

Valency classes in the world's languages  
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**Valency patterns for bivalent verbs  
in two West African languages:  
Mandinka (Mande) and Jóola Banjal (Atlantic)**

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## **1. Introduction**

In this paper, we compare the valency properties of semantically bivalent verbs in Jóola Banjal, an Atlantic language spoken by approximately 7000 speakers in Casamance (Sénégal), and Mandinka, a Mande language spoken by approximately 1.5 million speakers in Casamance (Sénégal), The Gambia, and Guinea-Bissau. The main reference works on these two languages are Bassène (2007) for Jóola Banjal, and Creissels & Sambou (2013) for Mandinka. The genetic classification of Jóola Banjal and Mandinka can be summarized as follows:

Jóola Banjal  $\subset$  Jóola  $\subset$  Bak  $\subset$  Niger-Congo<sup>1</sup>

Mandinka  $\subset$  Manding  $\subset$  West Mande  $\subset$  Mande  $\subset$  Niger-Congo<sup>2</sup>

The contrastive analysis of Jóola Banjal and Mandinka bivalent verbs proposed in this paper is not based on a pre-established questionnaire. It relies on a list of 300 meanings referring to situations involving two essential participants for which we have found in both languages a bivalent verb encoding the situation in question in a construction whose only additional elements are two noun phrases representing the essential participants.<sup>3</sup>

After providing the necessary information about the way verbal predication is organized in Jóola Banjal and Mandinka (Section 2), we discuss the following questions: the coding frames available for bivalent verbs and their relative frequency (Section 3), valency alternations (Section 4), the relationship between transitive verbs and monovalent verbs assigning a role similar to that assigned to the P argument of a transitive verb (Section 5), and mismatches between the morphological structure of verbs and their valency properties (Section 6). Section 7 puts forward some concluding remarks.

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<sup>1</sup> Traditionally, Bak languages are considered a subgroup of an Atlantic family included in the Niger-Congo phylum, but the opinion that prevails now is that Atlantic is not a genetically valid grouping, and must be viewed as a purely areal grouping of several independent branches of Niger-Congo.

<sup>2</sup> The Mande language family was included by Greenberg in the Niger-Congo phylum, but the evidence supporting this decision is rather slim, and the Niger-Congo affiliation of Mande is considered questionable by many specialists.

<sup>3</sup> We would like to express our thanks to William Diatta for his help with Jóola Banjal data.

## 2. Verbal predication

### 2.1. Transitive predication in Jóola Banjal

Transitive coding is defined with reference to core transitive verbs, i.e. bivalent verbs whose meaning is compatible with the maximum degree of semantic transitivity. A and P are abbreviations for terms of predicative constructions encoded like the agent and the patient of core transitive verbs.

In the transitive predication of Jóola-Banjal, there is no flagging of either A or P, but in addition to the rigid constituent order AVPX, there is a clear contrast between A and P in indexation. The A argument is obligatorily indexed by means of a verb prefix, and the presence of an NP co-referent with the A index prefixed to the verb is not obligatory – ex. (1), whereas the P argument can be indexed by means of a verb suffix, but P indexes are used only for topical P's, and if a co-referent NP is present, it can only be in dislocated position – ex. (2).

#### (1) Jóola Banjal

- a. *Atejo na-tũ-ε si-nnaŋ sasɔ.*  
 (CLa)Atéjo CLA-eat-CMP CLSi-rice CLSi.DEF  
 'Atéjo ate the rice.'

- b. *Na-tũ-ε si-nnaŋ sasɔ.*  
 CLA-eat-CMP CLSi-rice CLSi.DEF  
 '(S)he ate the rice.'

- c. \**Atejo tũ-ε si-nnaŋ sasɔ.*

#### (2) Jóola Banjal

- a. *Ni-tũ-ε gu-mangɔ gagu.*  
 1SG-eat-CMP CLgu-mango CLgu.DEF  
 'I have eaten the mangos.'

- b. *Ni-tũ-ε-gɔ.*  
 1SG-eat-CMP-CLgu  
 'I have eaten them (the mangos).'

- c. *Ni-tũ-ε-gɔ\*(,) gu-mangɔ gagu.*  
 1SG-eat-CMP-CLgu CLgu-mango CLgu.DEF  
 'I have eaten them, the mangos.'

In addition to vowel harmony, the clearest evidence that P indexes are affixes (and not just pronouns occupying the same postverbal position as P NPs) comes from the fact that, with the inflected form of the verb expressing verb focalization,

characterized by the reduplication of the stem, the P index is inserted between the stem and its copy – ex. (3).

(3) Jóola Banjal

a. *Nl-tut-tuñ fɔ-mangɔ fafɔ.*  
 1SG-eat-eat CLfi-mango CLfi.DEF  
 ‘I have EATEN the mango.’

b. *Nl-tɪf-fɔ-tuñ.*  
 1SG-eat-CLfi-eat  
 ‘I have EATEN it (the mango).’

Interestingly, in Jóola Banjal, a similar indexation mechanism is found with spatial phrases, even when they are clearly in adjunct role, as in ex. (4). There is however a clear distinction between the indexation of P arguments and that of spatial adjuncts : P indexes express the noun class of their antecedent, whereas the index for spatial adjuncts is invariably *bo* ~ *bɔ*. For example, town names belong to class E, which means that, in ex. (4), if *Dakkar* were in P role, it would not be represented by the locative index *bɔ*, but by the class E index *yɔ*.<sup>4</sup>

(4) Jóola Banjal

a. *Nl-jug-ɪ Dakkar.*  
 1SG-see-2SG Dakar  
 ‘I saw you in Dakar.’

b. *Nl-jug-ɪ-bɔ.*  
 1SG-see-2SG-there  
 ‘I saw you there.’

## 2.2. Transitive predication in Mandinka

The transitive construction of Mandinka is characterized by a rigid APVX constituent order. Independent assertive and interrogative transitive clauses always include a *predicative marker* encoding TAM and polarity (*yé* ‘completive positive (transitive)’, *máj* ‘completive negative (transitive)’, *ká* ‘incompletive positive’, etc.), inserted between A and P. A and P are not flagged and cannot be indexed. Pronouns occupy the same positions as canonical NPs and have the same forms in all their possible functions – ex. (5).

<sup>4</sup> The locative index coincides with the P index of class BI, and this coincidence is probably not fortuitous, but synchronically, the indexation of P arguments and the indexation of spatial adjuncts are two distinct mechanisms.

(5) Mandinka

a. *Kambaan-óo ye sãa búsa fál-óo la.*  
 boy-DEF CMP.POS snake-DEF hit stick-DEF OBL<sup>5</sup>  
 ‘The boy hit the snake (with a stick).’

b. *Kew-ó ka a téerímâa máakóyí kód-óo to.*  
 man-DEF INCMP.POS 3SG friend help money-DEF LOC  
 ‘The man helps his friend financially.’

c. *Kambaan-óo maŋ ber-ôo fáyí palantéer-óo kaŋ.*  
 boy-DEF CMP.NEG stone-DEF throw window-DEF on  
 ‘The boy did not throw the stone into the window.’

d. *A máŋ a fáyí a kaŋ.*  
 3SG CMP.NEG 3SG throw 3SG on  
 ‘He/she did not throw it on it.’

### 2.3. Jóola Banjal and Mandinka as *obligatory A coding languages*

In Jóola Banjal and Mandinka, every coding frame, without exception, must include a term with coding properties identical to those of the A term in transitive predication (obligatory indexation in Jóola Banjal, fixed position to the left of the predicative markers in Mandinka). Moreover, most syntactic operations treat the term showing these coding properties in a uniform way, which justifies the recognition of a grammatical relation *subject* contrasting with a grammatical relation *object* characterizing the P term of transitive predication.

### 2.4. The formal distinction between transitive and intransitive predication

In Jóola Banjal, there is no specific transitivity marking, and the presence vs. absence of a term in object role is the only difference between transitive and intransitive predication. By contrast, in Mandinka, three predicative markers have different forms in transitive and intransitive predication. For example, the completive positive, encoded by the predicative marker *yé* in transitive predication, is encoded in intransitive predication by the verbal suffix *-tá* – ex. (6).

<sup>5</sup> In the Mandinka examples below, postpositions marking oblique arguments are glossed according to the meaning they typically express as heads of postposition phrases in adjunct function, with three exceptions: *lá*, *má*, and *tí*, for which the generic gloss OBL is used. The reason is that the analysis of the uses of these three postpositions as extensions of some ‘central’ or ‘prototypical’ meaning is particularly problematic.

## (6) Mandinka

- a. *Kambaan-óo ye ber-ôo fáyi.*  
 boy-DEF CMP.POS stone-DEF throw  
 ‘The boy threw the stone.’
- b. \**Kambaan-óo ber-ôo fáyi-ta.*  
 boy-DEF stone-DEF throw-CMP.POS
- c. *Kambaan-óo kumbóo-ta.*  
 boy-DEF cry-CMP.POS  
 ‘The boy cried.’
- d. \**Kambaan-óo ye kumboo.* <sup>6</sup>  
 boy-DEF CMP.POS cry

## 3. Coding frames for bivalent verbs

### 3.1. Introductory remarks

Jóola Banjal and Mandinka have two possible types of coding frames for bivalent verbs: transitive coding, with the two participants encoded like the agent and the patient of core transitive verbs, and extended intransitive coding, with one of the two participants encoded like the agent of core transitive verbs, the other being encoded as an oblique. As regards the coding frames for bivalent verbs, the main contrast is that the tendency to extend transitive coding to nearly all semantic types of bivalent verbs is much stronger in Jóola Banjal than in Mandinka.

### 3.2. The extension of transitive coding in Jóola Banjal

In Jóola Banjal, coding frames of the <A, X> type are regularly found with verbs belonging to one of the following two semantic classes, and only with such verbs:

- movement verbs that assign A coding to the term representing the figure and oblique-like coding to the term representing the source or destination of movement: *-kkay* ‘go to’, *-alb* ‘get down from’, *-nɔ̃gen* ‘enter’, *-juŋ* ‘climb’, *-pur* ‘go out, leave’, *-kak* ‘step on’, *-kɔ̃go* ‘lean on’, *-jɔw* ‘go to’, *-lɔ* ‘fall / throw oneself into’.
- verbs encoding naturally reciprocal events; as a rule, such verbs have two synonymous constructions: a construction with two nominal terms, in which the second term is introduced by the preposition *ni* ‘with’, and a construction

<sup>6</sup> This sentence would be acceptable with the meaning ‘The boy must cry’, since there is a homonymous predicative marker *yé* ‘subjunctive positive’ compatible with intransitive predication, but it is impossible with *yé* ‘completive positive’.

with just one nominal term representing a plural entity: *-twj* ‘fight against’, *-yɓbo* ‘marry (woman > man)’,<sup>7</sup> *-ɛmɔr* ‘meet’, *-nogor* ‘resemble’, *-rɛ* ‘be equal’.

We have found just one bivalent verb with a coding frame of the extended intransitive type referring neither to movement nor to a naturally reciprocal event: *-inen* ‘believe in’.

### 3.3. The extension of transitive coding in Mandinka

In Mandinka, the same regularity is observed for bivalent verbs encoding movement and bivalent verbs encoding reciprocal events, but in contrast to Jóola Banjal, bivalent verbs with a coding frame of the <A, X> type are not exceptional among the verbs that do not belong to these two semantic classes. However, they are not very numerous, and no semantic generalization seems possible about them.

The list of the Mandinka verbs in our corpus that have a coding frame of the <A, X> type and correspond to a transitive verb in Jóola Banjal is given in (7).

- (7) Mandinka verbs with a coding frame of the <A, X> type corresponding to transitive verbs in Jóola Banjal

<i>sõŋ</i>	‘agree on sth.’
<i>háwú</i>	‘bark at’
<i>síláŋ</i>	‘be afraid of’
<i>dalí</i>	‘be familiar with’
<i>járí</i>	‘be worth, cost’
<i>siibóo</i>	‘dream about’
<i>táa</i>	‘fetch’
<i>ñiná</i>	‘forget’
<i>yamfá</i>	‘forgive’
<i>bonó</i>	‘lose’
<i>suulá</i>	‘need’
<i>í jũ</i>	‘set down (burden), give birth to’
<i>děŋ</i>	‘share in common’
<i>nóorá</i>	‘smell’
<i>suŋkán</i>	‘smell’
<i>suŋkán</i>	‘smell of’
<i>tambí</i>	‘surpass, exceed, overtake’
<i>jutú</i>	‘underestimate’

Mandinka also has bivalent verbs with two possible constructions, a transitive one and an extended intransitive one, in which they assign the same semantic roles. Those included in our Jóola Banjal / Mandinka contrastive corpus are listed in (8).

<sup>7</sup> Morphologically, *-yɓbo* ‘marry (woman > man)’ is cognate with *-yab* ‘receive’, also used with the meaning ‘marry (man > woman)’. *-Yab* ‘receive’ is a transitive verb, and *-o* is a detransitivizing suffix. The change in the quality of the vowel is however irregular.

Their equivalent in Jóola Banjal is in most cases a transitive verb, with however two exceptions.

- (8) Mandinka verbs whose second argument can be encoded either as the object in a transitive construction or as an oblique in an extended intransitive construction

- a. The equivalent in Jóola Banjal is a transitive verb

<i>wóŋwóŋ</i>	‘bark at’
<i>takí</i>	‘bump’
<i>juŋkú</i>	‘bump’
<i>teyí</i>	‘cross’
<i>kacáa</i>	‘discuss’
<i>wúlúu</i>	‘give birth to’
<i>jélé</i>	‘laugh at’
<i>kumbóo</i>	‘mourn for s.o.’
<i>muñá</i>	‘put up with’

- b. The equivalent in Jóola Banjal has an extended intransitive construction

<i>daŋkeneyáa</i>	‘believe in’
<i>selé</i>	‘climb’

## 4. Valency alternations

### 4.1. Valency operations involving changes in the verb stem

Mandinka has two morphological derivations encoding valency changes: causativization and antipassivization. Ex. (9) illustrates the use of the causative suffix *-ndí*.

- (9) Mandinka

- a. *Díndíŋ-o lá dendik-ôo nóo-ta.*  
 child-DEF GEN shirt-DEF get\_dirty-CMP.POS  
 ‘The child’s shirt got dirty.’
- b. *Díndíŋ-o yé a lá dendik-ôo nó-ndi.*  
 child-DEF CMP.POS 3SG GEN shirt-DEF get\_dirty-CAUS  
 ‘The child soiled his shirt.’

Mandinka has a suffix *-ri* (*-diri* in combination with stems ending with a nasal) which can be analyzed as an antipassive marker, since it is found exclusively with transitive verbs in constructions in which the P argument is left unexpressed, cannot be identified to the referent of a noun phrase included in the same construction, and

is interpreted as non-specific. However, in other respects, *-ri* has properties quite unusual for an antipassive marker, since with just one exception (*dómó* ‘eat’), *ri*-forms cannot be used as the verbal predicate of finite clauses, and are mainly found in an antipassive periphrasis in which the antipassive form of a transitive verb used nominally is the object of *ké* ‘do’ – ex. (10).

(10) Mandinka

a. *Mus-óo ye maan-óo tuu.*  
 woman-DEF CMP.POS rice-DEF pound  
 ‘The woman pounded the rice.’

c. *Mus-óo ye tuu-r-ôo ké.*  
 woman-DEF CMP.POS pound-ANTIP-DEF do  
 lit. ‘The woman did the pounding.ANTIP.’ → ‘The woman pounded.’

Jóola Banjal has a causative suffix (*-ɛn*) – ex. (11) – and four valency-decreasing suffixes: passive *-ɪ* – ex. (12), reflexive *-ɔɔ* – ex. (13), middle *-ɔ* – ex. (14), and middle *-ɔr* – ex. (15).<sup>8</sup>

(11) Jóola Banjal

a. *A-ññil aku na-rɛm-ɛ bu-bbun babu.*  
 Cla-child Cla.DEF Cla-drink-CMP CLbi-medecine CLbi.DEF  
 ‘The child drank the medecine.’

b. *Nɪ-rɛm-ɛn-ɛ bu-bbun babu a-ññil aku.*  
 1SG-drink-CAUS-CMP CLbi-medecine CLbi.DEF Cla-child Cla.DEF  
 ‘I made the child drink the medecine.’

(12) Jóola Banjal

a. *Atejɔ na-jug-ɛ figen si-be sasɔ.*  
 Atéjo Cla-see-CMP yesterday CLSi-cow CLSi.DEF  
 ‘Atéjo saw the cows yesterday.’

b. *Si-be sasɔ su-jug-ɪ figen.*  
 CLSi-cow CLSi.DEF CLSi-see-PASS yesterday  
 ‘The cows were seen yesterday.’

<sup>8</sup> Each of these suffixes has an allomorph with a +ATR vowel, and another with a –ATR vowel. The allomorph with a –ATR vowel is used for quotation, since in the vowel harmony system of Jóola Banjal, –ATR is the unmarked value of the  $\pm$ ATR feature.



(13) Jóola Banjal

- a. *Atejo na-tteɸ-ɛ pay-ɔl y-aŋ.*  
 Atéjo CLA-build-CMP father-CLA CLe-house  
 ‘Atéjo built a house for his father.’
- b. *Atejo na-tteɸ-ɔɔ-ɛ y-aŋ.*  
 Atéjo CLA-build-REFL-CMP CLe-house  
 ‘Atéjo built a house for himself.’

(14) Jóola Banjal

- a. *Atejo na-fum-ɛ ga-rafa gagu.*  
 Atéjo CLA-break-CMP CLgu-bottle CLgu.DEF  
 ‘Atéjo broke the bottle.’
- b. *Ga-rafa gagu gu-fum-ɔ-ɛ.*  
 CLgu-bottle CLgu.DEF CLgu-break-MID-CMP  
 ‘The bottle broke.’

(15) Jóola Banjal

- a. *Atejo na-ssaf-ɛ Gpleto.*  
 Atéjo CLA-greet-CMP Galéto  
 ‘Atéjo greeted Galéto.’
- b. *Atejo nu Gpleto gu-ssaf-ɔɔ-ɛ.*  
 Atéjo and Galéto CLgu-greet-MID-CMP  
 ‘Atéjo and Galeto exchanged greetings.’

Ex. (14) illustrates the anticausative use of the middle suffix *-ɔ*, and ex. (15) illustrates the reciprocal use of the middle suffix *-ɔɔ*. These are their most productive uses, but each of these two suffixes is found in other middle functions, and their use must be viewed as lexicalized to a considerable extent. Our contrastive corpus includes 8 cases in which the addition of *-ɔ* has an anticausative function, but also 4 cases in which the addition of *-ɔ* triggers an autocausative (rather than anticausative) reading, and 8 cases in which the addition of *-ɔɔ* triggers an anticausative or autocausative (rather than reciprocal) reading :

(16) Anticausative and autocausative uses of the suffix *-ɔ* in Jóola Banjal

<i>-fum</i>	‘break (tr.)’	>	<i>-fumɔ</i>	‘break (intr.)’
<i>-ppek</i>	‘close (tr.)’	>	<i>-ppeɔ</i>	‘close (intr.)’
<i>-kkɔsul</i>	‘reduce’	>	<i>-kkɔsulo</i>	‘decrease’
<i>-fɔk</i>	‘extinguish’	>	<i>-fɔɔ</i>	‘go out (fire)’
<i>-ppeɗul</i>	‘open (tr.)’	>	<i>-ppeɗulo</i>	‘open (intr.)’

-gɛs	‘split (tr.)’	>	-gɛsɔ	‘split (intr.)’
-jal	‘untie’	>	-jalɔ	‘come undone, break loose’
-liw	‘wake’	>	-lio	‘wake up’
-ssim	‘dress (so.)’	>	-ssimɔ	‘dress (o.s.)’
-kkɔp	‘hide (sth.)’	>	-kkɔpɔ	‘hide (o.s.)’
-wwu	‘wash (so.)’	>	-wwuɔ	‘wash (o.s.)’
-ccik	‘shave (so.)’	>	-ccigo	‘shave (o.s.)’

(17) Anticausative and autocausative uses of the suffix *-ɔr* in Jóola Banjal

-luten	‘make dirty’	>	-lutenɔr	‘become dirty’
-ɔmen	‘gather (tr.)’	>	-ɔmenɔr	‘gather (intr.)’
-vvis	‘scatter (tr.)’	>	-vvisɔr	‘scatter (intr.)’
-fful	‘drag’	>	-ffulɔr	‘crawl’
-fut	‘cover, wrap’	>	-fulɔr	‘cover o.s., wrap o.s.’
-bbɔten	‘coil’	>	-bbɔtenɔr	‘coil up’
-jjeben	‘wet’	>	-jjebenɔr	‘get wet’
-bet	‘spread (tr.)’	>	-belɔr	‘spread (intr.)’

Note also that, in addition to its use as a detransitivizing operator, *-ɔr* has a sociative use (‘do something together’) in which it combines with transitive as well as intransitive verbs without changing their valency, as in *-tɛy* ‘run’ > *-tɛyɔr* ‘run together’, or *-tɛben* ‘raise, lift up’ > *-tɛbenɔr* ‘raise together, lift up together’.

## 4.2. Valency operations involving no change in the verb stem

### 4.2.1. Intransitive use of transitive verbs without change in the semantic role assigned to the subject

In Jóola Banjal, transitive verbs are very commonly used intransitively with a subject representing the same participant as in the transitive construction, the absence of an object phrase being interpreted as indetermination about the participant that could be encoded as the object. We have observed no obvious restriction on this intransitive use of transitive verbs.

By contrast, in Mandinka, the ability for a transitive verb to be used intransitively with a subject representing the same participant as in the transitive construction is limited to a subset of about thirty verbs. As illustrated in ex. (18) by *teyí* ‘cross’, with most verbs having this ability, the participant encoded as the object of the transitive construction can be left unexpressed, but it can also be encoded as an oblique. A list of Mandinka verbs lending themselves to this alternation has already been given in (8).

(18) Mandinka

a. *Mǒo-lu ye báa teyi.*  
 person.DEF-PL CMP.POS river.DEF cross  
 ‘The people crossed the river.’

b. *Mǒo-lu teyi-ta (báa la).*  
 person.DEF-PL cross-CMP.POS river.DEF OBL  
 ‘The people crossed (the river).’

Mandinka also has a few transitive verbs with an intransitive construction in which the argument expressed as the object of the transitive construction is normally left unexpressed.

(19) Mandinka transitive verbs with an intransitive construction in which the second argument is normally not expressed and is interpreted as non-specific

*lón* ‘know’  
*karán* ‘learn’

Mandinka also has a limited subset of transitive verbs whose use with a reflexive pronoun in object position expresses a valency operation of the antipassive type, as *mĩŋ* ‘drink’ in ex. (20).

(20) a. *Kew-ó ye jý-o miŋ.*  
 man-DEF CMP.POS water-DEF drink  
 ‘The man drank water.’

b. *Kew-ó ye í miŋ (jý-o la).*  
 man-DEF CMP.POS REFL drink water-DEF OBL  
 ‘The man drank (water).’

In our corpus, the same alternation is possible with *dánkú* ‘answer (a call)’. A similar alternation is also found with *jé* ‘see’, with the difference that, with *jé* ‘see’, the second argument is obligatorily left unexpressed and interpreted as non-specific.

Our data also includes a Mandinka verb (*í jĩ* ‘set down (burden), give birth to’) whose construction includes a reflexive pronoun but cannot be explained synchronically as resulting from the reflexivization or antipassivization of a transitive construction, since *jĩ* is an intransitive verb meaning ‘go down’.

(21) *A ye í jii dínkée la.*  
 3SG CMP.POS REFL set\_down son.DEF OBL  
 ‘She gave birth to a son.’

A historical explanation can however be proposed, according to which the synchronically anomalous construction of *í jĩ* ‘set down (a burden), give birth to’

results historically from the antipassivization of a construction in which *jĩ* was used transitively with the meaning ‘make / let go down’.

#### 4.2.1. Intransitive use of transitive verbs with a change in the semantic role assigned to the subject

Mandinka has a relatively productive *causative / anticausative alternation*. In this alternation, a verb that can be used transitively also has an intransitive construction which does not imply the involvement of a participant with the semantic role assigned to the subject of the transitive construction, the referent of the subject of the intransitive construction being presented as undergoing the same process as the object of the transitive construction, but without any hint at a possible external cause – ex. (22).

- (22) a. *Máŋk-óo jolón-tá baŋk-óo to.*  
 mango-DEF fall-CMP.POS ground-DEF LOC  
 ‘The mango fell on the ground.’
- b. *Kew-ó ye mur-óo jolón baŋk-óo to.*  
 man-DEF CMP.POS knife-DEF drop ground-DEF LOC  
 ‘The man dropped the knife on the ground.’

The existence of an unrestricted active / passive alternation giving rise to morphologically unmarked passive constructions, as in ex. (23) and (24), constitutes the most original aspect of the argument structure in Mandinka and other Manding varieties. In spite of the absence of anything that could be analyzed as passive morphology, the construction illustrated by sentences (23b) & (24b) is passive in the sense that the patient is the subject of an intransitive construction in which the agent is syntactically *demoted* without however being *deleted* from argument structure. A decisive proof of the passive nature of the intransitive constructions involved in this alternation is their ability to include an agent-oriented adverb, such as *feereetoo*- ‘cleverly’ in (24b).

- (23) a. *Kew-ó ye wot-óo dádaa.*  
 man-DEF CMP.POS car-DEF repair  
 ‘The man has repaired the car.’
- b. *Wot-óo dádaa-ta.*  
 car-DEF repair-CMP.POS  
 ‘The car has been repaired.’
- (24) a. *Kambaan-óo ye ná-s-óo feereetoo-bón kolón-o kóno.*  
 boy-DEF CMP.POS magic\_water-DEF cleverly-pour well-DEF inside  
 ‘The boy cleverly poured the magic water into the well.’

- b. *Nás-óo*                      *feereetoo-bón-tá*                      *kolón-o kóno.*  
 magic\_water-DEF    cleverly-pour-CMP.POS    well-DEF inside  
 ‘The magic water was cleverly poured into the well.’

There is no lexical restriction on this active / passive alternation: all Mandinka verbs found in the coding frame <A, P> can also be used in an intransitive construction with a passive reading. The causative / anticausative alternation is quite obviously much less productive. However, in a language in which all transitive verbs can be used intransitively with a passive reading, it is very difficult to propose a precise delimitation of the set of the transitive verbs that can be used intransitively with an anticausative reading. The relatively uncontroversial cases found in our contrastive corpus are listed in (25):

- (25) Mandinka verbs lending themselves to a morphologically unmarked causative / anticausative alternation

<i>jolón</i>	‘drop’ (intr. ‘fall’)
<i>jáakálí</i>	‘bother’
<i>dáa mutá</i>	‘begin’
<i>kafú</i>	‘add’
<i>těe</i>	‘break (reduce to fragments)’
<i>kátí</i>	‘break sth. off, fracture’
<i>fǎa</i>	‘kill’ (intr. ‘die’)
<i>kontáani</i>	‘please’
<i>táwún</i>	‘close’
<i>kuntú</i>	‘cut’
<i>tíñáa</i>	‘damage, ruin, spoil’
<i>ké</i>	‘do’ (intr. ‘happen’)
<i>tará</i>	‘find’ (intr. ‘be somewhere’)
<i>lábán</i>	‘finish’
<i>sotó</i>	‘have, ‘receive’ (intr. ‘be available, exist’)
<i>nukún</i>	‘hide’
<i>tú</i>	‘leave’ (intr. ‘remain’)
<i>málá</i>	‘light’
<i>yelé</i>	‘open’
<i>sǒo</i>	‘pierce’
<i>ñori</i>	‘push’ (intr. ‘move’)
<i>fátá</i>	‘separate’
<i>fará</i>	‘split, tear’
<i>deté</i>	‘tighten’
<i>kúnín</i>	‘wake’

In contrast to Mandinka, Jóola Banjal does not have morphologically unmarked passive constructions. As regards the existence of a morphologically unmarked causative / anticausative alternation, the verbs in (26) are the only ones in our corpus that have this ability.

(26) Jóola Banjal verbs lending themselves to a morphologically unmarked causative / anticausative alternation

-jjɔ	‘begin’
-jakali	‘bother’
-kajɛn	‘damage, ruin, spoil’
-nɔw	‘file’ (intr. ‘be blunt’)
-lu	‘pierce’
-tuɟ	‘break’

## **5. The relationship between transitive verbs and monovalent verbs assigning a role similar to that assigned to the P argument of a transitive verb**

### **5.1. Introductory remarks**

An important aspect of the transitivity system of languages is the manifestation of the semantic relationship between transitive verbs and monovalent verbs assigning a role similar to that assigned to the P argument of a transitive verb – in particular, between monovalent verbs encoding processes that can be conceptualized as occurring more or less spontaneously, or at least without a clearly identified instigator, and bivalent verbs encoding the same processes triggered by the action of an agent. As discussed in detail by Nichols & al. (2004), there may be no formal relationship between such pairs of verbs, but they may also be related in various ways, among which the following ones are attested in Mandinka and/or Jóola Banjal:

- the transitive use of an ambitransitive verb may imply the involvement of an active participant that is not included in the argument structure of the same verb used intransitively;
- the transitive verb may be morphologically derived from its intransitive counterpart (augmentation);
- the intransitive verb may be morphologically derived from its transitive counterpart (reduction);
- the transitive verb and its intransitive counterpart may be both derived from an abstract root that has no independent existence as a verb stem (double derivation).

### **5.2. Transitive verbs and monovalent verbs assigning a role similar to that assigned to the P argument of a transitive verb in Mandinka**

Mandinka has two main ways of making apparent this kind of relationship between transitive and intransitive verbs: the transitive verb and its intransitive counterpart may be identical, or the transitive verb may derive from its intransitive counterpart. Both strategies are relatively productive. A list of 25 Mandinka verbs lending themselves to the causative / anticausative alternation, among those included in our

contrastive data, has been given in (25) above. Our contrastive corpus also includes 32 transitive verbs regularly derived from intransitive verbs via causative derivation, plus two verbs whose transitive use is optionally marked by the causative suffix.

(27) Mandinka transitive verbs derived from intransitive verbs via causative derivation

<i>jimindí</i>	‘bend (tr.)’	< <i>jimí</i>	‘bend (intr.)’
<i>fájíndí</i>	‘boil (tr.)’	< <i>fájí</i>	‘boil (intr.)’
<i>kúpíndí</i>	‘capsize (tr.)’	< <i>kúpí</i>	‘capsize (intr.)’
<i>nóndí</i>	‘make dirty’	< <i>nóo</i>	‘become dirty’
<i>tájíndí</i>	‘discourage’	< <i>tájí</i>	‘become discouraged’
<i>jindí</i>	‘dismount’	< <i>jĩ</i>	‘go down’
<i>borindí</i>	‘drive’	< <i>borí</i>	‘run’
<i>jandí</i>	‘make dry’	< <i>jăa</i>	‘become dry’
<i>fándí</i>	‘fill’	< <i>fáa</i>	‘be full’
<i>bendí</i>	‘gather (tr.)’	< <i>běŋ</i>	‘gather (intr.)’
<i>fúunúndí</i>	‘inflate’	< <i>fúunú</i>	‘swell’
<i>kanandí</i>	‘let go’	< <i>kaná</i>	‘escape’
<i>ñorindí</i>	‘move (tr.)’	< <i>ñorí</i>	‘move (intr.)’
<i>maamandí</i>	‘move (tr.)’	< <i>maamán</i>	‘move (intr.)’
<i>kéñéndí</i>	‘prepare’	< <i>kéñé</i>	‘be ready’
<i>kúyándí</i>	‘put on bad terms’	< <i>kúyáa</i>	‘be on bad terms’
<i>fítínándí</i>	‘put on bad terms’	< <i>fítína</i>	‘quarrel’
<i>malundí</i>	‘put to shame’	< <i>malú</i>	‘be ashamed’
<i>wúlíndí</i>	‘erect, raise, lift up’	< <i>wúlí</i>	‘get up, stand up, rise’
<i>báláfándí</i>	‘sadden’	< <i>báláfáa</i>	‘be sad’
<i>kúisándí</i>	‘save’	< <i>kúisá</i>	‘escape’
<i>jáñjándí</i>	‘scatter, spread (tr.)’	< <i>jáñján</i>	‘scatter, spread (intr.)’
<i>boyindí</i>	‘set down’	< <i>boyí</i>	‘fall’
<i>jindí</i>	‘set down’	< <i>jĩ</i>	‘go down’
<i>dáa díyándí</i>	‘sharpen’	< <i>dáa díyáa</i>	‘be sharp’
<i>fátíyándí</i>	‘stir up’	< <i>fátíyáa</i>	‘be ardent’
<i>londí</i>	‘stop (tr.)’	< <i>löö</i>	‘stop (intr.)’
<i>suusundí</i>	‘suckle’	< <i>suusúu</i>	‘suck (breast)’
<i>batandí</i>	‘tire’	< <i>batáa</i>	‘get tired’
<i>yelemandí</i>	‘turn sth. over’	< <i>yelemá</i>	‘turn over (intr.)’
<i>kandindí</i>	‘warm sth. up’	< <i>kandí</i>	‘be warm’
<i>sínándí</i>	‘wet’	< <i>sínán</i>	‘get wet’
<i>tóorándí ~ tóorá</i>	‘torment’	< <i>tóorá</i>	‘suffer’
<i>ñíkíndí ~ ñíkín</i>	‘soak (tr.)’	< <i>ñíkín</i>	‘soak (intr.)’

A third possible strategy is the use of the reflexive pronoun in autocausative function, which can be viewed as a particular type of reduction strategy. It is found with three of the Mandinka verbs included in our contrastive corpus.

(28) The autocausative use of the reflexive pronoun in Mandinka

<i>míníŋ</i>	‘coil’	> <i>í míníŋ</i>	‘coil up’
<i>kǔu</i>	‘wash (so.)’	> <i>í kǔu</i>	‘wash (o.s.)’
<i>líi</i>	‘shave (so.)’	> <i>í líi</i>	‘shave (o.s.)’

### 5.3. Transitive verbs and monovalent verbs assigning a role similar to that assigned to the P argument of a transitive verb in Jóola Banjal

Jóola Banjal shows more diversity in the possible relationships between transitive verbs and monovalent verbs assigning a role similar to that assigned to the P argument of a transitive verb.

Our contrastive data includes 15 such pairs in which the transitive verb derives from the intransitive verb via causative derivation, but 20 in which the intransitive verb derives from the transitive verb. The pairs illustrating the reduction strategy have been listed in (16) and (17) above. Those illustrating the augmentation strategy are listed in (29).

(29) Jóola Banjal transitive verbs derived from intransitive verbs via causative derivation

<i>-unɛn</i>	‘announce’	< <i>-un</i>	‘hear’
<i>-labɛn</i>	‘boil (tr.)’	< <i>-lab</i>	‘boil (intr.)’
<i>-tɛyɛn</i>	‘drive’	< <i>-tɛy</i>	‘run’
<i>-kayɛn</i>	‘dry’	< <i>-kay</i>	‘become dry’
<i>-mmɛŋɛn</i>	‘fill’	< <i>-mmɛŋ</i>	‘be full’
<i>-saɛn</i>	‘light’	< <i>-sa</i>	‘burn’
<i>-llumɛn</i>	‘lose’	< <i>-llum</i>	‘get lost’
<i>-tɔsɛn</i>	‘move (tr.)’	< <i>-tɔs</i>	‘move (intr.)’
<i>-ssuɛn</i>	‘put to shame’	< <i>-ssu</i>	‘be ashamed’
<i>-pagɛn</i>	‘save’	< <i>-pak</i>	‘escape’
<i>-ñɛgɛn</i>	‘sharpen’	< <i>-ñɛk</i>	‘be sharp’
<i>-bugɛn</i>	‘soak (tr.)’	< <i>-buk</i>	‘soak (intr.)’
<i>-rafɛn</i>	‘suckle’	< <i>-raf</i>	‘suck (breast)’
<i>-yɔgɛn</i>	‘tire’	< <i>-yɔk</i>	‘get tired’
<i>-supɛn</i>	‘warm sth. up’	< <i>-sup</i>	‘be warm’

Our corpus also includes 5 such verb pairs in which both members of the pair are morphologically marked: the transitive verb results from the addition of the causative suffix to an abstract root, whereas the corresponding intransitive verb results from the addition of a detransitivizing suffix (-ɔ, -ɔr, or -i) to the same abstract root.



## (30) Transitive/intransitive verb pairs with both members equally marked in Jóola Banjal

<i>-lɔgen</i>	‘hang (tr.)’	<i>-lɔgo</i>	‘hang (intr.)’
<i>-ilɛn</i>	‘put up, erect, stop’	<i>-ilɔ</i>	‘stand up’
<i>-alɛn</i>	‘set down’	<i>-alɔ</i>	‘go down’
<i>-bɔken</i>	‘turn sth. over’	<i>-bɔko</i>	‘turn over (intr.)’
<i>-jjeben</i>	‘wet’	<i>-jjebi</i>	‘get wet’

Finally, we have found 6 verbs lending themselves to a morphologically unmarked causative / anticausative alternation – see (26) above.

#### 5.4. Summary

The following chart summarizes the number of verbs in our contrastive corpus involved in one of the possible strategies making explicit the relationship between transitive verbs and monovalent verbs assigning a role similar to that assigned to the P argument of a transitive verb:

	augmentation	reduction	double derivation	ambitransitivity	ambitransitivity ~ augmentation
Jóola Banjal	15	20	5	6	—
Mandinka	32	3	—	25	2

### 6. Mismatches between the morphological structure of verbs and their valency properties

#### 6.1. Non-canonical uses of the causative suffix in Mandinka

Our contrastive corpus includes 34 Mandinka transitive verbs regularly derived from intransitive verbs via causative derivation, but also 4 transitive verbs with the ending *-ndí* that do not show the expected relationship with the verb from which they seem to derive morphologically.

In the case of *sílánj* ‘be afraid of’ / *sílándí* ‘frighten’, the causative suffix does not have its usual valency-increasing effect, since both verbs are semantically bivalent. However, this use of the causative suffix can be considered regular in the sense that it encodes a change in the semantic role of the subject consistent with its use in canonical causative derivation. This analysis is confirmed by the fact that, cross-linguistically, the same relationship between ‘be afraid of’ and ‘frighten’ can be found in a number of languages having a causative derivation. In particular, the same explanation applies to the double derivation characterizing the corresponding verb pair in Jóola Banjal: *-kolen* ‘frighten’ / *-koli* ‘be afraid of’.

In the case of *báyí* ‘chase away’ / *báyíndí* ‘follow’, both verbs are transitive, and nothing in the meanings they express seems to justify deriving ‘follow’ from ‘chase away’ via the addition of a causative suffix.

In the case of *kíttí* ‘go to court’ / *kíttíndí* ‘judge’, the meaning of the derived verbs is not exactly the meaning expected from the general meaning of causative derivation.

Finally, the transitive verb *terendí* ‘come across’ is synonymous with *terénj*, which expresses the same meaning in an extended intransitive construction in which it assigns the same role to its subject.

## 6.2. Non-canonical uses of valency-changing suffixes in Jóola Banjal

A striking contrast between Mandinka and Jóola Banjal is that the non-canonical uses of the only valency-changing derivation of Mandinka are statistically marginal, whereas the verbal lexicon of Jóola Banjal includes a relatively high proportion of verbs with endings that could represent valency-changing operators, but for which, either no possible source of the derivation can be identified, or a possible source can be identified, but the semantic relationship between the two verbs is not in accordance with the general meaning of the suffix in question.

We have in our contrastive corpus 15 Jóola Banjal transitive verbs analyzable as regularly derived from an intransitive verb via causative derivation, as already mentioned above, but we also have 53 transitive verbs ending with *-en* that cannot be analyzed as regularly derived from an intransitive verb. The existence of such a high number of verbs with the same ending *-en* is probably not due to mere chance. However, for 40 of them, we have not been able to identify a possible source. For 13 of them, a possible source is attested, but with a meaning that excludes a straightforward explanation in terms of causative derivation. For example, *-teben* ‘raise’ is probably cognate with *-teb* ‘carry’, but these two verbs are equally transitive, and the semantic roles they assign do not differ in a way that could justify the use of a causative suffix for ‘raise’ but not for ‘carry’.

A plausible explanation is that the causative derivation of Jóola Banjal is an ‘old’ derivation that was more active at a former stage in the evolution of the language. The situation we observe in the present state of the language suggests that, for most of the verbs that have been formed according to this derivation, either the source has been lost, or the relationship with the source has been blurred by changes in the lexical meaning of either the derived verb or its source.

As regards detransitivizing derivation, a somewhat similar situation is found with the suffix *-ɔr*. As already mentioned, this suffix has productive reciprocal and sociative uses, and is also used to form the decausative or autocausative counterpart of a small number of transitive verbs (see (17) above). But our data also includes 12 transitive verbs with the ending *-ɔr* for which, either no possible source of the derivation can be identified, or a possible source can be identified, but the semantic relationship between the two verbs is not in accordance with the general meaning of the suffix *-ɔr*. In some cases (*-emɔr* ‘meet’, *-nogor* ‘resemble’ *-nappɔr* ‘share in common’), the meaning suggests a sociative / reciprocal derivation whose source has been lost, but this explanation can hardly apply to cases such as *-jimor* ‘forget’ or *-ppeɔr* ‘give birth to’. In such cases, an investigation of possible cognates in other Jóola varieties and in other Bak languages would be necessary before deciding whether the ending *-ɔr* can be viewed as a frozen suffix or not.

## 7. Conclusion

The main contrasts we have observed in the organization of the valency properties of bivalent verbs in Jóola Banjal and Mandinka can be summarized as follows:

- Both languages are obligatory A coding languages with a very strong tendency to generalize transitive coding to nearly all semantic types of bivalent verbs, but this tendency is particularly strong in Jóola Banjal; in both languages, movement verbs and verbs encoding naturally reciprocal events constitute the only systematic exceptions to this tendency.
- In Mandinka, the ability to be used intransitively with a non-specific reading of the P argument is restricted to a limited number of transitive verbs, and this restriction is compensated by a productive antipassive derivation, whereas in Jóola Banjal, there seems to be no particular restriction on the intransitive use of transitive verbs with a non-specific reading of the P argument.
- Mandinka has a cross-linguistically rare type of passive construction with no specific marking, whereas in Jóola Banjal, transitive verbs in passive constructions are marked by a passive suffix.
- As regards the relationship between transitive verbs and monovalent verbs assigning a role similar to that assigned to the P argument of a transitive verb, when this relationship is formally marked, the preferred strategies are (1) augmentation and (2) ambitransitivity in Mandinka, (1) reduction and (2) augmentation in Jóola Banjal.
- The verbal lexicon of Jóola Banjal includes a particularly high proportion of verbs with endings that could represent valency-changing operators, but for which, either no possible source of the derivation can be identified, or a possible source can be identified, but the semantic relationship between the two verbs is not in accordance with the general meaning of the suffix in question.

## Abbreviations

ANTIP = antipassive, CAUS = causative, CL = noun class, CMP = completive aspect, DEF = definite, GEN = genitive, INCMP = incompletive aspect, LOC = locative, MID = middle, NEG = negative, OBL = oblique, PASS = passive, PL = plural, POS = positive, REFL = reflexive, SG = singular

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