Chapter 18

Verb-marked reciprocals in Wolof

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This paper provides a description of reciprocal morphemes in Wolof. We present three verbal affixes associated with reciprocal interpretations, and we propose that they reflect different strategies: -ante is a valence-reducing morpheme that turns transitive verbs into reciprocal verbs; -e and -oo mark predicates with an inherent reciprocal meaning and do not operate on the verbs' argument structure.

1 Introduction

Wolof is a Niger-Congo Atlantic language spoken in Senegal, Gambia and Mauritania. It is an agglutinative language with a rich verbal and nominal morphology (Ka 1982, Buell & Sy 2005). Verbal derivations use distinct suffixes which may attach to a verb root and permit alterations to the category, valence and semantics of a verbal base. Valence-changing suffixes may derive structures containing new arguments with different thematic roles. In (1b) the applicative suffix *-al* changes the argument structure of the verb *togg* 'to cook' in (1a), adding an argument with the semantic role of a beneficiary. In (1c) the applicative suffix *-e* adds an argument with the semantic role of an instrument.

 a. Ñu ngi togg jën. PRST.3PL cook fish 'They cook fish.'



- Nu ngi togg-al Khady jën.
 PRST.3PL cook-BEN Khady fish
 'They cook fish for Khady.'
- c. Ñu ngi togg-e jën wi ak ndox. PRST.3PL cook-INS fish the with water 'They cook fish with water.'

Reciprocity in Wolof is also derived with the use of verbal suffixes that attach to a verbal base. In the literature, three different verbal suffixes are described as expressing reciprocity: -ante, -e and -oo (Church 1981, Voisin 2002, Creissels & Nouguier-Voisin 2008, Diouf 2009, Ka 1981, 1982). In (2), the suffix -ante is added to the verbal base bëgg 'to love' to make each of the individuals in the denotation of the subject (Khady and Fatou) occupy both the role of agent and patient. Similarly, in (3) and (4) the affixes -e and -oo are added to the verbal bases gis 'to see' and xul 'to argue' respectively, leading to reciprocal configurations.

- (2) Khady ak Fatou dañu bëgg-ante. Khady and Fatou FOC.V.3PL love-RECP 'Khady and Fatou love each other.'
- (3) Khady ak Fatou dañu gis-e. Khady and Fatou FOC.V.3PL see-RECP 'Khady and Fatou met.'
- (4) Khady ak Fatou dañu xul-oo. Khady and Fatou FOC.V.3PL argue-RECP 'Khady and Fatou argue with each other.'

Verbal morphology in Wolof has been central to some extensive studies (Voisin 2002, Church 1981), but little attention has been dedicated to reciprocal affixes specifically (Creissels & Nouguier-Voisin 2008). A crucial remaining question is whether reciprocal morphemes in Wolof operate on the argument structure.

The goal of this paper is to fill this gap, providing an overview of Wolof reciprocal morphology. We rely on novel data and we propose a different treatment for the morpheme *-ante* as opposed to *-e/-oo*: we propose that *-ante* is a productive reciprocal morpheme operating on the argument structure of the verbs it combines with, while *-e* and *-oo* are lexicalized markers of verbs that have an inherent reciprocal meaning.

The paper is structured as follows. In §2, we first lay down some terminology, introducing two strategies that express reciprocity cross-linguistically (§2.1) and

we then review previous works on reciprocity in Wolof (§2.2). In §3 we present our proposal, and we empirically support it by illustrating the distributional and morphological properties of Wolof reciprocal morphemes. Finally, in §4 we discuss the significance of our findings and we draw some general conclusions.

2 Previous studies

2.1 Lexical vs grammatical reciprocity

Cross-linguistically, two different strategies are associated with reciprocal interpretations: grammatical reciprocity and lexical reciprocity (Haspelmath 2007).

Grammatical reciprocity is a productive strategy, where reciprocity is expressed by an element – like a pronoun or a derivational morpheme. For example, in English and Russian (Indo-European), grammatical reciprocity is expressed by the pronouns *each other* (5) and *drug druga* (6), respectively. Such pronouns might occupy the object position and can be used to express reciprocity with virtually all transitive verbs which may have no reciprocal meanings on their own. In Chichewa (Bantu) grammatical reciprocity is expressed by the derivational morpheme *-an-*. Within the VP, this affix does not occupy the object slot, but that of derivational affixes, after the verb stem (7).

- (5) Kim and Alex praised each other.
- (6) Devuški blagodaryat drug druga. girls.PL.NOM thank RECP 'The girls thank each other.'
- (7) Galu ndi mwana a-na-lum-an-a. dog and child 3PL-PST-bite-RECP-FV 'The dog and the child bit each other.' (Mchombo & Ngalande 1980:570-571)

Lexical reciprocity refers to the strategy by which reciprocity is expressed by the inherent meaning of a closed class of verbs. This strategy is not productive, but restricted to verbs denoting "naturally reciprocal" events, defined by Kemmer (1993) as "events that are either necessarily (e.g. 'meet') or else very frequently (e.g. 'fight', 'kiss') semantically reciprocal" (p.102).

In some languages, lexical reciprocity is expressed without any grammatical marking. For instance, in English some predicates express reciprocity in their

intransitive entry (8); lexical reciprocity may be found in predicates with a transitive alternate (8a), as well as in predicates without a direct object (8b). In other languages, lexical reciprocals require non-productive markers, such as *-sya* in Russian (9). Lexical reciprocal verbs may undergo 'semantic drift': they may have a reciprocal meaning that is different from the meaning of the verbal base. For example, in (9b) the lexical reciprocal formed with a verbal base *drat* 'to tear' gets the new meaning 'fight'.

- (8) a. Kim and Alex hugged.
 - b. Kim and Alex argued.
- (9) a. Alex i Anna celuut-sya.
 Alex and Anna kiss-RECP
 'Alex and Anna kiss.'
 - b. Alex i Max derut-sya. Alex and Max tear-RECP 'Alex and Max fight.'

2.2 Wolof reciprocal markers

In the literature, it is argued that Wolof exhibits three verbal suffixes whose uses include reciprocity: -ante, -oo, -e.

In Voisin 2002 and Creissels & Nouguier-Voisin 2008 the authors describe five distinct suffixes that are combined in a group of so-called 'co-participative' suffixes: -ante, -oo, -e, -andoo and -aale. In this paper we address only three of them, because -andoo and -aale are not strictly associated with reciprocal meanings. The affix -aale expresses a relation of simultaneity between the event represented by the verb and another event ('at the same time') or, in its lexicalized use, it carries a meaning of co-participation (10). The suffix -andoo implies a plurality of participants involved in the same event with the same role (11).

- (10) *nekk* 'be somewhere' > *nekk-aale* 'live together' (Creissels & Nouguier-Voisin 2008:302)
- (11) Noom ñaar ñepp toog-andoo ci lal bi.

 3PL TWO all sit-COPART LOC bed DEF

 'They both sat on the bed together.'

 (Creissels & Nouguier-Voisin 2008:303)

Moving on to reciprocity, the authors describe *-e* as a reciprocal marker of a limited class of verbs, namely verbs denoting 'naturally reciprocal events' (12). Such events are defined as "two participant events in which the exchange of roles is not absolutely obligatory, but nevertheless constitutes the normal situation" (Creissels & Nouguier-Voisin 2008 :298). The morpheme *-ante* is presented as the most productive reciprocal marker, which, unlike *-e*, is not restricted to specific classes of predicates (13). Finally, *-oo* is described as a marker of sociative and reciprocal events (14).¹

Diouf (2009) provides a list of Wolof verbal morphemes, among which -ante is described as being a reciprocal affix. The author also lists seven different-e suffixes with different functions; however, bearing in mind the polysemy of this marker, in the current paper we solely focus on its reciprocal use. Ka (1982) provides an extensive overview of Wolof verbal affixes, also reporting -ante and -oo to have a reciprocal meaning.

Church (1981) points out some semantic differences between the morphemes -ante and -oo, providing examples where the same verb root leads to different reciprocal interpretations with different suffixes, as illustrated in (15) and (16).² However, it is unclear whether these contrasts are systematic and whether they also extend to the affix -e.

- (12) Ñu ngi doon xeex-e ci koñu kër ñoom Paate.

 PRST.3PL PST fight-RECP LOC street.CONN house 3PL Pathé

 'They were fighting on the Pathe street.'

 (Voisin 2002:345)
- (13) Rey-ante nañu.
 kill-RECP PRF.SBJ.3PL
 'They killed one another.'
 (Creissels & Nouguier-Voisin 2008:304)
- (14) Seen wax yi wor-oo nañu.

 POSS.2PL word DEF betray-RECP PRF.SBJ.3PL

 'Your declarations are contradictory.' (lit. 'betray one another')

 (Creissels & Nouguier-Voisin 2008:303)

¹Some authors consider *-oo* to be a bimorphemic affix. A plausible origin of reciprocal *-oo* in Wolof is the combination of the middle marker *-u* with the ancient marker of co-participation *-*e* (Creissels & Nouguier-Voisin 2008:303, Diouf 2009:57).

²Our own translation from French.

- (15) dog 'to cut'
 - a. dog-ante 'to cut each other'
 - b. *dog-oo* 'to separate from each other' (Church 1981:183)
- (16) dég 'to hear'
 - a. dég-ante 'to hear from each other'
 - b. $d\acute{e}g$ -ooʻto get along'

(Church 1981:175)

The works presented here provide a clear picture of the existence of three different reciprocal affixes in Wolof, but the difference between them is still unclear: the properties and distribution of these morphemes are not explicitly described in the literature. The claim that *-e* marks 'naturally reciprocal' events is based on the meanings traditionally associated with predicates of this class, but it is not independently supported by properties specific to this morpheme. Very little attention is paid to the constraints on the use of each affix. Moreover, it is not clear what the role of the suffix *-oo* is and how it differs from *-ante* and *-e*.

Based on the existing literature, it is not possible to determine the differences in distribution of these three reciprocal morphemes, nor what morphological processes they reflect; the aim of the current paper is to fill this gap.

3 Wolof reciprocal markers: new evidence

In order to shed light on the distributional and morphological properties of reciprocal morphemes in Wolof, we conducted a series of interviews with two native speakers. One of the speakers lives in Senegal and the interviews took place online. The second speaker lives in the Netherlands, but uses Wolof daily and often travels to Senegal. The interviews with the second speaker took place in person in the Netherlands. Wolof is the first language for both informants and both speak urban Dakar Wolof (McLaughlin 2001). Our interviews included translation tasks and grammaticality judgment tasks. We asked each informant to translate sentences from French or Dutch. We also presented Wolof sentences to participants, inviting them to rate them as grammatically acceptable or unacceptable. The judgments and the translations were consistent for both speakers.

On the basis of the data collected, we propose that the different Wolof verbal affixes reflect different morphological processes. We argue that *-ante* is a

productive reciprocal morpheme, expressing grammatical reciprocity. We propose that this morpheme operates on the argument structure of verbs, reducing the valency: it makes the predicate intransitive, removing the object position and leading to a reciprocal interpretation. Treatments of reciprocal affixes as intransivizing morphemes have been proposed for a number of languages where reciprocity is expressed by affixes that attach to transitive verb bases, including Chichewa (Bantu; Dalrymple et al. 1994), Malagasy (Austronesian; Keenan & Razafimamonjy 2004), and Passamaquoddy (Algonquian; Bruening 2006). This is illustrated in (17) with a Malagasy example: a transitive verb (17a) can be affixed with the reciprocal morpheme -if - (17b), leading to what is proposed to be an intransitive reciprocal verb (Keenan & Razafimamonjy 2004). We propose that the same pattern can be identified in Wolof, where the morpheme -ante may productively turn any transitive verb into a reciprocal verb.

- (17) a. M-an-enjika an-dRabe Rakoto.

 PRS-ACT-chase ACC-Rabe Rakoto

 'Rakoto is chasing Rabe.'
 - b. M-if-an-enjinka Rabe sy Rakoto.

 PRS-RECP-ACT-chase Rabe and Rakoto

 'Rabe and Rakoto are chasing each other.'

 (Keenan & Razafimamonjy 2004:177)

By contrast, we propose that the Wolof suffixes -*e* and -*oo* are associated with *lexical reciprocity*. We argue that they are markers on predicates that are lexicalized as reciprocals. The distinction that we are proposing is based on different distributional and morphological properties of these three morphemes that we will present in the rest of this section.

3.1 Productivity

A first contrast in the distribution of Wolof reciprocal morphemes regards their productivity. The suffix *-ante* is productive and it leads to reciprocal interpretations with virtually any transitive verb. The morphemes -e/-oo, on the other hand, have a restricted use. Let us illustrate this contrast with the verb $ba\tilde{n}$ 'to hate'. This predicate takes a direct object, as shown in example (18). The suffix *-ante* can attach to this predicate, leading to a reciprocal interpretation: in (19a) the object position is removed and the individuals in the subject are interpreted as both agent and patient of the action denoted by the verb. In other words, Khady hates Idrissa and Idrissa hates Khady. By contrast, the suffixes -e and -oo lead to

ungrammaticality if applied to the transitive verb base (19b). The same holds for other transitive verbs, for example: *rey* 'to kill' (20); *dimbali* 'to help'; *nuyu* 'to greet'; *lekk* 'to eat'; *bëgg* 'to love'; *ragal* 'to be scared of', and *fŏon* 'to kiss'.

- (18) Khady bañ na Idrissa. Khady hate PRF.3sG Idrissa 'Khady hates Idrissa.'
- (19) a. Khady ak Idrissa dañu bañ-ante. Khady and Idrissa FOC.V.3PL hate-RECP 'Khady and Idrissa hate each other.'
 - b. *Khady ak Idrissa dañu bañ-e/ bañ-oo. Khady and Idrissa FOC.V.3PL hate-RECP
- (20) a. Khady rey na muus mi. Khady kill PRF.3sG cat the 'Khady killed the cat.'
 - b. Idrissa ak Oumar rey-ante nañu.
 Idrissa and Oumar kill-RECP PRF.SBJ.3PL
 'Idrissa and Oumar killed one each other.'
 - c. *Idrissa ak Oumar rey-oo/ rey-e nañu. Idrissa and Oumar kill-RECP PRF.SBJ.3PL

This suggests that *-e* and *-oo* do not freely operate on just any verb, but they are instead markers of a closed class of transitive predicates. As pointed out in the literature (Voisin 2002, Creissels & Nouguier-Voisin 2008), predicates marked by *-e* generally denote 'naturally reciprocal' events, in the terminology by Kemmer (1993). We note that this observation also extends to *-oo*: some representative examples include *xuloo* 'to argue', *taggoo* 'to say goodbye', and *booloo* 'to unite'.

The restricted use of *-e* and *-oo*, limited to verbs that are typically associated with reciprocal configurations, lends support to a treatment of these affixes as markers of lexical reciprocal entries: we propose that they do not lead to reciprocal interpretations themselves, but mark predicates with an inherent reciprocal meaning. We propose that *-ante*, on the other hand, is directly responsible for reciprocal interpretations, turning transitive verbs into reciprocal verbs.

3.2 Intransitive verbs

Another piece of evidence comes from the fact that -e and -oo, unlike -ante, can mark predicates without a transitive entry. Let us provide an example from the

verb *dëkk* 'to live'. As illustrated in (21), this predicate is intransitive: it cannot take a direct object, but only a PP. This intransitive verb can be marked by *-e* or *-oo*, denoting a reciprocal relation between the individuals in the subject (22a). However, the same verb leads to ungrammaticality with *-ante*, as shown in (22b). The same pattern can be identified with other intransitive verbs, for example *fécca* 'to dance', *mer* 'to be angry' or *xul* 'to argue'. They cannot take a direct object and in order to denote reciprocity they are marked with *-e* or *-oo*, while they lead to ungrammaticality with *-ante*.

- (21) a. Khady mu ngi dëkk moom rekk. Khady prst.3sg live pro.3sg alone 'Khady lives alone.'
 - Khady mu ngi dëkk ak/si Fatou.
 Khady PRST.3sG live with/on Fatou
 'Khady lives with Fatou.'
- (22) a. Khady ak Fatou ñoo dëkk-oo/dëkk-e. Khady and Fatou FOC.V.3PL live-RECP 'Khady and Fatou are neighbours.'
 - b. *Khady ak Fatou ñoo dëkk-ante. Khady and Fatou foc.v.3pl live-recp

In (22a) there is no direct object to be removed, therefore we can propose that *-e* and *-oo* do not operate on the argument structure the same way that *-ante* does. Moreover, these examples show that *-ante* is not productive with intransitive verbs.

3.3 Semantic drift

Verbs that combine with the affixes -e or -oo may get interpretations that do not preserve the meaning of the verb stem. This process, referred to as *semantic drift*, is illustrated in examples (23)-(25) below. In combination with the verbal affix -oo, the verb *dog* 'to cut' denotes a break-up (23b). Similarly, when combining with the affix -e, the verb *degg* 'to hear' refers to keeping in contact (24b), whereas the verb *gis* 'to see' denotes a meeting (25b). The same holds for the verb *daj* 'to find', denoting a meeting when combining with the affix -e and for the verb *dëkk* 'to live' that denotes being neighbours when combined with -e or -oo (22a).

By contrast, verbs reciprocalized by *-ante* always keep the meaning of the transitive verb stem. For instance, unlike in (24b), the predicate *degg* 'to hear' can only

denote a reciprocal hearing event when bearing the morpheme -ante (26). Similarly, the predicate gis 'to see' univocally leads to a mutual 'seeing' configuration with -ante (27), unlike its counterpart with -e in (25b).

- (23) a. Khady mu ngi dog mburu. Khady PRST.3sG cut bread 'Khady cuts the bread.'
 - Khady ak Fatou dañu dog-oo.
 Khady and Fatou FOC.V.3PL cut-RECP 'Khady and Fatou broke up.'
- (24) a. Khady degg na Fatou. Khady hear PRF.3SG Fatou 'Khady heard Fatou.'
 - b. Khady ak Fatou ñu ngi degg-e. Khady and Fatou PRST.3PL hear-RECP 'Khady and Fatou keep in contact.'
- (25) a. Khady gis na Fatou. Khady see PRF.3sg Fatou 'Khady saw Fatou.'
 - b. Khady ak Fatou gis-e nañu.Khady and Fatou see-RECP PRF.SBJ.3PL'Khady and Fatou met.'
- (26) Khady ak Fatou nañu degg-ante. Khady and Fatou PRF.SBJ.3PL hear-RECP 'Khady and Fatou heard each other.'
- (27) Khady ak Fatou dañu gis-ante. Khady and Fatou FOC.V.3PL see-RECP 'Khady and Fatou saw each other.'

In the literature, there is shared consensus that only lexicalized reciprocals can undergo a semantic drift (Kemmer 1993, Haspelmath 2007, Nedjalkov 2007, Siloni 2012). The pattern illustrated above further supports our proposal that reciprocal verbs marked by -e and -oo must be lexicalized entries.

3.4 Lexical reflexivity

Reflexivity in Wolof is expressed by the NP *bopp* 'head' and a possessive determiner, which may occupy the object position of any transitive verb (28). However, verbs denoting grooming or body-related actions that fall into the categorization of 'naturally reflexive' events (Kemmer 1993) may express reflexivity with the verbal suffix -u (29). Note that unlike the NP strategy, the affix -u is not productive; we refer to the verbs that can bear this affix as *lexical reflexives*. Verbs from this class may have a transitive entry (30): we rely on the assumption that such predicates may have a transitive alternate and an intransitive reflexive alternate, marked by -u.

- (28) Ñun da ñoo bañ sunu bopp.

 1PL AUX.FOC 1PL hate 1PL head

 'We hate ourselves.'

 (Tamba 2008:4)
- (29) Khady sang-u na. Khady wash-refl prf.3sg 'Khady washed.'
- (30) Khady mu ngi sang muus mi. Khady PRST.3SG wash cat the 'Khady washes the cat.'

Crucially, Wolof verbs with a lexical reflexive entry can only express reciprocity with the affix *-ante* (31a), while they lead to ungrammaticality with *-e* and *-oo* (31b).

- (31) a. Khady ak Fatou ñu ngi sang-ante. Khady and Fatou PRST.3PL wash-RECP 'Khady and Fatou washed each other.'
 - b. *Khady ak Fatou ñu ngi sang-e/ sang-oo. Khady and Fatou prst.3pl wash-recp

Essentially, verb stems that are used to form lexical reflexives cannot appear with the affixes -*e* and -*oo*, which we propose to be markers of lexical reciprocity. We take this pattern as support for the idea that lexical reflexives and lexical reciprocals are two distinct classes with no overlapping entries (Reinhart & Siloni 2005). In English, for instance, lexical reflexives and lexical reciprocals have the

same surface form, as they are both realized with zero morphology (32). Yet, there is no overlap in the meaning: (32a) unambiguously denotes a reflexive configuration and (32) a reciprocal configuration.

- (32) a. John shaved.
 - b. John and Joe hugged.

In Wolof, the distinction between these two classes of verbs is detectable in their morphological realization. Verb stems that combine with the lexical reflexive marker -u systematically lead to ungrammaticality with -e and -oo (33 - 35). Conversely, -u cannot attach to verbs that may express reciprocity with -e and -oo, as illustrated in (36).

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(33) wat 'to shave'a. wat-u 'to shave (oneself)'b. *wat-oo, *wat-e
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- (34) sol 'to dress'
 a. sol-u 'to dress (oneself)'
 b. *sol-oo, *sol-e
- (35) sang 'to wash'a. sang-u 'to wash (oneself)'b. *sang-oo, *wash-e
- (36) gis 'to see'a. *gis-ub. gis-oo, gis-e 'to meet (each other)'

4 Conclusion

In order to study the properties of reciprocal morphemes in Wolof, we collected novel data through a series of interviews with native speakers. The data substantiate a distinct treatment for the morpheme *-ante*, as opposed to the morphemes *-oo/-e*: we argue that *-ante* is a productive morpheme that turns transitive verbs into intransitive reciprocal verbs, while *-oo* and *-e* mark only a restricted class of verbs, without operating on the argumental structure. This twofold analysis boils down to the distinction between *grammatical* and *lexical* reciprocity introduced in §2.1: while *-ante* is responsible for grammatical reciprocity, *-oo* and

-e are markers of predicates with a lexical reciprocal entry. This treatment is in line with the observation that -e is a polysemous marker (Diouf 2009:57): cross-linguistically, it is not uncommon for non-productive middle markers to be associated with an array of interpretations, including lexical reciprocity (Kemmer 1993).

Our proposal relies on a number of contrasts between *-ante* and *-e/-oo*. We have illustrated that *-ante* is productive with transitive verbs (§3.1), but it cannot reciprocalize predicates without a direct object (§3.2). By contrast, *-e* and *-oo* can only combine with a restricted class of predicates that denote 'naturally reciprocal' events (Kemmer 1993), regardless of whether they have a transitive entry or not (§§3.1-3.2). We have also seen that only verbs marked by *-e* and *-oo* may undergo a 'semantic drift' (§3.3), while only *-ante* can reciprocalize predicates with a lexical reflexive entry (§3.4).

We would also like to draw attention to the typological peculiarity of reciprocity in Wolof. Cross-linguistically, it is common for languages with an overt morphological distinction between grammatical and lexical reciprocity to express the former with pronominal elements, like *each other* in English, and the latter with a verb-marked form, like zero-morphology in English (8), the suffix -sya in Russian (9), the verbal affix -óz- in Hungarian (Uralic; Rákosi 2008) or the hitpael template in Hebrew (Semitic; Doron 2003), inter alia. In Wolof, grammatical and lexical reciprocity are overtly distinguished, but both expressed by means of verbal affixes. This language nonetheless lends support to Kemmer (1993)'s observation that productive markers are morpho-phonologically heavier than non-productive middle-related markers.

In this paper, we have considered -e and -oo as two variations of a morpheme with the same function. We have not encountered cases where these two affixes lead to different interpretations with the same verb stem, nor have we found empirical grounds to motivate a different treatment of -e and -oo. However, further research might reveal some morphological, semantic or distributional differences between these two morphemes, which may explain the claim that -oo and not -e marks both sociative and reciprocal events (Voisin 2002: 281). Future works may also focus on the semantics of Wolof reciprocals, to find out whether there are differences or restrictions in the way -ante, -e and -oo may express the different kinds of reciprocal configurations.

Abbreviations

Abbreviations in this chapter follow the Leipzig Glossing Rules, with the following additions.

ACT	active voice	POSS	possessive
BEN	benefactive case	PRO	pronominal base
CONN	connective	PRST	presentative
COPART	co-participation	SG	singular
FV	final vowel		

Acknowledgements

Work on this research was partially funded by a grant of the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement no. 742204). We would like to thank Yoad Winter, Joost Zwarts, the members of the ROCKY project and the audience of *ACAL53* for insightful inputs and discussions. We are grateful to our Wolof informants for their invaluable help.

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