The shaping of transitivity and argument structure: theoretical and empirical perspectives
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Phonologically conditioned lability in Soninke (West-Mande) and its historical explanation

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Abstract. In Soninke (West Mande), all non-monosyllabic transitive verbs ending with a front vowel are P-labile, whereas P-lability is almost inexistent among the transitive verbs that end with a non-front vowel. In this article, I show that this unusual distribution of lability results from the evolution of a detransitivizing suffix **-i** that fused with the ending of non-monosyllabic verb stems, with the final outcome that intransitive verb stems originally derived from a transitive verb stem ending with a front vowel via the addition of **-i** became homonymous with the transitive stem from which they derived.

1. Introduction

This paper analyzes the historical origin of the phonological conditioning of P-lability that characterizes the transitivity system of Soninke (**sòonìnkànqánnè**), a Mande language spoken mainly in Mali, Mauritania, Senegal, and The Gambia.

Soninke belongs to the Soninke-Bozo sub-branch of the western branch of the Mande language family. It is only distantly related to the Manding languages (Bambara, Maninka, Mandinka, etc.), which are the best-documented group of Mande languages. The only relatively well-documented Soninke variety is that spoken in Kaedi (Mauritania), for which two comprehensive grammars are available (Diagana O.M. (1984 or 1995) and Diagana Y. (1990 or 1994)), as well as a dictionary (Diagana O.M. 2011). The only other publications directly relevant to the topic of this article are Creissels (1992) on Kaedi Soninke and Creissels and Diagne (2013) on Bakel Soninke. Dialectal variation in Soninke is relatively weak, and I am aware of no dialectal variation that could have an incidence on the analysis of valency-changing derivations and lability. The data presented here are from the Kaedi and Kingi varieties (two geographically distant, but linguistically very close Soninke varieties).

P-lability is a widespread phenomenon across the Mande language family, and several Mande languages are known for having not only morphologically unmarked causal-noncausal alternation (i.e., the type of P-lability illustrated by English **break**), but also morphologically unmarked active-passive alternation. Among Mande languages, active-passive lability is particularly productive in Manding – Cobbinah & Lüpke (2009). In Bambara, all verbs that can be used in a transitive construction can also be used without any specific marking in an intransitive construction in which their subject is assigned the same semantic role as the object in the transitive construction, as in (1). Apart from the total lack of passive morphology, this construction has all the properties of a canonical passive, including the possibility of expressing the agent as an oblique phrase. Moreover, in Bambara, as illustrated

by example (2), with some transitive verbs (but not all), the intransitive construction is ambiguous between a passive reading and a noncausal (anticausative) reading.[1]

(1a) **Wùlû má sògô dún.** (Bambara)
dog.D CPL.NEG meat.D eat
S pm O V
'The dog didn't eat the meat.'

(1b) **Sògô má dún (wùlú fɛ̀).** (Bambara)
1SG CPL.NEG eat dog.D by
S pm V X
'The meat was not eaten (by the dog).'

(2a) **Ń má dàgá cì.** (Bambara)
1SG CPL.NEG pot.D break
S pm O V
'I didn't break the pot.'

(2b) **Dàgâ má cì.** (Bambara)
pot.D CPL.NEG break
S pm V
'The pot didn't break.' OR 'The pot was not broken.'

The same phenomenon is found in Soninke, but with a phonological conditioning. In Soninke, P-lability is exceptional among the verbs whose stem ends with non-front vowels (**a**, **o**, **u**), whereas all transitive verbs whose stem ends with a front vowel (**i** or **e**) are P-labile. This unusual distribution of lability calls for a historical explanation, since it cannot have a functional (or semantic) explanation, and accounting for it in terms of lexical properties of individual verbs would miss an obvious (although surprising) generalization.

The paper is organized as follows. Section 2 briefly presents the most basic aspects of Mande clause structure. Section 3 provides a typological profile of the transitivity system of Soninke. Section 4 discusses the historical scenario responsible for the phonological conditioning of P-lability found in Soninke. Section 5 summarizes the conclusions.

2. The basics of Mande clause structure

From the point of view of morphosyntactic typology, Mande languages are remarkably homogeneous, and sharply contrast in several respects with the other language families with which they are in contact. The most striking characteristic of Mande clause structure verbal is the rigid (and typologically unusual) S (O) V (X) linear ordering of the constituents in verbal predication, found in all Mande languages without exception.[2] Multiple-object constructions are not allowed in Mande languages. In general, Mande languages have very reduced verbal inflection, and express most grammaticalized TAM distinctions, as well as polarity, by means

[1] The third line of the examples gives indications about the structure of the clause, using the following abbreviations: S = subject, pm = predicative marker (see section 2), O = object, V = verb, X = oblique.
[2] S = subject, O = object, V = verb, X = oblique.

of so-called *predicative markers* (pm). The predicative markers are grammatical words or clitics placed immediately after the subject NP (and consequently, separated from the verb by the object NP in the transitive construction).[3] In addition to TAM and polarity, they may express subject indexation and/or provide information about the information structure of the clause, depending on the individual languages.

Example (3) illustrates this type of organization of verbal predication in Soninke, with the two predicative markers **má** 'completive, negative', and **wá**, locative copula fulfilling the function of incompletive auxiliary. In Soninke, the form of the verb is determined by the predicative marker according to a very simple rule: with the locative copula used as an incompletive auxiliary, the verb is in a suffixed form called gerundive, otherwise it occurs in its bare lexical form. Moreover, some predicative markers trigger a tonal change in the verb form (indicated in the gloss by superscript L, cf. (3a-b)).

(3a) **Ké yúgó má xàrà.**
DEM man CPL.NEG study^{L}
S pm V
'This man did not study.'

(3b) **Lémínè-n m(á) í hàabá tù.**
child-D CPL.NEG 3REFL father^{LH} recognize^{L}
S pm O V
'The child did not recognize his father.'

(3c) **Hàatú wá táaxú-nú dàagó-n kànmá.**
Fatou ICPL sit-GER mat-D on
S pm V X
'Fatou will sit on the mat.'

(3d) **Múusá wá dòròkê-n qóbó-nó í yàqqé-n dà.**
Moussa ICPL dress-D buy-GER 3REFL wife-D^{LH} for
S pm O V X
'Moussa will buy a dress for his wife.'

In some Mande languages, the predicative markers include an obligatory subject index, but Soninke, like most West Mande languages, has no core argument indexation at all. As a rule, Mande languages do not have core argument flagging, but Soninke is an exception. However, core argument flagging in Soninke is limited to the use of an enclitic **-n** with interrogative pronouns and NPs including the focus marker **`yá** in subject function (see 3.4).

[3] The predicative markers are sometimes called 'auxiliaries', but most linguists working on Mande languages avoid using this term because it may suggest that the grammatical words in question have a verbal origin, and for the vast majority of the Mande predicative markers, there is no evidence supporting such a hypothesis.

3. The transitivity system of Soninke

3.1. Alignment

Soninke has no core argument indexation, but shows nominative-accusative alignment in flagging (since the mechanism of differential subject flagging described in 3.4 is shared by the agent of prototypical transitive verbs and the sole argument of semantically monovalent verbs) and in the linear ordering of constituents (since the agent of prototypical transitive verbs and the sole argument of semantically monovalent verbs equally occur before the predicative markers, whereas the patient of prototypical transitive verbs occurs between the predicative markers and the verb).

3.2. The formal distinction between transitive and intransitive predication

A striking feature of Soninke is the particularly clear-cut distinction between transitive and intransitive predications. This follows not only from the rigid S (O) V (X) pattern, which excludes ambiguity between the syntactic roles of object and oblique, but also from the fact that three of the morphemes occurring in the predicative marker slot immediately after the subject are sensitive to the *transitive* vs. *intransitive* distinction:

– in the completive positive, a morpheme **dà** is obligatorily found in transitive constructions, but does not occur in the corresponding intransitive constructions – example (4), and the same morpheme **dà** also occurs with the same distribution in the imperative plural – example (5);
– the subjunctive positive is marked by **nà** in transitive constructions and **nàn** in intransitive constructions – example (6); [4]
– in clauses including a focalized term, the locational copula **wá** used as an incompletive marker has two variants depending on the transitivity of the construction: **Ø** in intransitive constructions, and **nà** (homonymous with the subjunctive positive marker) in transitive constructions – example (7).

(4a)

Hànŋé	**ké**	**Ø**	**káawá**	**hàné**	**yírígí.**
river	DEM	CPL.INTR	dry_up	early	this_year
S		pm	V	X	X

'The river dried up early this year.'

(4b)

Yàxàré-n	**dà**	**tíyè-n**	**qóbó**	**sáxà-n**	**ŋá.**
woman-D	CPL.TR	meat-D	buy	market-D	at
S	pm	O	V	X	

'The woman bought meat at the market.'

[4] The form labeled 'subjunctive' combines with noun phrases in subject function in uses broadly similar to those fulfilled by forms traditionally labeled 'subjunctives' in grammars of European languages, but it is also found without an overt subject in uses broadly similar to those of European infinitives. In particular, it is spontaneously used by speakers as the quotation form of verbs.

(5a) **Xà** **Ø** **táaxú** **yíttè-n** **ŋùré!**
2PL^{L} IMPER.INTR sit tree-D under
S pm V X
'Sit under the tree!'

(5b) **Xà** **dà** **lémínè-n** **qírí!**
2PL^{L} IMPER.TR child-D call
S pm O V
'Call the child!'

(6a) **Lémúnù** **kú** **nàn** **táaxú** **yíttè-n** **ŋùré.**
child.PL DEM SUBJ.INTR sit tree-D under
S pm V X
'These children should sit under the tree.'

(6b) **Lémúnù** **kú** **nà** **tíyè-n** **ñígá.**
child.pl DEM SUBJ.TR meat-D eat
S pm O v
'These children should eat meat.'

(7a) **À** **wá** **sállì-ní.**
3SG ICPL pray-GER
S pm V
'He is praying.'

(7b) **À** **Ø** **sállì-ní** **yà.**
3SG ICPL.FOC.INTR pray-GER FOC
S pm V
'He is PRAYING.'

(7c) **À** **wá** **hàrê-n** **gáagà-ná.**
3SG ICPL donkey-D sell-GER
S pm O V
'He is selling the donkey.'

(7d) **À** **nà** **hàrê-n** **gáagà-ná** **yà.**
3SG ICPL.FOC.TR donkey-D sell-GER FOC
S pm O V
'He is SELLING the donkey.'

3.3. Ban on null subjects or objects

Like most Mande languages, Soninke has a total ban on null core arguments, either with a non-specific or anaphoric reading. With the exception of the imperative singular (in which the 2nd person singular subject is not overtly expressed), the subject NP slot must obligatorily be filled in independent clauses, and the object NP slot must obligatorily be filled in the clauses that include a predicative marker marking the clause as transitive.

3.4. Differential subject flagging

In Soninke, interrogative words and focalized NPs in subject function (in transitive as well as intransitive clauses) are obligatorily flagged by a special enclitic **-n** (glossed SBJF for 'subject flag'). This enclitic never occurs with subjects other than interrogative words or focalized NPs, and it cannot attach to interrogative words or focalized NPs in functions other than subject either. This is consequently a quite clear instance of differential subject flagging, whose conditioning fully confirms the typological regularities observed by Fauconnier and Verstraete (2014).

As illustrated in (8), the introduction of the focus particle **`yá** requires the addition of **-n** if the focalized NP fulfills the subject function (8a-b), but not if it fulfills the object or oblique function (8c-d).

(8a)

Ó	**yà-n**	**Ø**	**gòllì**	**dáàrú.**
1PL	FOC-SBJF	CPL.INTR	work^{L}	yesterday
S		pm	V	X

'WE worked yesterday.'

(8b)

Ó	**yà-n**	**dà**	**Múusá**	**qìrì.**
1PL	FOC-SBJF	CPL.TR	Moussa	call^{L}
S		pm	O	V

'WE called Moussa.'

(8c)

Ó	**dà**	**Múusá**	**yà**	**qìrì.**
1PL	CPL.TR	Moussa	FOC	call^{L}
S	pm	O		V

'We called MOUSSA.'

(8d)

Ó	**dà**	**Múusá**	**qírí**	**Démbà**	**yá**	**dànŋá.**
1PL	CPL.TR	Moussa	call	Demba	FOC	for
S	pm	O	V	X		

'We called Moussa FOR DEMBA.'

(9) illustrates the use of the subject flag **-n** with interrogative words.

(9a)

Kó-n	**Ø**	**gòllì**	**dáàrú?**
who-SBJF	CPL.INTR	work^{L}	yesterday
S	pm	V	X

'Who worked yesterday?'

(9b)

Kó-n	**dà**	**Múusá**	**qìrì?**
who-SBJF	CPL.TR	Moussa	call^{L}
S	pm	O	V

'Who called Moussa?'

(9c)

Qá	**dà**	**kó**	**qìrì?**
2PL	CPL.TR	who	call^{L}
S	pm	O	V

'Who did you call?'

(9d) **Qá** **dà** **Múusá** **qírí** **kó** **dànŋá?**
2SG CPL.TR Moussa call who for
S pm O V X
'For whom did you call Moussa?'

3.5. Transitivity prominence

A general characteristic of Mande languages is their moderate degree of transitive prominence, similar to that found in the languages of Western Europe. In Mande languages, the basic transitive construction is the default construction for semantic bivalent verbs in the sense that it extends to many verbs that are not, semantically speaking, prototypical transitive verbs. For example, in the construction of Soninke **ŋàrí** 'see' (10b), the perceiver and the stimulus are encoded exactly like the agent and the patient of a typical transitive verb such as **kárá** 'break' (10a). However, as illustrated in (10c), a sizeable minority of bivalent verbs have an 'extended intransitive' construction in which one of the arguments is encoded as an oblique (i.e. is represented by an adpositional phrase whose postverbal position (X) contrasts with the immediate preverbal position (O) typical for objects).

(10a) **Lémínè-n** **dà** **qóllèn** **kárá.**
child-D CPL.TR calabash-D break
S pm O V
'The child broke the calabash.'

(10b) **Lémínè-n** **dà** **sámáqqè-n** **ŋàrí.**
child-D CPL.TR snake-D see
S pm O V
'The child saw the snake.'

(10c) **Ń** **Ø** **mùngú** **dò** **ké** **lémíné** **tòxó-n** **ŋà.**
1SG CPL.INTR forget with DEM child name-D^{LH} POSTP
S pm V X
'I have forgotten the name of this child.'

3.6. Valency-changing derivations

Soninke has two morphological devices encoding detransitivization or valency-decrease, and one encoding transitivization or valency-increase.

3.6.1. The detransitivizing suffix -i

3.6.1.1. Formal properties of the detransitivizing suffix *-i*

Most verbs that have a transitive stem ending with **a**, **o**, or **u** also have an intransitive stem that can be analyzed as derived from the transitive stem by the addition of a detransitivizing suffix whose underlying form is **-i**. However, this detransitivizing suffix surfaces as a distinct segment (**-yí** or **-nŋí**) with monosyllabic stems only:

kǎ ‘insult’ → **kà-yí** ‘be insulted’
tǔ ‘know’ → **tù-yí** ‘be known’
ñá ‘do’ → **ñá-nŋí** ‘be done’

With non-monosyllabic stems, the presence of detransitivizing **-i** is manifested by a change in the last vowel of the stem that can be explained as the result of the amalgamation of an underlying **i** according to the following rules:[5]

a + i → e (sometimes **i**) as in **kúppè** ‘capsize (intr.)’ < **kúppà** ‘capsize (tr.)’
o + i → e as in **sòxé** ‘be cultivated’ < **sòxó** ‘cultivate’
u + i → i as in **fúutí** ‘stretch (intr.)’ < **fúutú** ‘stretch (tr.)’

The lack of distinct detransitivized forms for non-monosyllabic verbs ending with **e** or **i** will play a crucial role in the analysis of phonologically conditioned lability that will be put forward in section 4.

The detransitivizing suffix **-i** is tonally neuter: stems including this suffix invariably show the same tone pattern as the corresponding underived stems.

3.6.1.2. Syntactic and semantic properties of the detransitivizing suffix **-i**

Depending on the individual verbs with which it combines, **-i** may express various detransitivizing operations, but it is not equally productive in all its possible uses.

Agent demotion is by far the most productive use of the detransitivizing suffix **-i**. Two semantic subtypes can be recognized, noncausal (or anticausative), as in (11b), and passive, as in (12b).

(11a) **Yúgò-n dà wùllì-tùurìntê-n ñóolà.**
man-D CPL.TR dog-rabid-D drown
S pm O V
‘The man drowned the rabid dog.’

(11b) **Lémínè-n Ø ñóolè hànŋé-n ŋà.**
child-D CPL.INTR drown.DETR river-D at
S pm V X
‘The child drowned in the river.’

(12a) **Yàxàré-n dà yìllé-n gòró.**
woman-D CPL.TR millet-D pound
S pm O V
‘The woman pounded the millet.’

(12b) **Yìllé-n Ø gòré.**
millet-D CPL.INTR pound.DETR
S pm V
‘The millet was pounded.’

[5] In Soninke, coda consonants are allowed in stem-internal position, but all nominal, verbal or adjectival stems invariably end with a vowel.

With a few verbs among those that have the ability to combine with the detransitivizing suffix **-i** in deagentive function, the same form also has a reflexive or autocausative use: [6]

bóorà 'undress (tr.)' → **bóorè** 'undress oneself' – example (13)
kàhú 'gather (tr.) → **kàhí** 'gather (intr.)'
húutú 'stretch (tr.)' → **húutí** 'stretch (intr.)

(13a) **Yúgò-n d(à) í rèmmê-n bóorà.**
man-D CPL.TR 3REFL son/daughter-D^{LH} undress
S pm O V
'The man undressed his son/daughter.'

(13b) **Yúgò-n Ø bóorè.**
man-D CPL.INTR undress.DETR
S pm V
'The man undressed.'

With a very small set of verbs (ten or so), the detransitivizing suffix **-i** may also have a antipassive function. As illustrated by **yígé**, intransitive form of **yígá** 'eat' – example (14), with some transitive verbs, the same detransitived form can be found in passive and antipassive function.

(14a) **Lémúnù kú dà tíyè-n ñígá.**[7]
child.PL DEM.PL CPL.TR meat-D eat
S pm O V
'The children ate the meat.'

(14b) **Lémúnù kú Ø yígé.**
child.PL DEM.PL CPL.INTR eat.DETR
S pm V
'The children ate.'

(14c) **Tíyè-n Ø ñígé.**
meat-D CPL.INTR eat.DETR
S pm V
'The meat was eaten.'

3.6.2. The antipassive suffix *-ndì ~ -ndí*

3.6.2.1. Formal properties of the antipassive suffix **-ndì ~ -ndí**

The antipassive suffix has dissyllabic allomorphs with monosyllabic stems:

kă 'insult' → (antip.) **kà-yìndí**

[6] Soninke has two pronouns used productively to express reflexivity: **í** is a long-distance reflexive used in logophoric contexts, and as a reflexive possessive (as in (3b) and (3d) above), whereas **dú** is a local reflexive used for object or oblique reflexivization (cf. 3.7.1). The term 'autocausative' is taken from Geniušienė (1987).
[7] In Soninke, **y** in contact with a nasal consonant is automatically converted into **ñ**, hence the **ñígá** variant of the verb **yígá** 'eat'.

sí ‘shave’ → (antip.) **sí-yíndì**

With non-monosyllabic stems, the antipassive suffix is invariably realized **-ndì** or **-ndí** (depending on the tonal contour of the stem), and triggers no segmental modification of the stem to which it attaches.

Tonally, the antipassive suffix interacts with the stem as indicated in the following chart, where H* and L* must be understood as abbreviations for ‘one or more successive H-toned syllables’ and ‘one or more successive L-toned syllables’, respectively: [8]

tonal types of non-derived verbs	*tonal contour of derived antipassives*
(H*)HH	(H*)HH-L
(H*)HL	(H*)HH-L
(L*)LH	(L*)LL-H
(L*)LHL	(L*)LHL-H
H(L*)LH	H(L*)LL-H

3.6.2.2. Syntactic and semantic properties of the antipassive suffix **-ndì ~ -ndí**

The antipassive function is the only possible function of this suffix – example (15).

(15a) **Sámáqqè-n** **dà** **lémínè-n** **qíñí.**
snake-D CPL.TR child-D bite
S pm O V
‘The snake bit the child.’

(15b) **Sámáqqè-n** **Ø** **qíñí-ndì.**
snake-D CPL.INTR bite-ANTIP
S pm V
‘The snake bit (someone).’

The antipassive suffix **-ndì ~ -ndí** is very productive. In Soninke, the transitive verbs that can be used intransitively in their underived form with a subject representing the agent are quite marginal, the transitive verbs with which the detransitivizing suffix **-i** can be used in depatientive function are not very numerous either, and all transitive verbs that do not belong to one of these two subsets are compatible with the antipassive marker **-ndì ~ -ndí**. In Soninke discourse, the use of antipassive derivation is quite obviously the standard strategy to avoid specifying the identity of the participant that would be encoded as the object in the transitive construction.

[8] Of the four Soninke varieties for which I have tonal data, Kaedi Soninke, Jaahunu Soninke and Kingi Soninke have very similar tone systems, whereas Bakel Soninke shows a marked tendency toward losing tonal contrasts. The tonal data presented in this paper are identical in the three varieties (Kaedi, Jaahunu, and Kingi) for which I have data and in which the existence of a tone system is unquestionable.

3.6.3. The causative suffix *-ndí*

3.6.3.1. Formal properties of the causative suffix -ndí

With very few exceptions, the causative suffix has the form **-ndí** and triggers no segmental modification of the stem to which it attaches. The irregular causative forms include:

tǔ	'know'	→ (caus.) **tù-yìndí**
wú	'cry'	→ (caus.) **wú-ndì**
qàrá	'learn'	→ (caus.) **qàrá-nŋùndí**
bángé	'appear'	→ (caus.) **bángá-ndí**
dìré	'make noise'	→ (caus.) **dìrà-ndí**

Tonally, as indicated by the following chart, the only interaction between the causative suffix and the stem to which it attaches is the conversion of LH-H sequences into LL-H:

tonal types of non-derived verbs	*tonal contour of derived causatives*
(H*)HH	(H*)HH-H
(H*)HL	(H*)HL-H
(L*)LH	(L*)LL-H
(L*)LHL	(L*)LHL-H
H(L*)LH	H(L*)LL-H

As can be seen by comparing this chart with that given above for derived antipassives, the distinction between causative and antipassive forms is ensured by tone for stems whose inherent tone pattern include no LH sequence, but it is not apparent in the case of stems whose inherent tone pattern includes a LH sequence. The risk of confusion is however virtually inexistent, since the antipassive suffix combines exclusively with transitive stems, and the causative suffix has only limited possibilities of combination with transitive stems.

3.6.3.2. Syntactic and semantic properties of the causative suffix **-ndí**

As illustrated by example (16), causativization by means of the causative suffix **-ndí** is fully productive with verbs used intransitively in their non-derived form.

(16a) **Lémínè-n** **Ø** **cáxú.**
child-D CPL.TR lie_down
S pm V
'The child went to bed.'

(16b) **Yàxàré-n** **dà** **lémínè-n** **cáxú-ndí.**
woman-D CPL.TR child-D lie_down-CAUS
S pm O V
'The woman put the child to bed.'

Morphological causativization is less productive with a transitive input. There are transitive verbs for which morphological causativization is usual (for example **yígá** 'eat' > (caus.) **yígá-ndí**), or at least accepted by consultants in elicitation, but with most transitive verbs, analytical causatives are clearly preferred.

As illustrated by example (17), the object of causative verbs derived from transitive verbs may correspond semantically either to the subject or the object of the transitive verb from which they derive, but if both are expressed, as in (17c), the object of the initial construction is maintained as the object of the causative verb.

(17a) **Lémínè-n** **dà** **tíyè-n** **ñígá**
child-D CPL.TR meat-D eat
S pm O V
'The child ate meat.'

(17b) **Fàatú** **dà** **lémínè-n** **ñígá-ndí.**
Fatou CPL.TR child-D eat-CAUS
S pm O V
'Fatou made the child eat.'

(17c) **Fàatú** **dà** **tíyè-n** **ñígá-ndí** **lémínè-n** **ŋá.**
Fatou CPL.TR meat-D eat-CAUS child-D by
S pm O V X
'Fatou made the child eat meat.'

3.7. Reflexivity and reciprocity

3.7.1. Reflexivity

Apart from a very limited set of transitive verbs whose detransitivized form may express object reflexivization, object and oblique reflexivization is expressed in Soninke by means of the dedicated reflexive pronoun **dú** 'self' marking coreference with the subject, either alone or combined with a possessive, without any change in the construction. (18) illustrates object reflexivization. The tonal change undergone by **dú** in (18c) is a general property of the adnominal possession construction.

(18a) **Yàxàré-n** **dà** **lémínè-n** **tàngá.**
woman-D CPL.TR child-D protect
S pm O V
'The woman protected the child.'

(18b) **Yàxàré-n** **dà** **dú** **tàngá.**
woman-D CPL.TR self protect
S pm O V
'The woman protected herself.'

(18c) **Yàxàré-n** **d(à)** **í** **dù** **tàngá.**
woman-D CPL.TR 3REFL self^{L} protect
S pm O V
same meaning as (18c)

3.7.1. Receprocity

Reciprocalization is expressed in Soninke by **mé** 'each other' (cognate with the noun **mê**, plural **mèenû** 'the like of'). **Mé** can be found in any synctactic role other than subject, depending on the syntactic roles involved in the reciprocal relation. (19) illustrates object reciprocalization.

(19a) **Múusá** **dà** **Démbà** **dèemá.**
Moussa CPL.TR Demba helped
S pm O V
'Moussa helped Demba.'

(19a) **Múusá** **dò** **Démbà** **dà** **mé** **dèemá.**
Moussa and Demba CPL.TR each other helped
S pm O V
'Moussa and Demba helped each other.'

3.8. Object incorporation

Soninke has a productive mechanism of object incorporation yielding morphological compounds in which the noun, interpreted as non-specific, occurs in a form distinct from the form it takes as an autonomous word. Interestingly, as illustrated in (20), with verbs ending with a non-front vowel, compound N+V verbs are marked as intransitive by the detransitivization marker **-i**. [9]

(20a) **Yàxàrú-n** **dà** **kónpè-n** **céllà.**
woman.PL-D CPL.TR room-D sweep
S pm O V
'The women swept the room.'

(20b) **Yàxàrû-n** **Ø** **kónpó-séllè.**
woman.PL-D CPL.INTR room-sweep.DETR
S pm V
'The women did room sweeping.'

[9] In Soninke, **s** in contact with a nasal consonant is automatically converted into **c**, hence the **céllà** variant of the verb **séllà** 'sweep'.

3.9. Valency classes of verbs

3.9.1. Strictly transitive and strictly intransitive verbs

Soninke has strictly intransitive verbs (for example **bíré** 'live' or **bònó** 'become spoilt') and strictly transitive verbs (for example **yígá** 'eat' or **séllà** 'sweep'). Strictly intransitive verbs form cannot be used transitively in their underived form with a participant encoded as the object,[10] and strictly transitive verbs in their underived form can only be used transitively with an overtly expressed object. As illustrated by example (21), strictly transitive verbs must undergo morphological derivation before being used in intransitive constructions, whatever the semantic nature of the intransitive construction.[11]

(21a) **Hàatú dà kónpè-n céllà.**
Fatou CPL.TR room-D sweep
S pm O V
'Fatou swept the room.'

(21b) **Hàatú ø séllá-ndì.**
Fatou CPL.INTR sweep-ANTIP
S pm V
'Fatou did the sweeping.'

(21c) **Kónpè-n ø céllè.**
room-D CPL.INTR sweep.DETR
S pm V
'The room was swept.'

3.9.2. A-labile verbs

Among potentially transitive verbs, A-labile verbs can be used intransitively with a subject representing the same agent-like participant as the subject of the transitive construction, but must undergo a detransitivizing derivation in order to be used intransitively with a subject representing the same patient-like participant as the object of the transitive construction. This behavior, illustrated in example (22) by **sòxó** 'cultivate', [12] is extremely rare among Soninke verbs.

(22a) **Yúgò-n dà té-n còxó.**
man-D CPL.TR field-D cultivate
S pm O V
'Moussa has cultivated the field.'

[10] However, some intransitive verbs can be found in a formally transitive construction with 'atypical objects' expressing the temporal or spatial delimitation of the event, cf. Creissels (2017).
[11] On the alternation affecting the initial **s** of **séllà** 'sweep', see footnote 9.
[12] On the alternation between **sòxó** and **còxó**, see footnote 9.

(22b) **Yúgò-n ø còxó.**
man-D CPL.INTR cultivate
S pm V
'The man has cultivated.'

(22c) **Té-n ø còxé.**
field-D CPL.INTR cultivate.DETR
S pm V
'The field has been cultivated.'

3.9.3. P-labile verbs

Among potentially transitive verbs, P-labile verbs can be used intransitively with a subject representing the same patient-like participant as the object of the same verb used transitively, but must undergo antipassive derivation in order to be used intransitively with a subject corresponding to the subject of the transitive construction. This behavior is illustrated in (23) by **ŋàrí** 'see'.

(23a) **Dénbà dà Hàatú ŋàrí sáxà-n ŋá.**
Demba CPLTR Fatou see market-D at
S pm O V X
'Demba saw Fatou at the market.'

(23b) **Hàatú Ø ŋàrí sáxà-n ŋá.**
Fatou CPL.INTR see market-D at
S pm V X
'Fatou was seen at the market.'

(23c) **Hìnkìntê-n ntá ŋàrì-ndì-nì.**
blind-D ICPL.NEG see-ANTIP-GER^{L}
S pm V
'The blind do not see.'

In their intransitive use, P-labile verbs may have a noncausal or passive reading, depending on their lexical meaning.

P-lability is restricted to a subset of the verbs that can be used transitively. Moreover, it is striking that the vast majority of P-labile verbs end with **i** or **e**, and conversely, all the verbs that end with **i** or **e** and can be used transitively are P-labile, which raises the question whether this is really P-lability, or perhaps rather vacuous detransitivization, since Soninke has a detransitivizing suffix **-i** that fuses with the last vowel of non-monosyllabic stems. The historical explanation of this particularity of Soninke will be discussed in section 4.

3.9.4. Reflexive lability

Yánqí ‘wash’, is to the best of my knowledge the only Soninke verb that can be used intransitively in its underived form, not only with a passive or anticausative reading, but also with a reflexive reading.

3.9.5. A/P-labile verbs

A/P-labile verbs have three possible types of uses in their underived form: they can be used transitively with a participant encoded as the object, intransitively with a subject corresponding semantically to the subject of the transitive construction, and intransitively with a subject corresponding to the object. This behavior, illustrated in (24) by **mìní** ‘drink’, is extremely rare among Soninke verbs.

(24a) **Lémínè-n dà qátì-n mìní bà?**
child-D CPL.TR milk-D drink Q
S pm O V
‘Did the child drink the milk?’

(24b) **Lémínè-n Ø mìní bà?**
child-D CPL.INTR drink Q
S pm V
‘Did the child drink?’

(24c) **Qátì-n Ø mìní bà?**
milk-D CPL.INTR drink Q
S pm V
‘Was the milk drunk?’

4. The phonological conditioning of P-lability in historical perspective

As already mentioned above, in Soninke, all the non-monosyllabic verbs ending with **e** or **u** that can be used transitively are P-labile, whereas for monosyllabic verbs and for non-monosyllabic verbs ending with **a**, **o** or **u** that can be used transitively, the general rule is that an intransitive use with a noncausal or passive meaning requires overt detransitivization by means of the detransitivizing suffix **-i**.

Crucially, the detransitivizing suffix has morphophonological properties that explain the (quasi-)complementary distribution between P-lability and overt mediopassive derivation. It surfaces as a distinct segment with monosyllabic stems only, whereas with non-monosyllabic stems, it obligatorily fuses with the last vowel of the stem in a way that can be described as the addition of a palatal feature:

a + **i** > **e**
o + **i** > **e**
u + **i** > **i**

Since **i** and **e** already include a palatal feature, they cannot be modified by fusion with **i**. Synchronically, the (quasi-)complementarity between P-lability and overt mediopassive derivation can therefore be analyzed as a consequence of the fact that mediopassive derivation would apply vacuously to non-monosyllabic stems ending with **i** or **e**.

Historically, non-concatenative morphology often results from phonological processes that blur the boundary between originally distinct morphemes. Consequently, one may assume that, initially, the ancestor of the suffix **-i** did not fuse with the stems to which it attached, and its use was not constrained by the phonological structure of the stem.

One may therefore assume that, originally, P-lability was inexistent (or at least exceptional) in Soninke, as it still is for verbs whose stem ends with non-front vowels. When the detransitivizing suffix **-i** fused with the stem of non-monosyllabic verbs, the fusion operated according to the following rule:

i + i > i
e + i > e
a + **i** > **e**
o + **i** > **e**
u + **i** > **i**

and, consequently, the non-monosyllabic transitive verbs ending with **i** or **e** became homonymous with their mediopassive derivative.

Interestingly, the observation of vowel length provides some additional support for this hypothesis. In present-day Soninke, vowel length is distinctive in non-final syllables of non-monosyllabic words, but in the final syllables of non-monosyllabic words, no length contrast is possible, and phonetically, vowels in word-final position are invariably short. This also applies to monosyllabic words, which are invariably pronounced with a short vowel. The fact that there are some morphological alternations with short vowels in word-final position alternating with long vowels in word-internal position suggests that, originally, vowel length was distinctive in all positions, and long vowels in word-final position lost their length at some point in the history of Soninke.

Turning to the historical scenario sketched above about the detransitivizing suffix **i-**, it is interesting to observe that, when the gerundive suffix attaches to intransitive verb stems derived by means of **-i**, at least with some verbs, the ending of the stem (i.e., the vowel resulting from the fusion of the stem-final vowel and the suffix **-i**) sporadically occurs as a long vowel. For example, the final **a** of **yígá** ‘eat’ is invariably short, and the gerundive of this verb is also invariably **yígá-ná,** whereas the gerundive of **yígé** ‘be eaten’ may optionally be **yígé-né** or **yígée-né**.

In a language in which vowel length is distinctive, the fusion of two vowels can be expected to create long vowels. Consequently, it is reasonable to assume that, originally, the fusion of the detransitivizing suffix **-i** with the last vowel of non-monosyllabic stems created long vowels:

i + i > ii
e + i > ee
a + **i** > **ee**

o + **i** > **ee**
u + **i** > **ii**

When long vowels in word-final position lost their length, the last vowel of the intransitive verb stems derived by means of **-i** automatically lost its length when no other suffix followed the detransitivizing suffix. The sporadic occurrence of forms such as **yígée-né** (variant of **yígé-né**) suggests that, in the initial stage, the vowel resulting from the fusion of the detransitivizing suffix **-i** with the last vowel of the verb stem was maintained its length in word-internal position.

Subsequently, the variant ending with a short vowel generalized to all contexts, but the variant ending with a long vowel is still sporadically found in contact with the gerundive suffix.

5. Conclusion

In general, the transitivity system of Soninke shows the features typical for Mande transitivity systems. However, Soninke also has some interesting specificities: a formal distinction between transitive and intransitive predication more marked than in the other Mande languages, a system of differential subject flagging, productive detransitivizing derivations (both mediopassive and antipassive), a productive mechanism of object incorporation, and phonologically conditioned P-lability.

On this latter point, I have shown that this unusual situation is the result of a sequence of typologically common morphophonological changes:

– fusion of a suffix with the ending of the stems to which it attaches,
– loss of vowel length in word-final position,
– replacement of the form taken by a stem in combination with suffixes by the form it shows in the absence of any suffix.

As a by-product of these changes, which by themselves have nothing to do with the transitivity system, the distinction between transitive stems ending with front vowels and the corresponding intransitive stems derived by means of the detransitivizing suffix **-i** was blurred, giving rise to P-lability for a subset of transitive verbs characterized by the phonological nature of their final vowel.

Abbreviations

ANTIP = antipassive, CAUS = causative, CPL = completive, D = default determiner,[13] DEM = demonstrative, DETR = detransitivization marker, FOC = focalization, GER = gerundive, H (superscript) = high morphotoneme, ICPL = incompletive, IMPER = imperative, INTR = intransitive, L (superscript) = low morphotoneme, LH (superscript) = low-high

[13] A default determiner is a grammatical element that has the syntactic distribution of a determiner, but whose presence has implications for the interpretation of noun phrases in limited contexts only, and can otherwise be analyzed as resulting from a mere syntactic constraint.

morphotoneme, NEG = negative, O = object, PL = plural, pm = predicative marker, REFL = reflexive, S = subject, SBJF = subject flag, SG = singular, SUBJ = subjunctive, TR = transitive, V = verb, X = oblique.

References

Cobbinah, Alexander and Friederike Lüpke. 2009. 'Not cut to fit – zero coded passives in African languages'. In M. Brenzinger and A.-M. Fehn (eds.). *Proceedings of the 6th World Congress of African Linguistics*. Cologne: Köppe. 153-165.

Creissels, Denis. 1992. La voix en soninké. *Mandenkan* 23, pp. 1-24.

Creissels, Denis. 2017. Atypical objects in Soninke (West Mande). *Italian Journal of Linguistics* 29-1. 25-52.

Creissels, Denis & Anna Marie Diagne. 2013. Transitivity in Bakel Soninke. *Mandenkan* 50, pp. 5-37.

Diagana, Ousmane Moussa. 1984. *Le parler soninké de Kaedi, syntaxe et sens*. Habilitation thesis. Paris Descartes University.

Diagana, Ousmane Moussa. 1995. *La langue soninkée: morphosyntaxe et sens*. Paris: L'Harmattan.

Diagana, Ousmane Moussa. 2011. *Dictionnaire soninké-français (Mauritanie)*. Paris: Karthala.

Diagana, Yacouba. 1990. *Éléments de grammaire du soninké*. PhD thesis. Paris: INALCO.

Diagana, Yacouba. 1994. *Éléments de grammaire du soninké*. Paris: Association Linguistique Africaine.

Fauconnier, Stefanie & Jean-Christophe Verstraete. 2014. A and O as each other's mirror image? Problems with markedness reversal. *Linguistic Typology*. 18(1). 3–49.

Geniušienė, Emma. 1987. *The typology of reflexives*. Berlin: Mouton de Gruyter.