Morphology-syntax mismatches in agreement systems:

the case of Jóola Fóoñi

Denis Creissels

DDL, Lyon
denis.creissels@univ-lyon2.fr

Patricia Cabredo Hofherr

UMR 7023 – *Structures formelles du langage*
CNRS/ Univ. Paris-8 /UPL
patricia.cabredo-hofherr@cnrs.fr

Abstract

In this abstract we examine the agreement system of Jóola Fóoñi, an Atlantic language of Senegal with a developed noun class system of the Niger-Congo type. We show that synchronically, the inflectional paradigm characterising the adnominals and pronouns that can be the target of gender-number agreement controlled by nouns is syntactically heterogeneous in several respects. Firstly, out of the 15 'classes' that structure the inflectional paradigm of adnominals and pronouns involved in the expression of agreement with heads or antecedents, 2 do not have any potential nominal controllers and only appear in non-contextual uses in which they independently contribute to the interpretation of the sentence. Secondly, among the 12 classes that have non-contextual uses, the classes associated with adjuncts (of place, time and manner) display special behavior in subject-verb agreement. And finally, the 3 classes that refer to different conceptualisations of place show a special behaviour in relativisation. We propose to analyse these differences as the reflex of a reorganisation of the agreement-class system: the locative relativisers have been reanalysed as locative pronouns and subject agreement with non-contextual adjunct expressions is being lost, replaced by the default agreement class.

1   Outline

In what follows we first discuss the division of nouns into inflection classes and agreement classes (genders) in Jóola Fóoñi (section 2).

We then examine the relationship between genders and the inflectional paradigm of adnominals and pronouns involved in gender-number agreement (section 3). We proceed to examine the agreement patterns found on agreement markers on verbs and pronominal anaphors, showing that 5 classes have lost their distinctive agreement forms in this domain (section 4). Section 5 deals with the particular behaviour of relative clauses in the locative classes. Section 5 summarises the analysis.

2   Noun-classes, inflectional classes and gender in Jóola Fóoñi

The present paper follows Creissels (2018) and Güldemann & Fiedler (2017) in their approach to Niger-Congo noun-class systems in treating the prefixal marking of number on noun lexemes and the values expressed in the inflectional paradigm of adnominals and pronouns involved in the expression of agreement as interrelated but distinct aspects of the grammatical system.

On the one hand, the nouns divide into *inflectional classes* according to the way they express the singular vs. plural distinction (for a full list see Creissels 2018).

(1) Examples of inflectional classes
   a. Ø-an   / bʊk-an 'person / persons'
   b. a-sɛɛk   / kʊ-sɛɛk 'woman / women'
   c. e-suk   / si-suk 'village / villages'
   d. Ø-sindo / si-sindo 'home / homes'

On the other hand, noun forms fall into 13 *agreement classes* according to the agreement marks they control on their

modifiers or on the pronouns that resume them. The labels of the agreement classes (A, BK, E, S, B, U, F, K, J, M, Ñ, T, D´) evoke the phonological form of the corresponding agreement marks. In Niger-Congo, gender can be defined as the pairing of two agreement classes corresponding to the singular and plural agreement of a noun-lexeme. The genders of Jóola Fóoñi are listed in (2): Some genders coincide with an inflectional class (2d/e/f/i./j.), while others conflate 2 or 3 distinct inflectional classes (2a/b/c/g).

(2) Gender (pair of agreement classes for sg/pl)
  a. Gender A/BK
     Ø-an/ **bʊk**-an 'person sg/pl'
     Ø-ɪñaay/ **k**-ɪñaay~**s**-ɪñaay 'mother sg/pl'
     a-sɛɛk/ **kʊ**-sɛɛk 'woman sg/pl'
     a-mpa/ **kʊ**-mpa ~ **sʊ**-mpa 'fathersg/pl'
  b. Gender E/S
     e-suk / **si**-suk 'village sg/pl'
     Ø-sindo / **si**-sindo 'home sg/pl'
  c. Gender B/U
     bʊ-rʊŋ / **ʊ**-rʊŋ 'road sg/pl'
     ba-caac / **ʊ**-caac 'bed sg/pl'
  d. Gender F/K
     fʊ-nak / **kʊ**-nak 'day sg/pl'
  e. Gender K/U
     ka-sɔnd / **ʊ**-sɔnd 'roof sg/pl'
  f. Gender J/M
     jɪ-bɛcɛl / **mʊ**-bɛcɛl 'palm tree sg/pl'
  g. Gender A/S
     a-mpa / **sʊ**-mpa 'father sg/pl'
     Ø-ɪñaay / **s**-ɪñaay 'mother sg/pl'
  i. Gender J/K
     ji-cil / **ku**-cil 'eye sg/pl'
  j. Gender Ñ/U
     ñɪ-wʊj / **ʊ**-wʊj 'chain sg/pl'

The prefixal marking on the noun-form is correlated with the agreement-class pairing but not predictable from it as shown by the genders (2a/b/c/g). Inflectional class and gender are lexical properties of each noun lexeme.

Agreement morphology (glossed CLX) appears on most modifiers: the enclitic definite article and determiners (3), adjectives and relativisers (4), subject predicate agreement (5) and indexes (bound pronouns) (6). The examples illustrate the agreement forms of *e-suk* 'village' (agreement class E, definite form *e-suk-ey*) and *bʊ-rʊŋ* 'road' (agreement class B, definite form *bʊ-rʊŋ-ab*)

(3) a. **e**-suk-**ey** ʊ-**yʊ** **bʊ**-rʊŋ-**ab** ʊ-**bʊ**
        'this. village'   'this road'
     b. e-suk **y**-ɛy? bʊ-rʊŋ **b**-ɛy?
        'which village' 'which road?'
     c. e-suk **ɛ**-cɛɛ bʊ-rʊŋ **bʊ**-cɛɛ
        'some village' 'some road'

(4) a. e-suk **y**-ajakɛ bʊ-rʊŋ **b**-ajakɛ
        'good village' 'good road'
     b. e-suk-ey **y-an** iyisenim
        village-det CLE-REL I.showed.you
        'the village that I showed you'
     c. bʊ-rʊŋ-ab **b-an** iyisenim
        village-det CLB-REL I.showed.you
        'the road that I showed you'

(5) a. e-suk-ey **ɛ**-kañɔkañɔ
        'the village was destroyed'
     b. bʊ-ruŋ-ab **bʊ**-kañɔkañɔ
        'the road was destroyed'

(6) a. pan iyiseni-**yɔ**
        FUT I.show.you-I:CLE
        'I'll show it to you (the village)'
     b. pan iyiseni-**bɔ**
        FUT I.show.you-I:CLB
        'I'll show it to you (the road)'

3 Orphan classes and non-contextual uses of classes

'Class' as this term is used in descriptions of Niger-Congo agreement systems is best understood as referring primarily to the inflectional paradigm of adnominals and pronouns involved in gender-number agreement with nouns. In this paradigm, there is no possibility of dissociating gender agreement marking from number agreement marking. The markers it includes are typically associated with a particular set of potential controllers each, but there are exceptions (the 'orphan classes', see below).

As observed by Creissels 2018, defining 'class' as an inflectional feature by which adnominals and pronouns mark agreement with their controller does not necessarily imply that this is the only possible function of this inflectional feature. This is indeed crucial, for two reasons. Firstly, in addition to 13 class values that have corresponding nominal controllers, the paradigm includes two 'orphan classes' (D and N) that have no corresponding noun forms and whose selection can therefore never be analysed as triggered by agreement with a nominal controller. And secondly, most of the classes corresponding to sets of potential

nominal controllers also have non-contextual uses in which no controller (neither expressed nor understood) is involved, and the context plays no role in the construction of an interpretation.

3.1 The semantics of N-less agreement classes

Divorcing agreement marks from agreement with a noun is indeed crucial in Jóola Fóoñi, since in non-contextual uses the agreement marks associated with an agreement class of nouns may also encode notions such as 'person', 'thing', 'place', 'time' or 'manner' independently of any contextual conditioning.

Of the 15 classes that constitute the inflection of adnominals and pronouns, 12 have non-contextual uses (i.e. uses that cannot be analysed as triggered by a controller), with the orphan classes D and N only having this use. As illustrated in (4) for the relativiser, each class is associated with a semantic value for its non-contextual use (when it exists).

(7) non-contextual uses of the relativiser C-an

class A	Ø-an	the person that ...
class BK	k-an	the persons that ...
class E	y-an	the thing that ...[1]
class S	s-an	the things that ...
class B	b-an	the place that ...[2]
class U	w-an	the thing that ...
class F	f-an	—
class K	k-an	—
class J	j-an	—
class M	m-an	the manner how ...
class Ñ	ñ-an	—
class T	t-an	the place where ...[3]
class D´	d-ɐn	the place where ...
class D	d-an	the thing that ...
class N	n-an	the time when ...

For example, as a headed relative clause, *w-an ɩnɔɔmʊm* 'cl.U-that I bought' can only combine with a head noun belonging to class U, as in *ʊ-samata-w w-an ɩnɔɔmʊm* 'the shoes I bought'. As a free relative, if a noun belonging to gender B/U or K/U is present in

[1] Non-contextual uses of class D imply vague reference to things, situations, or events, comparable to French *ça*.
[2] Class T implies a more precise delimitation of space than class B; class D' implies reference to the interior of a space.
[3] The only possible controllers of T and D' agreement are t-ɩn ~ t-an place (delimited with precision), and d-in ~ d-ɐn interior of a place.

the context or simply suggested by the context, it can be interpreted as 'the ones I bought' ('one' referring to the noun in question), but it is always possible to interpret it simply as 'what I bought'.

3.2 The range of N-less agreement classes

In Jóola Fóoñi not all classes have non-contextual uses (classes F/K/J cf (7)). Furthermore, Class Ñ is anomalous in that it only has non-contextual uses with quantitative modifiers (as in *ñ-amɛɛŋɛ* 'often' < *-amɛɛŋɛ* 'numerous'), not e.g. with the relativiser (as shown in 7). The remaining 11 classes allow the full range of agreeing contexts in the NP as non-contextual uses.

In Jóola Fóoñi all the words or phrases that can fill the modifier slot in a noun-modifier construction and express gender-number agreement with their head can also constitute headless NPs in any of their class-inflected forms. In the classes that have only contextual uses, this implies the possibility of retrieving a controller from the context, but no condition is required for the classes that have non-contextual uses. This gives rise to three cases, exemplified here with the stem -ajakɛ 'good' (< -jak 'be good'). With the classes F/K/J that do not admit non-contextual construal, the headless use implies the possibility of retrieving an understood singular controller belonging to gender F/K as in (8). With the orphan classes D and N, the headless use only has a non-contextual construal: the form *r-ajakɛ* (class D) can only have a headless use in which it is interpreted as 'something good' (9). With agreement classes that both admit non-contextual construals and have corresponding nouns, the headless use is ambiguous. In its headless use, *w-ajakɛ* can be interpreted as 'the good ones' with reference to an implicit controller of gender B/U or K/U retrievable from the context as in (10a), but the non-contextual construal is also possible (8b). Notice that for agreement class U the non-contextual use (10b) is singular while the use with an implicit antecedent in (8a) is plural since class U is always the agreement class of the plural in the genders it forms part of (see 2c/e/j).

(8) (fʊ-rɩm)   f-ajakɛ
    (word.CLF)   CLF-good
    'a good one' (referring to a word)

(9)   *r-ajakɛ*

CLD-good
'something good'

(10) a. *(u-samata) w-ajakɛ*
    shoes   CLU-good
    'good ones'(referring to shoes)
  b. *w-ajakɛ*
    CLU-good
    'something good'

Headless NPs may include two or more forms inflected for the same class, as in (11)

(11) ʊ-**t-ɛ**   **t-an**   ɩ-lakɔ-ñaa
    DEM-CLT-PROX CLT-REL SI:1sg-sit-ACT
    'this place where I am sitting'

4   Classes lacking access to subject agreement

Non-contextual uses of the classes B, T, D´, M and N (i.e., class-inflected forms or expressions that refer to place, time or manner) share some morphological and syntactic particularities that distinguish them from the other classes.

Morphologically, the classes in question are the only ones in which the class prefix of some adnominals or pronouns may show a reduplicated form CɔC- in free variation with the regular C- form (as e.g. *n-ɛy ~ nɔn-ɛy* 'when?').

Syntactically, non-contextual uses of classes B, T, D´, M and N (e.g., free relatives of the classes in question) in subject function do not allow class agreement on the verb and trigger D agreement, analyzable as default agreement with a featureless antecedent.

(12) ʊ -**tʊ**   Ø/*ti-loi-ut
    DEM-CLT   SI:CLD/*SI:CLT-be.far-NEG
    'This place (CLT) is not far (CLD).'

Notice that subject-verb agreement differs from the agreement found for anaphoric bound pronouns: non-contextual uses of classes B, T, D´, M and N taken up by bound pronouns (glossed –I:CLX) as object (13a) or possessive (13b) agree in class.

(13) a. **T-an**   u-lako-u-m,
    CLT-**REL**   SI:2SG-sit-EP-ACT
    n-u-wuuen-**to**   set.
    PPF-SI:2SG-sweep-**I:**CLT(SI:CLD)be.clean
    'The place where you sit (CLT), you sweep it (CLT) so it is clean (CLD) .'

b. **T-an**   ku-kin-u-m,
    CLT-REL   SI:CLBK-live-EP-ACT
    ka.rees-u-**to**   Kawuŋa.
    name.CLKA-EP-**I:**CLT   Kawuŋa
    'The place that they live in (CLT), its (CLT) name is Kawuŋa.'

For the classes that have potential nominal controllers (i.e., the locative classes B, T and D´) it is particularly interesting to compare the behaviour of headless forms with the behaviour of the same forms in noun-modifier constructions. In Jóola Fóoñi when the role of subject is fulfilled by a head-modifier construction (14a), the deletion of the head noun does not trigger any change in the subject index prefixed to the verb, as in (14b).

(14) a. Esuk-e-y   ʊ-yʊ
    village-DET.CLE   DEM-CLE
    e-loi-ut
    SI:CLE-be.far-NEG
    'This village (CLE) is not far (CLE).'
  b. Ʊ-yʊ   e-loi-ut
    DEM-CLE   SI:CLE-be.far-NEG
    'This one (CLE) is not far (CLE).'

However, for class T and class D´ we have a contrast wrt to subject-verb agreement. Phrases consisting of the nouns *t-ɩn / t-an* or *d-ɩn / d-ɐn* 'place' plus a modifier inflected for class T or D´ behave like normal nouns and appear with regular the class T and class D' agreement of the verb respectively (15). This contrasts with non-contextual uses, however: in (12) the subject triggers class D agreement (expressed as a zero-prefix) instead of the locative class agreement found with the cognate head-noun in (15).

(15) **Tɩn-a-t**   ʊ-tʊ
    place-DET-CLT DEM-CLT
    ti-loi-ut
    SI:**CLT**-be.far-NEG
    'This place (CLT) is not far (CLT).'

The status of class D agreement as default argument for noun phrases lacking a status in the agreement system is apparent in (16), where the subject of the verb *-let* 'not to be' is the nominalized clause *man kʊñɩlak kʊkañɔ* '(the fact) that children are spoilt'.

(16) Man kʊ-ñɩl-a-k   kʊ-kañɔ,
    that   child-DET-CLBK SI:CLBK-be.spoilt
    Ø-lɛt   bʊk-anɔɔsan.

sI:CLD-not.to.be CLBK-any
'If children are spoilt, there are certain people who are responsible.' lit. 'That children are spoilt, it is not everybody.'

5 Relative clauses of classes B, T and D′(locative classes)

The locative relatives differ from the relative clauses of other classes with respect to the construction they form with a nominal head. As a rule, in headed relative clauses, the relativiser obligatorily agrees with the head noun and does not mark the function of the relativised NP in the relative clause, which makes it possible to analyze it as a mere linker in a head-modifier construction. By contrast, relative clauses introduced by **t-an**, **d-ɐn** or locative **b-an** have the ability to modify, not only nouns belonging to the corresponding agreement class, but also nouns belonging to any non-locative class, as in (16).

(16) Ɛlʊʊp-ɛ-y   d-ɐn
      house-DET-CLE   CLD'-REL
      ʊ-jɛɛ-m bɛɛt   e-loi-ut.
      sI:2SG-go.ICPL-act sI:CLE-be.far-NEG
      'The house where you are going is not far.'

While the relativisers of the other classes function like agreeing linkers, the locative relativisers function like locative pronominals, comparable to *où* 'where' in French.

5 Analysis

Jóola Fóoñi shows that formally homogeneous systems of agreement markers may show heterogeneity in their syntactic and semantic behaviour.

Firstly, the inflectional paradigm of adnominals and pronouns has preserved values that lack any potential nominal controllers in the present state of the language: these agreement forms never appear in the canonical controller-target configuration.

Secondly, Jóola Fóoñi shows that the set of agreement markers can split in whether they allow non-contextual uses: classes F/K/J do not, while the other classes do. The possibility of non-contextual uses therefore appears to be an intrinsic property of the class. In particular, the classes of Jóola Fóoñi differ in whether they allow free relative uses.

Finally, the original agreement classes associated with time, location and manner are being reanalysed as markers of temporal, locative and manner XPs, showing changes in their agreement behaviour. For subject agreement the adjunct agreement classes behave on a par: Non-contextual uses of the adjunct agreement classes in subject position do not trigger subject agreement corresponding to their agreement class: they appear without an agreement prefix, the form corresponding to the default agreement class D.

At the same time, however, with other nominal modifiers, the adjunct classes still appear with the agreement forms corresponding to their class, not the agreement of class D (see 11).

Furthermore, in their non-contextual uses the time/location/manner classes have preserved the corresponding non-subject bound pronoun (see 13). In this respect the behaviour of the adjunct classes is parallel to the systems found with locatives in some Romance languages where locative PPs have relative and non-subject forms integrated into pronominal paradigms as e.g. French *où* "rel.where" and *y* "there" but no subject pronouns and no verbal agreement forms.

For other agreement configurations such as agreement on the relativiser the different adjunct types do not pattern together, however.

The locative forms of the relativiser no longer function as targets of agreement: locative relativisers allow headed relative uses irrespective of noun-class of the head noun (see 16). In contrast, the relativiser with the temporal agreement class N only has free relative uses, when combining with temporal nouns such as 'day" or 'year' the relative clause cannot be in the temporal form but is subject to gender agreement with the noun.

The configuration of a noun meaning 'manner' with the manner form of the relativiser does not arise, since the nouns expressing such meanings belong to other agreement classes.

Relativisers are between noun-modifiers and predicate agreement on the Agreement hierarchy (Corbett 2006). The lack of agreement can therefore be interpreted as an indication that the locative relativisers are reanalysed as locative relative pronouns, so in contrast with the relativising linker for other classes the locative class marking is not an instance of agreement.

Abbreviations

Abbreviations follow the Leizpig glossing rules, except for ACT = actualiser, CLX = agreement of class X, ICPL = incompletive, I:X = non-subject index (bound pronoun) of agreement X, PPF = pre-prefix sI:X = subject index of agreement X

References

Corbett, Greville G. 2006. *Agreement*. CUP.

Creissels, Denis 2018. Genders, inflectional classes of nouns, and the non-contextual use of "classes" in Jóola Fóoñi (Atlantic). Ms. Paper read at *Workshop Genders across Niger-Congo*. Berlin 29-30 Nov 2018.

Güldemann, Tom & Ines Fiedler 2017. Niger-Congo "noun classes" conflate gender with declension. In F. Di Garbo & B. Wälchli (eds.), *Grammatical gender and linguistic complexity*. Berlin: Language Science Press. **85-135.**