Content question words and noun class markers in Wolof: reconstructing a puzzle

Stéphane Robert

▶ To cite this version:

HAL Id: hal-01422883
https://hal.archives-ouvertes.fr/hal-01422883

Content question words and noun class markers in Wolof: reconstructing a puzzle

Stéphane ROBERT

LLACAN, CNRS & INALCO, Paris

Introduction

Wolof, a language belonging to the northern branch of the Atlantic group, is spoken by some ten million people, mainly in Senegal. It has a noun class system resembling the prefixing noun class systems found in many other Niger-Congo languages: the nominal lexicon is distributed into classes governing characteristic agreement patterns. While still functional, the class system is somewhat simpler in Wolof than in some other Atlantic languages. Wolof nevertheless makes a typologically interesting use of noun class markers in its constituent question (content or *wh*-question) words.

For content questions, Wolof uses interrogative proforms without additional particles or case marking. Question words do not in themselves indicate their syntactic functions. Neither – due to the general fronting rule for question words – is the syntactic function of interrogative pronouns marked by their position, as is the case for arguments in declarative sentences in this SVO[1] language. This role is taken on by verb inflection, as I will show, and derivational verb suffixes (Nouguier Voisin 2002), which both contribute to specifying the argument structure. These pronouns are neatly organized into two parallel sets according to a general pattern whereby a common interrogative morpheme combines with different noun class markers. The two sets of interrogative pronouns are composed of the same class markers with either an -u or an -an formative[2], each one triggering the use of a different conjugational paradigm.

---

[1] The Wolof verb constituent has two components: an invariant lexical stem (unless derived) and an inflectional marker conveying the verb's grammatical specifications. The inflectional marker is (mostly) preposed, postposed, or suffixed to the lexical stem. When the object is a clitic pronoun, it is usually inserted between the verb inflection and the verb stem and therefore appears before the verb stem most of the time.

[2] One could also consider these two morphemes as stems, prefixed with class markers. This analysis could stand for -an, but -u clearly belongs to a set of deictic suffixes, which is why I am reluctant to adopt this analysis.

The existence of this dual system is quite puzzling at first since, despite some morphosyntactic differences, the two patterns for content questions are apparently in free variation rather than complementary distribution. How can we explain it? Furthermore, not all content question words are based on the noun class markers. So it is interesting to define which of them are formed with noun class markers, selecting which class marker, and for which semantic value. Lastly, among the content question words that do not follow the noun class pattern, Wolof has an atypical locative question word showing a peculiar syntactic behaviour.

This article[3], focusing on the morphology, presents the system of content question words in Wolof and attempts to resolve the puzzles it throws up. In the first section, I present a general overview of the Wolof noun class system and describe the two sets of content question words formed with noun class markers: the -an and -u sets of interrogative pronouns for 'who?', 'what?', 'which?', 'where?' and 'how?' (§1). In the next section, I present the content question words following different morphological patterns, namely those for 'why?', 'when?', 'how many?', and also two marginal forms, one used as an alternative question word for 'how?' and another one used as an interrogative copula 'where is?' (§2). Finally, I propose an analysis of these marginal forms which leads me to reconstruct a historical path accounting for the formation of the -an set of interrogative pronouns (§3).

1 *Wh*-question words and noun class markers

Most interrogative pronouns in Wolof are formed with noun class markers, so in order to understand the interrogative system, one has to know how the noun class system works.

1.1 The noun class system and noun modifiers

In languages with noun class sytems, the nominal lexicon is distributed into classes governing characteristic agreement schemes. Wolof's originally prefixing class system is somewhat simpler than those of some other Atlantic languages. Firstly, there are only ten classes and two additional adverbial classifiers (one for spatial location and another one for manner); secondly, the original class prefixes have merged with the root so they can no longer be segmented; thirdly and most importantly, the scope of agreement is limited to noun modifiers.

The class agreement morphemes take the form of a bound consonantal morpheme C- which is the sole noun class marker. The ten classes are divided into eight singular and two plural classes with straightforward pairing. There is an important distinction between, on the one hand, two classes − a singular and a plural − that contain a single member, the word for 'person, human being', and, on the other hand, all the

---

remaining classes, into which all other nouns, even those which denote (other) human beings, such as kinship terms, are categorized (see Table 1).

	'human being' (person)	other
sg	k-	b-, g-, j-, w-, m-, s-, l-
pl	ñ-	y-

Table 1: Class agreement morphemes in Wolof

Affixed to the appropriate morphemes, the consonantal class markers are used to form grammatical noun modifiers (mostly postposed to the noun modified) such as the definite and indefinite articles, demonstratives, quantifiers and relative pronouns. The phrases in (1) provide examples of definite articles for the ten classes. Table 2 below illustrates the various noun modifiers for a b- class word, xaj 'dog'.

(1)	a.	nit	ki / ka[4]	'the person close to / far away from the speaker'
	b.	nit	ñi / ña	'the people close to / far away from the speaker'
	c.	xaj	bi / ba	'the dog close to / far away from the speaker'
	d.	xaj	yi / ya	'the dogs close to / far away from the speaker'
	e.	garab	gi / ga	'the tree close to / far away from the speaker'
	f.	garab	yi / ya	'the trees close to / far away from the speaker'
	g.	jinax	ji / ja	'the mouse close to / far away from the speaker'
	h.	yàpp	wi / wa	'the meat close to / far away from the speaker'
	i.	meew	mi / ma	'the milk close to / far away from the speaker'
	j.	xorom	si / sa	'the salt close to / far away from the speaker'
	k.	lëf	li / la	'the thing/thingummy close to / far away from the speaker'

xaj 'dog' (class b-) with its modifiers	
xaj bi	'the dog (close to me)'
xaj ba	'the dog (far away from me)'
xaj bii	'this dog (close to me, wherever you may be)'
xaj bale	'that dog (far away from me, wherever you may be)'
xaj boobale	'that dog (far away from both of us, but closer to you than to me)'
xaj boobu[5]	'that dog (close to you and far away from me); the dog in question'
ab xaj	'a dog'
benn xaj	'a (certain) dog, one dog'
beneen xaj	'another dog'

---

[4] The definite article is constructed by suffixing a spatial deictic, -i for the proximal or -a for the distal, to the consonantal class marker.

[5] Wolof has a rich system of demonstratives, with a total of eleven paradigms (including free variants) combining indications of the distance vis-à-vis the speaker (-i, -a, -u morphemes) with considerations on the addressee (-oo- morpheme) and also emphasis (-i ~ -le suffixes). The four demonstratives mentioned in Table 2 are the most commonly used, we could add the following forms: bile (~ bii), bee (~ bale), boobii ~ boobile, booba, boobee (~ boobale), boobule.

bépp xaj	'any dog'
xaj bu …	'(a/the) dog that/which …' (relative pronoun, cf. §1.3.1)
ban xaj?	'which dog?'

Table 2: Nominal modifiers for a b- class noun

To the set of noun class morphemes should be added the two adverbial classifiers for space and manner, for even though they are never used with lexical nouns, they behave very much like class markers. They have the same single-consonant structure (f- for the locative and n- for the manner adverb) and can take the same suffixes as the noun class markers. Table 3 provides the list of adverbs formed with these locative and manner adverbial classifiers, using exactly the same pattern and suffixes as the noun modifiers formed with noun class markers (compare Tables 2 and 3).

Locative adverbs with f- stem		Manner adverbs with n- stem	
fi	'here' (clitic)	ni	'so, as' (clitic)
fa	'there' (clitic)	na	'so, as' (clitic)
fii	'here' (demonstrative)	nii	'in this manner, so' (demonstrative)
fale	'there' (demonstrative)	nale	'in that manner' (demonstrative)
foofale	'over there'	noonale	'in that manner, so'
foofu	'at the place we mentioned'	noonu	'so, as we mentioned'
fenn	'somewhere'	nenn	'in a certain manner'
feneen	'somewhere else'	neneen	'in another manner'
fépp	'everywhere'	népp	'in every way'
fu …	'where …' (relative)	nu …	'how …' (subordinating)
fan, fu …?	'where?'	nan, nu …?	'how?'

Table 3: The locative (f- class) and manner (n- class) adverbs

1.2 The noun class markers in interrogative pronouns

As mentioned previously, the *wh-*question words formed with noun class markers are organized into two parallel sets according to a general pattern whereby a common interrogative morpheme is affixed to different noun class markers. Across the two sets, the same class consonants are used as a base to which a common interrogative stem, either -an or -u, is suffixed.

1.2.1 The two sets of interrogative pronouns

In both sets, the same noun class markers are used to form the same types of interrogative pronouns. Among the ten noun class markers, k- is taken to form the singular 'who?' pronoun, ñ- the plural one and l- the 'what?' pronoun, and all of them can be used for the selective interrogatives 'which?' (adjective) or 'which one?' (pronoun). The two adverbial classifiers f- and n- are used respectively for 'where?' and 'how?'. Table 4 shows the two resulting sets of interrogative pronouns. Each triggers the use of a different conjugational paradigm: the Null Tense conjugation for

the -u set and one of the three focusing conjugations for the -an set. I will develop this point in the next section (§1.3).

-an set (+ Focusing conjugations)	-u set (+ Null Tense conjugation)	
k-an	k-u	who? which person? (sg)
ñ-an	ñ-u	who? which people? (pl)
l-an	l-u	what? which thing?
f-an	f-u	where?
n-an	n-u	how?
CL-an	CL-u	which (one)?

Table 4: The two sets of Wolof interrogative pronouns based on class markers

Thus, the semantic fields covered by the interrogative pronouns formed by affixing an interrogative morpheme to a class marker are those of human beings ('who?' and 'which person / people?'), things ('what?' and 'which thing?'), places ('where?'), and manner ('how?').

The 'who?' interrogatives (kan and ku) are clearly formed with the class marker k- for nit 'person, human being', the only member of this class. Note that there is also a plural 'who?' ('which people?'), formed as expected with the plural classifier for 'person', ñ-. The interrogative pronoun for 'what?' uses the class marker l-. This class contains very few items (5% of the nominal lexicon) and covers a variety of semantic domains. One of these items is the word for 'thing' (lëf l-) when used as 'whatsit, thingummy' or to avoid taboo words such as 'vulva' (Diouf 2003). Otherwise, when referring to inanimate objects, lëf strangely functions in the k- class for 'person'. Noticeably this word has a këf k- variant[6] where the class consonant probably echoes a former class prefix, and also a remarkable plural form yëf y- with initial consonant alternation, a morphological process which is common in Atlantic languages but which has almost totally disappeared in Wolof. This is probably a vestige of the various changes that the Wolof nominal system has undergone. Wolof generalizes the use of this weakly productive class l- for all pronouns of the "thing" family ('this', 'that', 'what?' …). Note also that there is no singular/plural contrast for 'what?' which functions as a 'mass pronoun'.

Finally, it is worth observing that the question words for place and manner are formed with the adverbial classifiers (f- and n-). These do not correspond to any classes in contemporary Wolof and are clearly unrelated to the corresponding nouns: compare for instance the locative class marker f- with the noun for 'place', béréb b-. In Diouf (2003), I have not found any item for the noun 'manner' ('manière' in French), beside a borrowing from French 'façon', fasoŋ meaning 'manner, way, style' but rarely used, and also an interesting word anam g- which includes 'manner' among its various meanings, namely: '1. way (manner), circumstance, aspect,

---

[6] Diouf (2003) gives also lifin k- as a variant of lëf k-.

domain, plan. 2. Event'[7]. 'Manner, way' is often expressed in Wolof periphrastically using a subordinate clause introduced by the adverbial pronoun for manner ni, as in (2).

(2)   Ni   muy   foye   dafa   ñàng.
        how   NULL3SG:IPFV[8]   play:APPLIC   VBFOC3SG   be.violent
        'Sa façon de jouer est violente.' [D][9]
        'His way of playing is violent.' (lit. how he is playing, it is violent)

This lack of a generic noun for 'manner' could be explained by the encoding of specific manners of action in the rich lexicon of Wolof, either through ideophones (e.g. jayaŋ-jayaŋi 'to hobble along, in an ungainly manner'), through specific verbs (e.g. lëñbët 'to nose around, to pester with questions, to rummage through'), and also through a derivational suffix -in. This very productive suffix is used to derive nouns expressing 'way/manner of being in a state or (more commonly) of performing an action' from the corresponding verbs: e.g. jëf 'to do', jëfin j- 'way of doing'; dox 'to walk', doxin w- 'way of walking'; nekk 'to stay, to be someone, to be somewhere', nekkin b- 'way of being, situation'; toog 'to sit', toogin b- 'way of sitting'; wax 'to speak', waxin w-[10] 'way of speaking'… Considering the lack of a specific noun for the word 'manner' in Wolof, one is tempted to relate this -in verb suffix for manner (and maybe also the word anam g-[11] mentioned above) to the adverbial class marker n- for manner although I am not sure which morpheme would be the source of the other one, the -in suffix or the n- class marker. Finally, a last interesting point should be added about this n- class marker for manner. Beside wax 'to speak, to talk', Wolof has a quotative ne (~ ni, nee) used to introduce direct speech as well as ideophonic adverbs. In his diachronic survey of quotative indexes in African languages, Güldemann (2008: 317-349) mentions markers of similarity and manner as a frequent origin of quotative indexes. Doubtlessly, this is the case in Wolof with the paradigm of manner adverbs or conjunctions (cf. Table 3), which includes markers of similarity (ni 'as'), formed with this remarkable n- adverbial class marker.

1.2.2 The selective interrogative

The class markers are also used to form the selective interrogative, be it an adjective − 'which?' as in (3) − or a pronoun − 'which one(s)?' as in (4) −, by affixing the -an or more rarely the -u suffix to the class marker of the noun referred to.

---

[7] '1. Façon; circonstance; aspect; domaine; plan. 2. Evénement' in Diouf (2003: 51).

[8] Grammatical abbreviations are listed at the end of this paper.

[9] For data references, see Appendix.

[10] Note that the derived nouns do not belong to one class, as can be seen from the various class markers. For details about noun class system in Wolof, see Pozdniakov & Robert (forthcoming).

[11] Tentatively, anam could be segmented as an *an stem suffixed with the 3SG possessive -am.

(3) a. B-an   xaj?
         CL-INT.SUFF   dog
     b. B-u   xaj?
         CL-NOTLOC[12] dog
         'Which dog?'

(4) a. sg B-an   moo   nekk ci   ëtt   bi?
             CL-INT.SUFF   SUBJFOC3SG   be.at LOC yard CL:PROX
             'Which one is in the yard?' [talking about a dog]

     b. pl Y-an   ñoo   nekk ci   ëtt   bi?
             CL-INT.SUFF   SUBJFOC3PL   be.at LOC yard CL:PROX
             'Which ones are in the yard?' [talking about dogs]

Two important points must be made concerning the agreement and position of the selective interrogative. By contrast with other noun modifiers, but in agreement with the general rule for question words, the interrogative adjective is usually fronted and precedes the head noun as exemplified in (3) above or in (5) below. However, it may also appear after the noun (6); this latter word order corresponds to an echo question.

(5) Gan   gone nga   gis ci   mbedd mi?
     CL:INT.SUFF child COMPFOC2SG   see LOC street DEF
     'Which child did you see in the street?'

(6) Gone gan   nga   gis ci   mbedd mi?
     child CL:INT.SUFF COMPFOC2SG   see LOC street DEF
     '[You say] you saw which child in the street?' (echo question)

Interestingly, the word nit 'human being' shows regular agreement in the k- class when the interrogative adjective is postposed to the noun (7a), whereas the more usual fronted position of the selective interrogative triggers a class change for this single term: nit then exceptionally takes b- class agreement as in (7b).

(7) a. Nit   kan?
         human   CL:INT.SUFF
         'Which person?'

     b. *Kan   nit?
         Ban   nit?
         CL:INT.SUFF   human
         'Which person?'

This class change for nit could be motivated by a need to avoid parsing difficulties when the adjective stands at the beginning of the clause: kan would be first interpreted as 'who?'.

---

[12] For the analysis of -u, see §1.3.

Lastly, it must be said that the selective interrogative for (personal) proper names is based on an m- class (cf. (8)) rather than on the k- marker (the class for 'person, human being'). Thus the selective interrogative for proper names resembles the relative pronoun with a (singular) personal pronoun as antecedent (man m-i fa dem 'I who went there'). I tend to relate this m- to one of the singular personal pronoun stems (cf. ma 1SG, mu 3SG for the Null Tense conjugation); the homophony with the m- class for liquids (cf. (1i) above) would then, of course, be mere coincidence.

(8)   Móodu   m-an?
      Moodu   CL-INT.SUFF
      'Which Moodu?' [D]

1.3 The two sets: dual strategies for content questions

As mentioned in the introduction, these two parallel sets of interrogative pronouns and pronominal adverbs trigger different verb inflections: the Null Tense conjugation for the -u set and one of the three focusing conjugations for the -an set. At first sight, these two patterns seem to have the same meaning and uses (compare 9 and 10).

(9)   Fan   la   dëkk?
      where1[13]   COMPFOC3SG   live
      'Where does he live?'

(10) Fu   mu   dëkk?
      where2   NULL3SG   live
      'Where does he live?' [D]

Why then does Wolof have these two parallel sets of constituent question words with apparently identical referential value? How might they differ?

1.3.1 The -u set: spatial indeterminacy and indefiniteness

The -u morpheme in *wh*-question words constitutes a third element in the Wolof system for spatial deixis. Indeed, Wolof has three spatial suffixes specifying the location of an entity in the speaker's frame of reference. They are used with noun classifiers to form noun modifiers. I have already referred to the use of proximal (-i) and distal (-a) suffixes with regard to the definite article (cf. (1)) and other noun modifiers (Table 2), as well as in locative or manner adverbs (Table 3). But the Wolof system is unusual in that it includes a third spatial deictic (-u) which is neither intermediate nor neutral with respect to deixis, but indicates that the designated entity is "unsituated" in the speaker's frame of reference (Robert 2006):

-i	proximal
-a	distal

---

[13] For conciseness, when no morphological analysis is necessary, the question words in the examples will be glossed by their meaning with "1" when they belong the -an set and "2" for the -u set, e.g. fan 'where1' and fu 'where2'.

| -u | unsituated spatial reference |

Table 5: Deictic suffixes in Wolof

The combination of classifier (individualising the object referred to) and -u (indicating an unspecified location) yields, not an indefinite article[14], but rather an *incomplete* indefinite phrase: *xaj bu (*'a/the unsituated dog') cannot be used alone because it requires further specification of the location of the entity referred to. A noun modifier C-u thus functions either as an indefinite relative[15] (e.g. 'a dog that/which …') or as an interrogative pronoun: as shown in Table 4, -u allows the formation of a full set of content question words paralleling the -an set ('who?', 'what?', 'where?', 'how?'). The Null Tense conjugation is obligatory with -u question words (11) as it is in relative clauses (12, 13) and more generally in most subordinate clauses. Note that the Null Tense inflection shows a zero variant for the third person singular (mu) and plural (ñu): the full variant is required when no other element in the clause assumes the syntactic function of subject as in (10) above, while the zero variant appears when another element (a lexeme, a relative or interrogative pronoun, or a relative clause) assumes this role (11, 12, 13).

(11)   <u>Ku</u>   ∅   jël   saabu   bi?
       who2   [NULL3SG]   take   soap   DEF
       '<u>Who</u> took the soap?'

(12)   Ku   ∅   bëgg   lem   ∅   ñeme   yamb.
       REL   [NULL3SG]   want   honey   [NULL3SG][16]   be.brave   bees
       'Qui veut du miel ne doit pas redouter les abeilles.' [D]
       'He who wants honey must not fear bees.' (lit. is brave [when faced with] bees)

(13)   Mënuma   gis   nit   ku   ∅   feebale   caractère   nii.
       can:NEG1SG   see   person   REL   [NULL3SG]   be.weak   character   so
                                                      (FR.)   (FR.)
       'I can't abide a person who is so weak in character.' [XSW]

Therefore the syntactic function of the -u interrogative (and relative) pronouns is indirectly indicated by the form of the Null Tense personal markers: ku in (11) is a subject (see the 3rd person zero variant of the Null Tense inflection), while the full variant of Null Tense in (14) signals ku as an object.

(14)   Ku   mu   xool?

---

[14] Wolof has an indefinite article formed by combining a- with a suffixed classifier: a-b xaj 'a dog'. However, nowadays, this tends to be replaced by the cardinal 'one': b-enn xaj 'one/a dog', cf. Table 2.

[15] For details about the definite relative ('the dog that/which') and indefinite relative ('a dog that/which') in Wolof, see Robert (2006). Definiteness interacts here both with spatial anchoring and "Aktionsarten".

[16] Here, the relative clause in the protasis is the subject of the verb ñeme in the main clause.

who2   NULL3SG   watch
'Who did he look at?'

Wh-questions with the -u morpheme (11) are thus formally identical to indefinite relative clauses (12 and 13); note that without a following main clause, the free indefinite relative clause in (12) would be interpreted as an interrogative clause. In both cases, the pronoun is formed with the class marker suffixed with the spatial deictic indicating that the referred entity is unsituated spatially and unspecified. This strategy for building interrogative pronouns is in line with the claim of Creissels et al. (2008: 134) that "[i]n many [African] languages (particularly, but not exclusively, in the Chadic family), so-called 'question words' are not the sole markers of questions: they code an unspecified participant (a human, a thing, a place, etc.)". Van den Eynde & Mertens (2003: 70) have described such markers, which yield interrogative and relative uses, as suspensive pronominals ("pronoms suspensifs"), meaning that their referential specification is suspended. In Wolof, these unspecified pronouns accompany the Null Tense inflexion. According to my analysis, the Null Tense situates the verb process with respect to some unspecified situation: the speaker expresses no commitment and the event is not situated in the speaker's frame of reference (Robert 1991, 2010). This lack of specification concerning the predicate is in accordance with the spatial indeterminacy of the indefinite relative or interrogative pronoun and participates in the interrogative effect. Furthermore, considering, on the one hand, the unusual position of -u question words (fronted without focus markers which is unusual in a SVO language such as Wolof that strongly marks focus) and, on the other hand, the semantic affinity and formal identity between the two types of clauses, we may assume that the use of -u pronouns in questions proceeds from a reinterpretation of free indefinite relative clauses (such as (12)) as interrogative clauses. This type of grammaticalization corresponds to what Evans (2007) has called "insubordination".

1.3.2 The -an set: a focusing strategy for content question words

Creissels et al. (2008: 133) state that, in African languages, interrogative words for constituent questions are frequently treated in the same way as focalized constituents in an assertive utterance. This is clearly the case for the question words of the -an set in Wolof since, in their prototypical uses, these interrogative pronouns, just like focalized constituents, are fronted and require the use of a focusing conjugation. In fact, the information structure of Wolof provides for three different focusing conjugations according to the syntactic function of the focused constituent (subject, verb, or "complement", i.e., any other constituent). These focusing conjugations are obligatory whenever a constituent is selected as the informative part of the clause (the "rheme" or comment as opposed to topic). They are also used in -an constituent questions and in the replies to such questions (15), even when there is no conceivable alternative to the focused constituent (16).

(15)   -   Kan   <u>moo</u>   gën   ci   yow?

who1   SUBJFOC3SG   surpass   LOC   EMPHPR2SG
'Who does best by you?' (lit. WHO is it who does best by you?)
- Ah   waay   <u>yaa</u>   gën   ci   man!
ah   PTCL   SUBJFOC2SG   surpass   LOC   EMPHPR1SG
'Oh, it's YOU who do best by me!' [XSW]

(16)   -   Na(n)   <u>nga</u>   tudd?
how1   COMPFOC2SG   be.named
'What is your name?' (lit. HOW is it that you are called?)
-    Kumba   <u>laa</u>   tudd.
Kumba   COMPFOC1SG   be.named
'My name is Kumba.' (lit. it is KUMBA that I am called) [SP]

Questions with -an interrogatives thus use a referential path involving a focusing strategy: the constituent about which information is requested from the addressee is selected for focus (and therefore foregrounded) and treated morphologically (cf. focusing conjugation) and syntactically (cf. fronting) in consequence. Note that with this set of question words, the syntactic function of the interrogative pronoun is indicated by the focusing verb inflexion (i.e., subject vs. complement focusing conjugations), as exemplified by kan ('who?') which functions as an object in (17) but as a subject in (15).

(17)   Kan   <u>lay</u>   xool?
who1   COMPFOC3SG:IPFV   watch
'Who [is it that] he is looking at?'

A check of a small corpus[17] has revealed that -an interrogative pronouns may be used outside the usual focusing pattern in specific cases where they remain *in situ* and behave syntactically like independent pronouns. They may be placed at the end of the sentence in echo questions (as in 'he goes where?') or appear in headed phrases such as genitive constructions and prepositional phrases (as in 'because of what?'), and, finally, they can stand alone in absolute uses.

1.3.3 Final comparison between the two sets

For space reasons I won't go into details about the syntax of content questions, but we can conclude the comparison between the two content question patterns using noun class markers by raising the following points. Like most interrogative markers, the -u and -an question words are fronted and do not remain *in situ* (*wh*-movement). However, the -an pronouns have a certain degree of syntactic freedom indicating that they are independent or strong pronouns: they can stand alone in absolute uses or appear in headed phrases or coordinate structures (as in 'are you crazy or what?'), and may even have modifiers (as in 'what else …?'). The -u interrogatives do not

---

[17] For more details concerning the corpora, see the Appendix. A systematic check was done on Xam sa waru gaar, a play from an educational TV program.

have this syntactic autonomy: their position is strictly constrained to clause initial position (like relative pronouns) and they cannot take modifiers. Thus, syntactically speaking, the two sets of content question words share general properties, but -u question words are subject to more restrictions. From a semantic standpoint, they correspond to two different communicational strategies: one (with the -u set) based on indefiniteness and resulting from the grammaticalization of indefinite relative pronouns, the other one (with the -an set) using strong interrogative pronouns in focusing constructions. Lastly, only those of the an-series are dedicated interrogative proforms, whereas those of the u-series also function as indefinite relative proforms (see §1.3.1).

2 *Wh*-question words following a different pattern

While the question words 'who?', 'what?', 'which?', 'where?' and 'how?' are all formed by suffixing -an or -u to a class marker, certain other content question words do not follow this pattern, namely those for time ('when?'), amount ('how many?, how much?') and motive ('why?'). Some of them are periphrastic markers (§2.1), some others use specific (unanalyzable) stems, and finally there is an atypical locative question word (§2.3) on which I will ground my reconstruction hypothesis.

2.1 A periphrasis for 'why?' and 'why not?'

For 'why?' questions, Wolof makes a periphrastic use of class markers: the most common expression for 'why?' literally means 'what causes (the fact that) …?', with the verb tax 'to cause' and the 'what?' interrogative in either of the two available patterns: lan with the Complement Focus conjugation or lu with the Null Tense conjugation in the following (direct) complement clause,[18] as in (18) and (19).

(18) Lan   moo   tax   ñu   di   la   fey?
      what1   COMPFOC3SG   cause NULL1PL IPFVCOP   OPR2SG   pay
      'Why do we pay you?' ~ 'What do we pay you for?' [XSW]

(19) Ndawal gi,   […] lu   tax   nga   génne   ko?
      meat   DEF   […] what2   cause NULL2SG exit:CAUS   OPR3SG
      'The meat [I put in the fridge], why did you take it out?' [XSW]

Note that the 'what?' interrogative may also stand alone for 'why?', as *quid* does in Latin.

(20) <u>Loo</u>   ma   doon   takk,
      what2:NULL2SG[19]   OPR1SG   IPFVCOP:PAST   marry

---

[18] Wolof has two possible patterns for complement clauses: a hypotactic one using the ne complementizer with free choice of conjugation, and a paratactic one in which the complement clause is introduced directly without a subordinating morpheme, dependency being marked by the Null Tense conjugation (Robert 2010).

[19] This form clearly results from the merger of two morphemes: the underlying form is the interrogative lu, which triggers the use of the Null Tense conjugation whose second person form is

di	ma	jële	Ndar?
IPFVCOP	OPR1SG	take:APPLIC	St-Louis

'Why did you marry me and take (lit. taking) me away from Saint-Louis?' [XSW]

While lu tax is the most common expression for 'why?', one can also find another periphrasis, lu waral, using a different verb (waral 'to be the reason, the cause of') and literally meaning 'what is the reason (that …)?'.

(21) Lu   ∅   waral   mu   dem?
      what2 [NULL3SG] be.reason NULL3SG go
      'Qu'est-ce qui a fait qu'il soit parti?' [D]
      'Why did he leave?' (lit. what is the reason [that] he left?)

Finally, lu tax also has an interesting negative counterpart using the same syntactic pattern but with the verb 'to forbid', lu te(r)e, meaning 'what prevents (that) …'. This periphrasis is commonly used for 'why … not?' (22).

(22) Lu   tee   ba   duma   la   jox   ginnaaw?
      what2 forbid until IPFVNEG1SG OPR2SG give   back
      'Why shall I not turn my back on you?' [XSW]

Clearly, this periphrasis has grammaticalized into the negative interrogative question particle tee, often used for suggestions.

(23) Tee   ñu   dem?
      why.not   NULL1PL   leave
      'Pourquoi ne partirions-nous pas?' [D]
      'Why shouldn't we leave?'

It is worth noticing that this question particle triggers the use of the Null Tense inflection. The Null Tense is obligatory in most subordinate clauses, in particular in paratactic subordinate clauses (without a subordinating conjunction), and it is also used in modally marked independent clauses, such as interrogative or injunctive clauses (cf. Robert 1991, 2010). In (23) the Null Tense is used to form a complement clause ('what prevents that …') and points to the verbal origin of the tee.

2.2 Other stems

---

nga. However, it is not clear phonetically why *lu-nga should become loo rather than remaining unchanged. This unexpected 2SG form is also found in conditional clauses where the conditional conjunction (bu, su) merges with a 2SG marker resulting in a -oo form (boo, soo), and in negative conjugations where the 2SG marker fuses with the negative morpheme -u. On account of this, some authors (e.g. Diouf 2003) posit a specific hypothetical inflexion. Pozdniakov and Segerer (2004: 154) have demonstrated that these irregular -oo forms are actually reflexes of the original Proto-Atlantic personal marker for 2SG (*-oo), while nga is a Wolof innovation. Therefore I consider these -oo forms to be remnants of a former personal marker in otherwise regular inflectional paradigms.

For questions about time, Wolof uses the morpheme kañ (variant kaña) 'when?' (24) which is of unclear etymology. Likewise, the question word used for amount, ñaata 'how many?' (25), cannot be clearly related to any recognizable Wolof root. Both are used with the Complement Focus conjugation like the -an set of question words.

(24)   Kañ   la   dem?
        when   COMPFOC3SG   leave
        'When did he leave?' (lit. when was it that he left?)

(25)   Ténj   gi,   ñaata   weer   lay   def?
        mourning DEF how.many month COMPFOC3SG:IPFV do
        'Combien de mois va durer le deuil?' [D]
        'How many months will the mourning period last?'
        (lit. the mourning, how many months will it be that it will do?)

Two other words using specific stems should be added to kañ and ñaata. Both compete with other existing interrogative morphemes. One is naka for 'how?' which competes with the two question words built on the regular patterns for interrogatives, n-an and n-u 'how?'. Though it can be used without a verb, naka appears commonly in full clauses with normally inflected verbs and triggers the use of Complement Focus, thus following the pattern of -an question words as in (26).

(26)   a.   Naka lañu   ñëwe?
              how3   COMPFOC3PL   come:APPLIC
        b.   Nan lañu   ñëwe?
              how1   COMPFOC3PL   come:APPLIC
              'How did they come?'

Naka is also a commonly used variant of nan in greetings, triggering the same conventional construction by which a question about manner is answered, remarkably, with a spatial deictic[20].

(27)   a.   Naka   nga   def?
              how3   COMPFOC2SG   do
        b.   Na(n)   nga   def?
              how1   COMPFOC2SG   do
              'How are you?' (lit. how is it that you do?)

        -    Maa   ngi   fi   rekk.
             PRES1SG   PRES here only
             'Fine.' (lit. I am here only)

The predicative use of naka without a verb is in fact restricted to this context of greetings which inquire after someone.

---

[20] Interestingly, an answer with the manner adverb nii rekk ('like this only') would mean 'so, so'.

(28)   Naka   Sàmba?
        how3   Samba
        'How is Samba?'

2.3 An atypical locative question word

To complete this overview, I must deal with a very common though atypical question word, ana meaning 'be where?'. This term is very common in dialogue for asking where a person or a thing is, but is also idiomatically used in greetings for inquiring after someone.

(29)   Ana   Sàmba?
        be.where   Samba
        'Where is Samba?' [SP]

(30)   Ana   xale   yi?
        be.where   child   DEF
        - 'Where are the children?'
        - 'How are the children doing?' (in greetings) [SP]

This term is marginal insofar as it does not follow any other existing morphosyntactic patterns and is furthermore the only question word that excludes the use of a verb lexeme. Given that ana has the predicative value 'be where?', Köhler (2009: 185) labelled it a 'wh-verb' meaning that it possibly contains a verb that is not formally manifest. Although this label is somehow unfortunate since ana does not show any morphosyntactic similarities with verbs, it does point to its specific predicative value. Ana is clearly not a simple variant of fu or fan 'where?' since it does not require the kind of marker (verb inflexion or copula) for predicative use that the other content question words do; furthermore ana cannot combine with a verb in any way.

(31)   a. Fan   la   dëkk?
            where1   COMPFOC3SG   live
        b. Fu   mu   dëkk?
            where2   NULL3SG   live
        c. *Ana   la   dëkk?
            *Ana   mu   dëkk?
            *Ana   ∅   dëkk?
            be.where   live
            'Where does he live?'

Ana is used exclusively in the following pattern: <ana + subject + ?> where the subject can be a noun (32a), a pronoun from the Null Tense paradigm (32b), which is quite remarkable, or a locative relative clause (32c).

(32)   a. Ana   Sàmba?
            be.where Samba
            'Where is Samba?'

b. Ana   mu?
   be.where   NULL3SG
   'Where is he?'

c. Ana   fu   mu   dëkk?
   be.where   where2   NULL3SG   live
   'Where does he live?' (lit. where is [the place] where he lives?)

Therefore ana can be considered as an interrogative locative copula.

2.4 Summary of content question words following a different pattern

Before going further with the reconstruction of ana and naka, let us summarize this overview of the content question words following a different pattern. Table 6 contains the list of content question words that are not constructed by adding an -an or -u suffix to a class marker: two are periphrastic markers ('why?' and 'why not?'); two are based on specific stems ('when?' and 'how many?') and follow the syntactic pattern of -an question words; and the last two ('how?' and 'where is?') are specific stems strangely competing with regular content question words based on class markers and showing unusual predicative uses.

lu tax ~ lan moo tax	(+ direct complement clause)	why? ('what caused it that …?')
lu te(r)e ~ tee	(+ direct complement clause)	why not? ('what prevents that …?')
kañ(a)	(+ Complement Focus conj.)	when?
ñaata	(+ Complement Focus conj.)	how many?
naka	(+ Complement Focus conj.)	how (is)?
ana	(interrogative copula)	where is?

Table 6: Content question words following a different pattern

3 Marginal forms and reconstruction

Pondering the very specific behaviour of ana has led me to propose an analysis for reconstructing these two marginal forms, ana and naka.

3.1 A hypothesis for the origin of the -an question words: from 'where?' to 'what?'

Ana is now monomorphemic and cannot be broken down by native speakers. However, its predicate use suggests that it must formerly have contained the copula -a. This copula is one of the sources of Wolof focusing inflexions. The Subject Focus paradigm in particular clearly originates from the merger of former pronouns (though they are no longer perceived as such) with -a. This copula now functions as the variant of the third person Subject Focus inflexion which is suffixed to a nominal subject (Robert 1991: 118).

(33)   Momar   moo   dem.
         Momar   SUBJFOC3SG   leave
     ~ Momar   -a   dem.

Momar   -FOC   leave
'MOMAR left.' ~ 'It was Momar who left.'

Interestingly, as J.-L. Diouf (p.c.) has pointed out to me, -a is also used with -an question words[21] as a variant of the third person Subject Focus form exemplified in (34) for the singular 'who?' and in (35) for the plural 'who?'. This (rare) variant kan-a was also recorded by Sauvageot (1965: 103).

(34)   Kan   moo   lekk   mburu   mi?
          who1   SUBJFOC3SG   eat   bread   DEF
     ~   Kan   -a   lekk   mburu   mi?
          who1   -FOC   eat   bread   DEF
          'Who ate the bread?' (lit. who was it who ate the bread?)

(35)   Ñan   ñoo   lekk   mburu   mi?
          who1.PL   SUBJFOC3PL   eat   bread   DEF
     ~   Ñan   -a   lekk   mburu   mi?
          who1.PL   -FOC   eat   bread   DEF
          'Who (= which people) ate the bread?' (lit. who were those who ate the bread?)

This variant of kan with Subject Focus inflexion provides support for the idea that ana formerly contained an -a copula (*an-a). This would explain why ana is used without a predicative marker and cannot combine with any inflected verb. If ana originates from the suffixation of the -a copula to an *an- stem[22] (ana < *an-a 'where is?'), we may hypothesize that we have here the original root of the -an interrogative pronouns. Could it be that the -an pronouns for content questions originate from a locative question word *an 'where?'? If so, by what semantic path?

Actually, a historical path of this kind has been reconstructed by Idiatov[23] (2009) for Bantu languages. To account for the lack of distinction between 'who?' and 'what?' attested in several Bantu languages in zones C and D, Idiatov reconstructs a path from a selective interrogative 'which one?', itself originating from a locative interrogative construction '(it) is where?' combining a copula with a locative interrogative (along with subject prefixes).[24] This is the exact equivalent of ana in my analysis of Wolof. We can schematize this grammaticalization path as follows:

---

[21] J.-L. Diouf (p.c.) also points out that Wolof-speaking Fulani in the Walo area use an -a variant with the -u set as in Koo lekk mburu mi? (see (34)) where koo results from the merger of ku (who2) with -a. This variant is unexpected since -u interrogatives usually take Null Tense inflexion with Ø third person rather than the focusing forms.

[22] Which may be related to the noun anam g- ('way, circumstance, event') mentioned in §1.2.1 and tentatively segmented as an *an stem suffixed with the 3SG possessive -am.

[23] I am indebted to Dmitry Idiatov for pointing this out to me.

[24] Based on various typological and comparative data, Idiatov (2009: 73) more precisely proposes the following reconstruction for this locative construction from which the zone C 'who?/what?' interrogatives originate: *[AG9 (or AG7)-COP CL16-what] '(it) is where?'. Noticeably the class 9 and 7 agreement prefixes are said to be commonly used in Bantu as the default agreement pattern when

- (IT) IS WHERE? > (IT) IS WHICH ONE? > WHICH ONE (person or thing)? > WHO, WHAT?

Idiatov argues that the locative construction '(it) is where?' was first expanded to selective questions such as '(it) is which (person or thing)?'. This selective meaning then gradually supplanted the original locative one. This shift was accompanied by its univerbation (i.e. the fusion of a syntactic construction into a single word) obscuring its predicative origins. This process facilitated its further spread to other typically nominal non-predicative contexts: in the final step, the selective interrogative 'which (person or thing)?' spread to non-selective contexts, in many languages only as 'who?' but in some, as both 'who?' and 'what?' (Idiatov 2009: 71-73).

Given the specific predicative value of ana, the likely presence of the -a copula in its morphology, and the existence of selective interrogatives among the -an question words, this grammaticalization path fits the Wolof system perfectly. In Wolof, however, grammaticalization did not result in the lack of differentiation between 'who?' and 'what?', but rather in a fuller recycling of the -an morpheme, after the selective interrogative stage, in combination with noun class markers as interrogative pronouns. The process was completed by the creation of a new locative interrogative for 'where?' (fan) by suffixing -an to the adverbial classifier for space f-. What is also remarkable in Wolof is the coexistence in the present-day language of all three steps (1. 'where is?', 2. 'which (one)?', and 3. 'who?' (sg and pl), 'what?', 'where?', 'how?'), and the transparency of the morphological process (an-a 'where is?' > C-an 'which (one)?' (for all nominal classes) > k-an 'which person, who?', l-an 'which thing, what?', f-an 'where?', n-an 'how?'). Ultimately, this grammaticalization path is an argument for taking the -an set as dedicated interrogative proforms, while indirectly providing further support for our analysis of the -u set of question words as suspensive proforms, used as indefinite relative pronouns as well as interrogative proforms.

The grammaticalization of a locative question word into interrogative pronouns parallels another grammaticalization path involving space reported by Sankoff and Brown (1976: 663) for Tok Pisin and later cited in Heine and Kuteva (2002: 174). In this language, the relative pronoun originates from a locative deictic which grammaticalized into a demonstrative adjective and then lost its spatial meaning. The parallel grammaticalization paths, the first for Tok Pisin and the second for Wolof (and Bantu languages), are thus:

- HERE   > DEMONSTRATIVE   > RELATIVE
  (locative deictic)   (adjective/noun)   (pronoun)

- WHERE?   > WHICH (ONE)?   > WHO, WHAT?

---

agreement is enforced, i.e. when no controller is present, for instance in the case of an (agreeing) copula in cleft sentences (ibid.: 71-72); this configuration clearly evokes the (-a) Wolof copula from which the focusing verb forms probably originate.

(interrogative locative)   (selective interrogative)   (interrogative pronoun)

3.2 The other 'how?': naka and further speculations

The only other atypical content question word in Wolof is naka 'how?'. Naka, like ana, competes with two question words built on the regular patterns for interrogatives, n-an and n-u 'how?', and is doubtless also the remnant of an older system.

Though it can be used without a verb, naka is nevertheless not a predicative question word like ana. It appears commonly as a variant of nan, in full clauses with normally inflected verbs, and triggers the use of Complement Focus, thus following the pattern of -an question words as shown in (26) and (27). The predicative use of naka without a verb is in fact restricted to the context of greetings which inquire after someone (cf. (28)). This is the only case where ana and naka are used in parallel utterances corresponding to the same speech act (i.e. inquiry after someone) despite their difference in meaning ('where is?' vs. 'how?'). Note that, in this predicative use, when there is no lexical subject, naka (36a), like ana (36b), is followed by a personal pronoun with Null Tense inflexion rather than by the Complement Focus marker it requires when used with verbal predicates (cf. (26) and (27)).

(36) a. Naka   mu   tey?
          how3   NULL3SG   today
      b. Ana   mu   tey?
          where.is   NULL3SG   today
          'How is he today?'

To appreciate the marginality of these idiomatic uses, one must realize that the Null Tense does not belong to the list of paradigms ordinarily used in nonverbal predications, viz., Presentative, Complement Focus, and imperfective Subject Focus (cf. Robert 1991: 159-163). We may thus conclude from (36) that these two question words are revealing remnants of a former state of the language that lend support to the idea that the Null Tense inflexion originates from bare personal pronouns (Robert 1991: 201).

I can only speculate regarding the historical origin of naka. Given its marginal predicative use, we may plausibly hypothesize that the final -a in naka is again the focusing copula as in ana, also attested in both a kan-a variant for kan (= 'who?') + Subject Focus inflexion, and a non-predicative variant of kañ 'when?', kaña mentioned in Diouf's dictionary (2003: 56).

(37) Kaña   la   dem?
      when   COMPFOC3SG   leave
      'Quand est-ce qu'il est parti?' [D]
      'When was it that he left?'

Normally, we would not expect to find the focusing copula and the third person Complement Focus form la used together. Given the presence of a verb with Complement Focus inflexion, this variant might represent an intermediate stage where -a was still segmentable but no longer had predicative value.

Finally, we might postulate an earlier -a copula in another question word, ñaata 'when?' (< *ñaat-a), though no hypothesis is available concerning the origin of this word.

To return to naka, we may hypothesize that -ak- in naka is the comitative preposition ak, also used as a nominal coordinator and instrumental preposition, with the initial n- being the same adverbial class marker n- as discussed in §1.2.1. A similar grammaticalization path, cited by Heine and Kuteva for German and probably other languages (2002: 87, 180-2), that may be used as an indirect evidence to support this derivation is:

- COMITATIVE > INSTRUMENT > MANNER

Another possibility would be to take *nak(a) as the original morpheme for 'how?', from which the n- stem for manner was extracted which later resulted in the stem n- used in various manner-related expressions. Either of these hypotheses is, of course, much more speculative than the neat grammaticalization path relating ana to the origin of the -an question words.[25]

Conclusion

Through its use of noun class markers, Wolof provides a neat system for content question words, paralleling the one for noun modifiers and including the two adverbial classifiers for space and manner. Remarkably, those last two are not related to the class markers of the corresponding nouns; they may be remnants of disappeared noun classes, recycled in Wolof as adverbial classifiers (f- and n-). By contrast, the 'who?' interrogatives are clearly formed with the (singular and plural) class markers for 'person, human being', the only members of these two paired classes. The interrogative pronoun for 'what?' uses one of the possible class markers for the nowadays atypical word THING, in accordance with the generalized use of this weakly productive class l- for all pronouns of the THING family. As is often the case, the 'why?' interrogative is a periphrasis, using a verb ('what causes?') and presenting a remarkable negative counterpart 'what forbids?'. The latter also yields a grammaticalized form functioning as a question particle for 'why not?'.

Beside the use of other stems for 'when?' and 'how many?', what is at first puzzling in Wolof is the existence of the two parallel sets of interrogative pronouns made of the same class markers but with two different suffixes. Since they are not in complementary distribution, these two sets seem to be redundant. However, the

---

[25] Dmitry Idiatov (p.c.) suggests an even deeper reconstruction positing the interrogative root *n 'where?, how?', so that originally *n-ak would literally have been 'with / like / as how?', whereas *a-n would have included the distal demonstrative morpheme a (cf. §1.3.1).

proposed reconstruction for the atypical locative question word ana sheds new light on the origin of this dual system. The two markers used to form these interrogative pronouns correspond to (1) a spatial deictic -u used for suspensive pronouns, indicating that the designated entity is not spatially localized: the question words formed with this marker appear to be indefinite relative pronouns that have grammaticalized into interrogative pronouns; and (2) an interrogative stem -an, whose origin as a former locative question word is revealed by the study of this irregular interrogative (locative) predicate. By contrast with -u, -an appears to be the only dedicated interrogative marker for content questions in Wolof.

Appendix: Corpus and data references

Unless otherwise indicated, all data come from native-speaker elicitation. Other sources are referenced by the following abbreviations:

D: Jean-Léopold Diouf's dictionary (2003)
SP: Spontaneous discourse data collected by the author in Dakar in 1985, 1986 and 2010
XSW: Xam sa waru gaar, a play from an educational TV program, produced by the ORTS (Office de Radiodiffusion-Télévision du Sénégal) in 1986

Grammatical abbreviations

:	in glosses, indicates a segmentable morpheme when the text is not segmented
1, 2, 3	first, second, third person
AG	agreement pattern
APPLIC	applicative suffix (-e)
CAUS	causative suffix (-e)
CL	classifier (class consonant for agreement in noun modifiers)
COMPFOC	Complement Focus conjugation
conj.	conjugation
COP	copula
DEF	definite determiner (class consonant with proximal or distal deictic suffix)
EMPHPR	emphatic pronoun
FOC	copula functioning as subject-focus suffix (-a)
(FR.)	borrowing from French
INT.SUFF	interrogative suffix (-an) used in constituent question words
IPFV	imperfective suffix (-y)
IPFVCOP	imperfective copula (di- ~ d-)
IPFVNEG	imperfective negative conjugation
LOC	localizer: locative preposition (ci proximal, ca distal) or partitive pronoun
NEG	perfective negative conjugation
NOTLOC	spatial suffix (-u) indicating absence of localization

NULL	Null Tense conjugation
OPR	object pronoun
PAST	past suffix (-(w)oon)
PL, pl	plural
PRES	Presentative conjugation (discontinuous morpheme)
PROX	proximal spatial suffix (-i)
PTCL	discourse particle
REL	relative pronoun (class marker C-i or -a for the definite, -u for the indefinite)
SG, sg	singular
SUBJFOC	Subject Focus conjugation
VBFOC	Verb Focus conjugation

References

Creissels, Denis, Gerrit J. Dimmendaal, Zygmunt Frajzyngier & Christa König 2008. Africa as a morphosyntactic area. In: Bernd Heine & Derek Nurse (eds.), *A linguistic geography of Africa*. Cambridge: Cambridge University Press, 86-150.

Diouf, Jean-Léopold 2003. *Dictionnaire wolof-français et français-wolof*. Paris: Karthala.

Evans, Nicholas 2007. Insubordination and its uses. In: Irina Nikolaeva (ed.), *Finiteness. Theoretical and empirical foundations*. Oxford: Oxford University Press, 366-431.

Güldemann, Tom 2008. *Quotative indexes in African languages: a synchronic and diachronic survey*. Berlin: Mouton de Gruyter.

Heine, Bernd & Tania Kuteva 2002. *World lexicon of grammaticalization*. Cambridge: Cambridge University Press.

Idiatov, Dmitry 2009. A Bantu path towards lack of differentiation between 'who?' and 'what?'. *Africana Linguistica* 15: 59-76.

Köhler, Bernhard 2009. Form und Funktion von Fragesätzen in afrikanischen Sprachen. PhD dissertation, Goethe University, Frankfurt am Main.

Nouguier Voisin, Sylvie 2002. Relations entre fonctions syntaxiques et fonctions sémantiques en wolof. Thèse pour le doctorat, Université Lumière Lyon 2.

Pozdniakov, Konstantin & Guillaume Segerer 2004. Reconstruction des pronoms atlantiques et typologie des systèmes pronominaux. In: Dymitr Ibriszimow & Guillaume Segerer (eds.), *Systèmes de marques personnelles en Afrique*. Louvain & Paris: Peeters, 151-162.

Pozdniakov, Konstantin & Stéphane Robert forthcoming. Les classes nominales en wolof: fonctionnalités et singularités d'un système restreint. In: Denis

Creissels & Konstantin Pozdniakov (eds), *Les classes nominales dans les langues atlantiques*. Köln : Rüdiger Köppe Verlag, 571-658.

Robert, Stéphane 1991. *Approche énonciative du système verbal. Le cas du wolof*. Paris: Editions du CNRS.

Robert, Stéphane 2006. Deictic space in Wolof. Discourse, syntax and the importance of absence. In: Maya Hickmann & Stéphane Robert (eds.), *Space in languages. Linguistic systems and cognitive categories*. Amsterdam & Philadelphia: John Benjamins Publishing Company, 155-174.

Robert, Stéphane 2010. Clause chaining and conjugations in Wolof. A typology of parataxis and its semantics. In: Isabelle Bril (ed.), *Clause linking and clause hierarchy. Syntax and pragmatics*. Amsterdam & Philadelphia: John Benjamins Publishing Company, 469-498.

Sankoff, Gillian & Penelope Brown 1976. The origins of syntax in discourse: a case study of Tok Pisin relatives. *Language* 52.3: 631-666.

Sauvageot, Serge 1965. *Description synchronique d'un dialecte wolof: le parler du Dyolof*. Dakar: IFAN.

Van den Eynde, Karel & Piet Mertens 2003. La valence: l'approche pronominale et son application au lexique verbal. *Journal of French Language Studies* 13.1: 63-104.