘irrealis’, similar to that expressed in French by relative clauses with the verb in the conditional or subjunctive. Actualizer 0 has the same form as the ϵ -completive suffix in the inflection of independent verb forms, with the same zero allomorph in contact with a negation marker, a ‘human’ object index, or the centripetal movement marker.
- The actualizer we designate as ‘actualizer 1’ characterizes the event to which the relative clause refers as real. It manifests itself as a suffix **-m** or **-mu** (in free variation) preceded by an epenthetic **o** if the constraints on syllabic structure necessitate the insertion of an epenthetic vowel.
- The actualizer we designate as ‘actualizer 2’ manifests itself as a suffix **-ña**. It encodes a close relationship between the event to which the relative clause refers and the situation in which the speech act is performed: in its presence, the completive is interpreted as recent past, and the incomplete as progressive.

3. The infinitive

3.1. The formation of the infinitive

The infinitive is formed by adding a nominal prefix to the verb stem, and when the infinitive occupies a syntactic position that gives it the status of class agreement controller, it behaves exactly in the same way as typical nouns including the same prefix.⁶ For example, the infinitive of **-wañ** ‘cultivate’ is **ϵ -wañ**, with the same class E prefix as in **ϵ -yɛn** ‘dog’, and the infinitive of **-sankɛn** ‘speak’ is **ka-sankɛn**, with the same class K prefix as in **ka-sɔnd** ‘roof’. The general rule is that monosyllabic verb stems select **ϵ -** (cl. E) as their infinitive prefix, whereas non-monosyllabic stems select **ka-** (cl. K), but there are quite a few unpredictable exceptions to this rule. For example, the infinitive of **-ru** ‘eat’ is **fɔ-ru** (cl. F).

3.2. Infinitive and deverbal nouns

Depending on the choice of the prefix, the same morphological pattern ‘nominal prefix + verb stem’ may also give rise to deverbal nouns. For example, **ϵ -gɛl** is the infinitive of the verb **-gɛl** ‘insult’, whereas **ka-gɛl** is the deverbal noun ‘insult’. Similarly, **ϵ -kɔr** is the infinitive of the verb **-kɔr** ‘educate’, whereas **ka-kɔr** is the deverbal noun ‘education’, and the choice of the prefix distinguishes **ϵ -rɔk**, infinitive or the verb **-rɔk** ‘work’ from the deverbal noun **bɔ-rɔk** ‘work’.

The difference between infinitives and deverbal nouns is that the syntactic properties of deverbal nouns are in all respects identical to those of non-derived nouns, whereas infinitives

entirely homogeneous, and probably emerged relatively recently in the history of the language. On the one hand, the place occupied by the non-void allomorph of actualizer 0 is not exactly the same as that occupied by the other two actualizers. On the other hand, **-mu** is an old subordination marker whose cognates can be found in Atlantic languages that are only distantly related to Jóola Fóoñi, whereas **-ña** transparently results from the grammaticalization of the adverb **ña** ‘now’.

⁶ In order to facilitate understanding of the examples, nominal prefixes are glossed ‘INF’ (instead of ‘NPR’) when the form in which they are included is an infinitive.

have specific syntactic properties. For example, the modal verb **-ɔɔt** ‘must, be obliged to’ cannot take a nominal complement, but can have an infinitive as its complement, as in (9).

(9) **Boo kɔɔtɛ skaan?**

‘How must they do?’

Boo k-ɔɔt-ɛ ɛ-kaan?

how sI:CLbk-must-CPL INFɛ-do

In example (10), the definiteness marker is suffixed to the infinitive, which underlines its nominal nature, but an index of the locative class T representing a locative oblique is also present, which never occurs with nouns, since nouns can only combine with indexes representing possessors, and the suffixation of an index to a noun is incompatible with the presence of the definiteness marker.

(10) **wan uɔaŋom bæ kabɛnɛnaktɔ**

‘what I want to add in this respect’

w-an u-ɔaŋ-ɔ-m bæ ka-bɛnɛn-a-k-tɔ,

CLu-REL sI:1SG-want-EP-ACT DIR INFka-add-D-CLk-I:CLt

3.3. The object of the infinitive

The NP representing the object argument of an infinitive may immediately follow it, like the object of finite verb forms, as in (11), or it may be introduced by a linker expressing class agreement with the infinitive, identical to the genitival linker used for adnominal possessors, as in (12).

(11) **Ayɔa ajɛɛm b'ɛŋarɛy ajaŋaaw?**

‘Which of them is going to take the girl?’

Ayɔa a-ja-ɛ-m bæ-ɛ-ŋar-ɛ-y a-jaŋa-a-w.

(CLa)which sI:CLa-go-ICPL-ACT DIR-INFɛ-take-D-CLɛ NPRa-girl-D-CLa

(12) **Ayɔa najɛɛm b'ɛsɛnɛy yatɔ ajaŋaaw ?**

‘To which of them is he going to give the girl?’

Ayɔa n-a-ja-ɛ-m bæ-ɛ-sɛn-ɛ-y y-atɔ a-jaŋa-a-w?

(CLa)which n-sI:CLa-go-ICPL-ACT DIR-INFɛ-give-D-CLɛ CLɛ-GEN NPRa-girl-D-CLa

When the infinitive fulfills typical infinitival functions, the two possibilities are in free variation. By contrast, predicative constructions with the infinitive in the role of nucleus tend to align with whose nucleus is a finite form, which means that, in the predicative uses of the infinitive that will be described in section 4, the object is never introduced by the genitival linker.

4. The use of the infinitive as the nucleus of independent clauses

4.1. Infinitival predication expressing the TAM value ‘present’

In Jóola Fóoñi, clauses whose nucleus is an infinitive constitute the usual and semantically unmarked way to express coincidence between an event in progress and some temporal landmark (time of utterance or other).

4.1.1. *Predicative use of the bare infinitive*

By itself, the infinitive has the ability to act as the nucleus of a predicative construction expressing the TAM value ‘present’.

(13) **Inje εjaw Dakaar b’εñes wañ.**

‘I am going to Dakar to get some clothes.’

Inje ε-jaw Dakaar bε-ε-ñes w-añ.

1SG INFe-go Dakar DIR-INFe-look.for NPRu-clothes

(14) **Agaajɔraaw ɛriiɲujaa ɗi esukey, fɔlaay kamooten ɗε.**

‘When a liar arrives in a village, he first controls himself.’

A-gaajɔra-a-w ɛ-riiɲ-u-jaa ɗi e-suk-e-y,

NPRa-liar-D-CLa sI:CLa-arrive-EP-HYP PREP NPRε-village-D-CLε

fɔɓ-a-y ka-mooten ɗε.

beginning-D-CLε INFka-control.oneself ENUNC

4.1.2. *Predicative use of the infinitive combined with the preposition ɗi*

ɗi is a multifunction preposition, used in particular to flag locative, instrumental and comitative adjuncts, and also used for the additive coordination of NPs. In infinitival predication, its use seems to be optional. In any case, we have not been able to identify a possible conditioning (semantic or other).

(15) **Bokanak tuu ɗi ejoo εbeɲ.**

‘All the people are coming together.’

Bok-an-a-k tuu ɗi e-jɛ-u ε-beɲ.

NPRbok-person-D-CLε all PREP INFe-go-CTRP INFe-gather

4.1.3. *Predicative use of the infinitive combined with the ostensive*

We designate as ‘ostensive’ a word inflected for class (gender-number) that combines with nouns to express the ostensive meaning expressed in English as ‘Here is N’. The ostensive also fulfills the function of locational copula (‘be somewhere’). In combination with the infinitive, it underlines the coincidence between the progress of the event to which the infinitive refers and the temporal landmark. In this construction, the preposition **ɗi** is also optionally present.

The ostensive does not result from the grammaticalization of a verb, but of a demonstrative, and this explains why it is inflected in class (gender-number), but not in person. Consequently, in this variant of infinitival predication (in contrast to that presented in 4.1.1-2), the subject is indexed, but the indexation of the subject is limited to gender-number. In (16) and (19), the subject is the first person singular pronoun, and the ostensive expresses class A ('human singular') agreement. The same form of the ostensive would be used if the subject were the second person singular pronoun or a human noun in the singular. Similarly, in (18), with a first person plural exclusive pronoun in subject role, the ostensive expresses class BK ('human plural') agreement.⁷

(16) **Inje ɔmɛ ejoo b'ɛɛrɛg karɛgak.**

'I am coming to tell a story.'

Inje ɔ-m-ɛ e-jɛ-u bɛ-ɛ-rɛg ka-rɛg-a-k.
1SG (CLa)OST-CLa-PR INFe-go-CTRP DIR-INFe-tell CLk-tale-D-CLk

(17) **Simunɔɔɛs tuu sɔsɔbɔ eboomey.**

'All the hyenas are dancing.'

Si-munɔ-ɛ-s tuu s-ɔ-sɔ-bɔ e-boom-e-y.
CLs-hyena-D-CLs all CLs-OST-CLs-I:CLb INFe-dance-D-CLe

(18) **Woli kɔkɔbɔ ɛsaafi nusalɔ.**

'We greet you and thank you.'

Woli k-ɔ-kɔ-bɔ ɛ-saaf-t n-ɔ-sal-t.
1PL.EXCL CLbk-OST-CLbk-I:CLb INFe-greet-I:2SG SEQ-sI:1PL-thank-I:2SG

(19) **Inje ɔmo dɪ ɛñɛs ɛjɛli ajɛɛ b'ɛɛnagɔm ɛtantɔɛy.**

'I am looking for a griot who will beat the drum for me.'

Inje ɔ-mo dɪ ɛ-ñɛs ɛ-jɛli a-ja-ɛ
1SG (CLa)OST-CLa PREP INFe-look.for NPRa-griot (CLa)PTCP-go-ACT₀
bɛ-ɛ-nag-ɔm ɛ-tantɔ-ɛ-y.
DIR-INFe-beat-I:1SG NPRe-drum-D-CLe

4.2. Infinitival predication expressing the TAM value 'near future'

In combination with the directive preposition **bɛɛ** 'towards', the infinitive expresses the TAM value 'near future'.

4.2.1. **bɛɛ** + *Infinitive*

In the first variant of this construction, the infinitive is only combined with **bɛɛ**, and the subject is not indexed:

⁷ This example involves a second clause with the same subject, but with the verb in the sequential ('and then'), and it is interesting to observe that the sequential form in the second clause expresses first person plural agreement.

(20) **Aw b'εεkaan bʊʊ man ʊkaan bʊsaana?**

'What are you going to do to make a boat?'

Aw bε-ε-kaan bʊʊ man ʊ-kaan bʊ-saana?

2SG DIR-INFe-do how CSC sI:2SG-make NPRb-boat

(21) **Inje b'εεrək matɪ aw.**

'I am going to work for you.'

Inje bε-ε-rək m-atɪ aw.

1SG DIR-INFe-work CLm-GEN 2SG

(22) **Wanɔɔsan w'aasɔɔlaam, inje b'εεsɛnɔɔ.**

'Whatever he may need, I am going to give it to him.'

W-anɔɔsan w-a-a-sɔɔlaa-m, inje bε-ε-sɛn-ɔɔ,

CLu-DISTR CLu-REL-sI:CLa-need-ACT₁ 1SG DIR-INFe-give-I:CLa

4.2.2. *Ostensive*+ **bεε** + *Infinitive*

In this second variant, due to the presence of the ostensive, the subject is indexed, but its indexation is limited to gender-number:

(23) **Ɛdaakɔyɛ yɔɔyɔ b'εεtɛy.**

'The antelope is going to escape.'

Ɛ-daakɔy-ε-y y-ɔɔ-yɔ bε-ε-tɛy.

NPre-antelope-D-CLe CLe-OST-CLe DIR-INFe-run

4.3. Limitations to the use of predicative constructions with reduced indexation or no indexation of the subject

Within the limits of independent positive clauses involving no focalization, there is no particular restriction to the use of the constructions with reduced subject indexation or no subject indexation at all described in 4.1 and 4.2. They have the same productivity as clauses involving independent finite verb forms, and differ from them only in the TAM value they express. In contrast, negation, focalization, and relativization imply using constructions in which the infinitive is still present, but obligatorily combined with an auxiliary indexing the person of the subject. The same applies to other subordination mechanisms (for example, conditional subordination, cf. (28) below) requiring the use of verb forms other than those found in independent clauses.

4.3.1. *Focalization and subordination in the variant of infinitival predication expressing the TAM value 'present'*

In the construction described in 4.1, in the positive, the auxiliary that accompanies the infinitive in case of focalization (24) or relativization (25) (and more generally in subordinating constructions requiring the use of verb forms different from those used in independent clauses) may be **-ɔɔm** 'be somewhere' or **-lakɔ**, a verb with the basic meaning 'sit, settle', also widely used in copula function. The presence of this auxiliary implies that the

subject is indexed exactly as in clauses whose nucleus is a finite verb form. For example, in (24), if **aw** ‘you’ were replaced by **inje** ‘I’ or by **ɔɔ** ‘(s)he’, the second person form **nɔmbɔ** would give way to the first person form **nɛmbɔ** or to the class A form **nambɔ**.

(24) **Aw, añɔɔli nɔmbɔ ɛñɛs ?**

‘As for you, is it your child that you are looking for?’

Aw, a-ñɔɔl-i n-ɔm-bɔ ɛ-ñɛs?
2SG NPRa-child-I:2SG n-sI:2SG.be-I:CLb INFe-look.for

(25) **... nɛtookuutɔ atɔɔ alakɔm kalutikenak bɔlɔñɔɔrab.**

‘... and there he found his brother who was learning hunting.’

n-ɛ-took-uu-tɔ a-tɔ-ɔɔ a-lakɔ-m
SEQ-sI:CLa-find-CTRP-I:CLt NPRa-brother-I:CLa (CLa)PTCP-be-ACT₁
ka-lutiken-a-k bɔ-lɔñɔɔr-a-b.
INFka-learn-D-CLk NPRb-hunting-D-CLb

4.3.2. *Negation in the variant of infinitival predication expressing the TAM value ‘present’*

In the negative equivalent of the construction described in 4.2, the infinitive combines with **-lɛt** ‘not to be’, a verb showing various irregularities, but whose behavior with respect to subject indexation is perfectly regular. As in the corresponding positive forms, the preposition **ɗi** can optionally be present.

(26) **Jaat, ɗɛɛbɔ kɛmoori.**

‘Today, I don’t fall asleep.’

Jaat, ɗ-lɛɛ-bɔ kɛ-moori.
today sI:1SG-not.to.be-I:CLb INFka-fall.asleep

(27) **Bɛɛ elookuŋ ɛñaraay ɛlɛɛ ɗi fori.**

‘During a whole week, the monkey doesn’t eat.’

Bɛɛ e-lookuŋ ɛ-ñarɔ-a-y ɛ-lɛɛ ɗi fɔ-ri.
DIR NPRE-week NPRE-monkey-D-CLE sI:CLe-not.to.be PREP INFf-eat

4.3.3. *Focalization and subordination in the variant of infinitival predication expressing the TAM value ‘near future’*

In case of focalization or relativization, and more generally in subordinating constructions requiring the use of verb forms different from those used in independent clauses, **bɛɛ** + Infinitive expressing near future must be accompanied by an auxiliary. This auxiliary may be a verb ‘be’, as in (28), but the verb ‘go’ is more commonly used in this function.

(28) **Ūlakɔjaa b’ɛɛnagɛy aɗulaw, atai nɛjoo atɛki.**

‘If you are going to beat the child, then your husband comes and beats you.’

Ū-lakɔ-jaa bɛ-ɛ-nag-ɛ-y a-ɗul-a-w, a-ta-t
sI:2SG-be-HYP DIR-INFfe-beat-D-CLE NPRa-child-D-CLa NPRa-husband-I:2SG

n-e-jɛ-u **a-tɛk-t.**
 n-I:CLa-go-CTRP sI:CLa-beat-I:2SG

- (29) **Yɔɔ nujɛɛñaa b'ɛrɛgɛy.**
 'This is what I am going to tell you.'

Y-ɔɔ **n-t-ja-ɛ-ñaa** **bɛ-ɛ-rɛg-t-ɛ-y.**
 CLe-PRO n-sI:1SG-go-ICPL-ACT₂ DIR-INF_e-tell-I:2SG-D-CLe

- (30) **Ñaa epimbeneɣ yɔɔla nujaaleɣ b'ɛɣarɛy.**
 'Now it's his gun that we are going to take.'

Ñaa e-pimben-e-y y-ɔɔl-a **n-ɔ-ja-al-ɛ-m** **bɛ-ɛ-ɣar-ɛ-y.**
 now NPR_e-gun-D-CLe CLe-POSS-I:CLa n-sI:1PL-go-INCL-ACT DIR-INF_e-take-D-CLe

4.3.4. *Negation in the variant of infinitival predication expressing the TAM value 'near future'*

In the negative, it is the verb 'go' that is used as an auxiliary in the predicative use of **bɛɛ** + Infinitif expressing 'near future'.

- (31) **Ujeerii b'ɛpɔsɛy jubunaj baabɛ.**
 'You are not going to wash the calabash here.'

U-jɛ-erii **bɛ-ɛ-pɔs-ɛ-y** **ju-bun-a-j** **b-aa-b-ɛ.**
 sI:2SG-go-ICPL.NEG DIR-INF_e-wash-D-CLe NPR_j-calabash-d-CL_j CL_b-DEM-CL_b-PR

- (32) **Inje ijeerii bɛɛ forɪ kusaakak kuya.**
 'As for me, I am not going to eat your beans.'

Inje i-jɛ-erii **bɛɛ fo-ru** **ku-saak-a-k** **k-uya.**
 1SG sI:1SG-go-ICPL.NEG DIR INF_f-eat NPR_{k2}-beans-D-CL_k CL_k-POSS.I:2SG

5. The expression of the subject argument in the predicative use of the infinitive

A priori, one might imagine that, in the predicative constructions described in 4.1 and 4.2, the absence of a mechanism of subject indexation should be compensated by the obligatoriness of the subject NP and the systematic use of free pronominal forms in subject role providing the same information as that provided by the subject index in predicative constructions involving finite verb forms. Example (14), reproduced here as (33), shows that, in infinitival predication, the syntactic slot for the subject NP can be left empty. In the second clause of this sentence, it is obvious for Jóola Fóoñi speakers that the noun preceding **ka-muuten** 'control oneself' (i.e. **fɔlaay** 'the beginning') is not the subject of **ka-muuten**, but an adjunct, and that the null subject of **ka-muuten** 'control oneself' must be interpreted as referring back to **agaajooraaaw** 'a liar', but this does not follow from any syntactic rule, it is just a question of semantic plausibility and consistency with the context.

(33) **Agaajjɔraaw ɛriiŋjaa dɪ esukey, fɔlaay kamuuten dɛ.**

‘When a liar arrives in a village, he first controls himself.’

A-gaajjɔra-a-w ɛ-riiŋ-u-jaa dɪ e-suk-e-y,

NPRa-liar-D-CLa sI:CLa-arrive-EP-HYP PREP NPRe-village-D-CLe

fɔlɔ-a-y ka-muuten dɛ.

beginning-D-CLe INFka-control.oneself ENUNC

The question of possible restrictions on null subjects in infinitival predication has never been addressed in the literature on Jóola Fóoñi, and it can only be tackled on the basis of a corpus of naturalistic texts, since this is typically the kind of question about which judgments expressed by speakers manipulating sentences out of context are not reliable. And precisely, on the basis of our corpus of more than ten hours of recorded naturalistic texts, we can affirm that, as regards the syntactic optionality of the subject NP, there is no difference between infinitival predication and predication involving finite verb forms. In other words, in infinitival predication, there is no systematic use of subject pronouns to compensate the lack of subject indexation. Example (34) was elicited, but it summarizes our observations on naturalistic texts. Clauses with no noun phrase or pronoun preceding an infinitive in the role of predicative nucleus are perfectly normal, provided the speaker estimates that, in the given context, the hearer is in a position to retrieve the intended meaning. The subject of such clauses can be interpreted as non-specific, but depending on the context, it can be identified to any discursively salient entity, either speech act participant or previously mentioned referent.

(34) **Ɛ-wañ ba-jangata-a-b.**

INF-cultivate CLb-peanuts-D-CLb

depending on the context ‘One cultivates peanuts. / I cultivate peanuts. / You cultivate peanuts. / (S)he cultivates peanuts. / We cultivate peanuts. / They cultivate peanuts.’

Of course, it is always possible to add a subject pronoun providing the same information about the subject argument as the subject index with finite verb forms, but this is optional. In natural texts, infinitival predications with null subjects are quite frequent. Moreover, when subject pronouns are present, their use is motivated by emphasis on the identity of the subject argument rather than by the necessity to disambiguate, since most of the time, if the subject pronoun were missing, the context would preclude any ambiguity about the identity of the subject argument.

6. Discussion and conclusion

In Jóola Fóoñi, depending on the TAM value expressed by the verb, one finds two types of organization of verbal predication that differ in the constraints on the expression of the subject argument. They have in common the syntactic optionality of the subject NP, but differ radically as regards indexation:

- with finite verb forms, subject indexation is obligatory, and consequently the clause must minimally specify the person and number of the subject (and in the third person, its gender);
- when the infinitive is used predicatively without being combined with an auxiliary, either the indexation of the subject is limited to gender and number (in the constructions involving the ostensive), or there is no indexation at all, and consequently the subject argument may remain completely unexpressed.

In other words, Jóola Fóoñi is an unrestricted ‘pro-drop’ language, with the additional particularity that null subjects are equally possible with verb forms including an obligatory subject index and with verb forms that do not have the ability to index their subject, which contradicts a well-known generalization about ‘pro-drop’ languages.

Generative linguists have discussed the question of a possible conditioning of the fact that null subjects referring to discursively salient entities are common in some languages, but not in others. It appears immediately that the existence of a mechanism of subject indexation does not necessarily imply the possibility of null subjects, since for example German is not a pro-drop language, in spite of having a mechanism of subject indexation. Conversely, the total lack of subject indexation is perfectly compatible with unrestricted null subjects, as illustrated by languages such as Japanese or Mandarin Chinese.

The generative linguists who tackled this question observed that unrestricted null subjects are commonly found in two types of languages: on the one hand, in languages with a mechanism of subject indexation both morphologically rich and homogeneous across the verbal paradigm (such as Italian or Turkish), and on the other hand, in languages that have no subject indexation at all (such as Japanese or Mandarin Chinese). They also observed that more or less strong restrictions on the use of null subjects are found in some well-known languages that have a mechanism of subject indexation morphologically poor, or heterogeneous across the verbal paradigm. This can be illustrated by Russian, a language whose verbal forms express the person of the subject in the present, whereas in the past, they express the gender of the subject, but not its person.

Starting from that, it was proposed as a universal that unrestricted null subjects can only be found, either in languages with a rich and homogeneous system of subject indexation, or in languages with no mechanism of subject indexation at all, cf. for example Huang 1984: “Pro-drop is licensed to occur either where a language has full agreement, or where a language has no agreement, but not where a language has impoverished partial agreement”.

Jóola Fóoñi constitutes a clear exception to this generalization. The ban on pro-drop in languages with ‘impoverished partial agreement’ is perhaps a relatively widespread tendency in the languages of the world, but it cannot be considered an absolute universal.

Abbreviations

CPL = completive, ACT = actualizer, CL = noun class, CSC = consecutive, CTRP = centripetal, D = definite, DIR = directive, DISTR = distributive, ENUNC = enunciative particle, EP = epenthetic vowel, EXCL = exclusive, FUT = future, GEN = genitive, HYP = hypothetical, I = index (other than subject index, cf. sI), ICPL = incompletive, INF = infinitive, n = pre-prefix **n-**, NEG = negation, NPR = nominal prefix, OST = ostensive, PL =

plural, POSS = possessive, PR = proximal, PREP = preposition, PRO = pronoun, PTCP = participle, RDPL = reduplicative affix, REL = relativizer, SEQ = sequential, SG = singular, sI = subject index.

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