

AREAL AND GENETIC FEATURES IN WEST MANDE AND SOUTH MANDE PHONOLOGY: IN WHAT SENSE DID MANDE LANGUAGES EVOLVE?

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The gulf between the South Mande and the West Mande languages with regard to their phonological structure types turns out to be not as wide as it may seem. West Mande languages reveal the traces of some archaic features (a nine or ten-vowel system with vocalic harmony; the absence of nasal consonant phonemes; the possibility of a syllabic nasal in word-final position; the mechanism of homoresonance; the contrast of fortis/lenis consonants), which make Proto-Western Mande close to the South Mande phonological type. This allows a reconstruction of the Proto-Mande type close to the Proto-Volta-Congo model. 'n'

Le fossé qui sépare les systèmes phonologiques des langues mandé-ouest et mandé-sud semble être impénétrable: les systèmes à 5 ou 7 voyelles orales et autant des nasales dans les uns, les systèmes à 9–15 voyelles orales, parfois à l'harmonie vocalique, et à nombre réduit des voyelles nasales dans les autres; le mécanisme d'homorésonance des consonnes', un contraste des consonnes fortis/lenis dans les mandé-sud—et absence de ces traits dans les langues mandé-ouest; l'absence des phonèmes nasales au sud et leur présence à l'ouest. Cependant, l'analyse des irrégularités et des asymétries dans les systèmes phonologiques des langues mandé-ouest révèle des indications d'un état archaïque assez proche de celui des langues mandé-sud (surtout du gouro), et en même temps du Proto-Volta-Congo.

0. INTRODUCTION

The unity of the Mande family as a branch of the Niger-Congo phylum seems to be uncontested.¹ Nevertheless, unlike some other Niger-Congo branches, Mande languages manifest striking differences in their phonological structures. The South Mande languages seem much closer to Kwa, Kru and Benue-Congo than to the Manding branch: predominantly monosyllabic and multitonal, South Mande languages have vocalic systems with nine to fifteen oral vowels, an opposition of fortis and lenis consonants, vowel harmony and homoresonant 'feet'. The Manding languages, on the other hand, have five or seven vowels, two tones, and predominantly disyllabic stems. It is not surprising that Le Saout, in the conclusion to his brilliant book about Guro phonology (1979:59–60), raises the question of a possible common proto-system to the South Mande, Kru and Kwa languages.

The question arises, are the phonological features of the South Mande languages inherited or borrowed? In other words, should they be considered as innovations resulting from contacts with neighbouring non-Mande languages; or as archaic features, maintained in the forests of Côte d'Ivoire and Liberia and eroded in the savannah belt of the North? Or, even further, are they evidence for including the South Mande languages in the large Volta-Congo branch rather than in Mande?

In what follows, I will try to summarise the divergences in the phonological structures between the West Mande and South Mande languages, without pretending, however, to provide final solutions to all of these questions.

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1. MONOSYLLABIC STEMS VS DISYLLABIC STEMS

Monosyllabic stems are common in South Mande. Typical root structures are CV and CLV. The latter can be also realised as CvLV, where the first vowel, 'v', is always of the same timbre as the final; carries no toneme of its own; is normally very short; and is easily elided, which usually prevents it from being considered a syllable nucleus. The lateral element -L- is realised as -r-, -l- or -n-, depending on the initial consonant of the root. Another type of root is CVV, with each vowel having its own tone; such roots are often treated as monosyllabic (Bearth 1971; Bolli and Flik 1973; Le Saout 1979). Roots of the CVCV type are not numerous, and the intervocalic consonant (a lateral non-obstruent in the great majority of cases) is often in free variation with zero. There is still another type of root, CVŋ, with the final nasal element carrying a tone of its own and interpreted as a vowel with a 'zero aperture'. Phonologically long vowels are absent; phonetically long vowels are treated as sequences of two identical vowels with identical tones. The number of phonological level tones is usually three or four, and in north-eastern dialects of Dan it reaches five. Down-drift is usually absent. On the basis of these facts, one can say that the South Mande syllabic and word structures replicate those of the neighbouring Kru languages.

In West Mande, syllables are usually of CV or CVN type (N stands for a non-syllabic nasal; in some languages the nasal is realised as nasalisation on the preceding vowel). Monosyllabic words, although well represented, are far outnumbered by disyllabic ones of the types CVCV, CVNCV, CVCVN, and CVNCVN. Trisyllabic words are often regarded as compounds, but in fact some of them can be traced back to the rather remote stage of the proto-language. In the languages where long vowels represent distinct phonemes, they are normally not attested in word-final position, Mandinka being the only exception. The tone-bearing unit in most of the languages of the group is not the syllable but the word: one and the same tonal pattern extends over the entire word, however long it may be; though there are some languages, such as Vai, where each syllable may carry a tone of its own (Welmers 1976). The number of tonemes in the great majority of the languages is two, and the three tones in Kpelle come from two historically (Dwyer 1973). Down-drift is widespread. In some of the languages, the transformation of the tonal system into an accentual one has occurred (Mandinka, some Kagoro dialects); in some Jallonke dialects of Guinea tones seem to have disappeared (F. Luepke, personal communication).

However different the syllable and root types may appear in South Mande and West Mande, there is no impassable gulf between them. In reality, a disyllabic morpheme in West Mande carrying a single tone (a foot) has very much in common with the CLV syllable in South Mande. The similarity becomes even stronger if we remember that in most Bamana dialects, the first vowel in the foot of the CVIV type tends to vanish, thus creating a new type of syllable, CIV; for example, the Beledugu dialect (Konatè and Vydrine 1989). This process is even more advanced in the Marka-Dafin dialects and in the southern Manding variants spoken in Côte d'Ivoire, in the vicinity of several South Mande languages.

Another trend suggesting drift toward monosyllabicity in many West Mande languages is a widespread process of lenition and disappearance of intervocalic consonants. Few languages are immune to this tendency; Soninke, Susu, Jallonke, Xasonka are among them. In Bamana, velar consonants drop in the frame **a-a**. In Maninka, Mandinka and many Ivorian Manding variants, they vanish in any vocalic context if not preceded by a syllable-final nasal. In the southern Maninka dialects, Vai and Kono, the resulting long vowels eventually lose

their distinction from short ones. On the other hand, many West Mande languages (some Marka-Dafin variants, Lele, Vai, Kono, Mende, some Ivorian Manding variants) tend to eliminate their intervocalic lateral sonorants too. In many languages, a loss of phonological distinction between intervocalic consonants (-l- and -r-; -t- and -r-; -k-, -g- and -x-...) has taken place; this loss can be regarded as a first step towards their elimination. It is curious to note that the trend to monosyllabicity and/or loss of phonological oppositions in the word-internal position seems to be geographically conditioned: it becomes stronger in the south, and the languages resisting it are spoken in the north.

On the basis of these facts, I would hypothesise that the typical Proto-Mande morpheme had a disyllabic structure, a full set of consonantal oppositions in the intervocalic position (comparable to those in the word-initial position), a phonological opposition of short and long vowels in both word-initial and word-final positions (as in Mandinka), and presumably two tonemes. The current situation in the South Mande languages, which has much in common with that in the neighbouring West Mande languages, is an areal phenomenon resulting from the loss of intervocalic consonants, of word-internal vowels or, sometimes, even of initial syllables (in some Dan dialects). It is only natural that the original opposition of long and short vowels failed to survive such a radical restructuring of the entire phonological system. The loss of intervocalic consonants and monosyllabicity resulted in the compensatory increase in the number of tonemes, the process presumably favoured by the presence of a Kru substrate. A phonetic explanation for the increase in the number of tonemes in Niger-Congo languages was advanced by Kay Williamson (1989:28): “The systems which have more than two basic levels are likely to have developed them through the phonetic influence of depressor consonants or floating tones followed by the loss of the conditioning factor”. In the particular case of South Mande languages, the role of depressor consonants seems to have been of utmost importance in Guro (Le Saout 1979; for a comparison of Guro with Yaure, see Vydrine 2003); and in a neighbouring Kru language (see Bearth and Link 1980).

Of particular interest is the phenomenon of the syllabic nasal in the word-final position. Here, too, a link between South Mande and West Mande exists. According to Dwyer’s reconstruction (1973), the word-final nasal in Proto-South-Western Mande carried a tone of its own. It retains this ability in modern Kpelle, a language geographically adjacent to Dan and Mano of the South Mande group. In the other languages of the subgroup it vanished before a pause, but reappears in sandhi contexts and plays an important role in initial consonant alternation. As a preliminary hypothesis I would suggest that the syllabic and tone-bearing word-final nasal in South Mande and in Kpelle reflects the situation in Proto-Mande, while the situation in the other West Mande languages (the non-syllabic character of the nasal, or its realisation as nasalisation of the preceding vowel) represents a more recent development.

2. VOCALIC SYSTEMS

A ‘typically South Mande’ vocalic system can be illustrated by Guro (Le Saout 1979; Vydrine 2003) and Yaure (Lautenschlager 1992). In these languages, nine oral and five nasal vowels are distributed into three harmony series.²

² The vowel /a/ seems to be neutral with regard to ATR. The current practice in description of West African languages is to mark the –ATR vowels as ɪ, ɛ, ɔ, ʊ, but this practice hides the fact that the ±ATR opposition

(1)	+ATR series	-ATR series	Nasal series
	i	ɨ	ĩ
	e	ɛ	ẽ
	u	ɔ	ũ
	o	ɔ̃	õ
	a	a	ã

Le Saout considers the Guro system to be the most archaic in the group, because the other systems underwent transformations: in Tura, the vowel harmony has partly eroded (**ɪ** and **ʊ** are distinct phonemes only when they are long, while the short **ɪ** and **ʊ** are just allophones of /e/ and /o/ (Bearth 1971:31)); in Gban, Mwan, Wan, Ben, the system has reduced to seven oral phonemes; in Dan, to the contrary, it has inflated to twelve oral and nine nasal phonemes in the Blossé dialect, and to fifteen oral phonemes and nine nasal phonemes in the Santa dialect:

(2)		Dan Blossé		Dan Santa
	a.	<i>Oral</i>	<i>Nasal</i>	b.
		ɪ ɯ u	ĩ ũ ũ	<i>Oral</i>
		e ɣ o	ẽ ã õ	ɪ ɯ u
		ɛ ʌ ɔ	ẽ ã õ	ɛ ɣ o
		æ a ɑ	æ̃ ã õ	ɛ ʌ ɔ
				æ a ɑ
				æ̃ ã õ

The back non-labial row seems to be an areal innovation; a full set of central vowels is attested in the neighbouring Kru languages Bete and Godie (Marchese 1989:128). Let us note also that middle vowels as allophones of front vowel phonemes are present in Looma and Kpelle, two South-West Mande languages geographically close to Dan. At the same time, vowel harmony in Dan seems to have disappeared, together with the \pm ATR feature.

South Mande belongs to the set of “languages with no nasal consonant phonemes” (in the sense of Le Saout): the oral allophones of resonants (**ɸ**, **l/d**, **y**, **w**) appear before oral vowels, and the nasal allophones (respectively, **m**, **n**, **ɲ**, **ŋ**) before nasal vowels. In the meantime, some of these languages have a syllabic nasal **ŋ**. Unlike such languages as Manding, where the syllabic nasal is attested in personal pronouns only, it can appear in Dan, Mwan, Wan and Tura in various positions (word-final, word-medial) without losing its syllabic character (Bearth 1971:36; Bolli and Flik 1978:68–69).

A ‘typical West-Mande’ system has seven symmetrical vowels (**ɪ**, **e**, **ɛ**, **a**, **ɔ**, **o**, **u**), and no West Mande language seems to possess more than seven oral vowel phonemes.³ The only modification attested is toward a five-vowel system (**ɪ**, **e**, **a**, **o**, **u**): it has occurred independently in the West Manding branch (Mandinka, Xasonka, Maninka of

is of a different nature to the opposition of open and closed vowels. In fact, \pm ATR is a kind of suprasegmental feature which affects not only the vowels, but also the consonants of the foot. It is not an incidental fact that, in those South Mande languages that have no \pm ATR feature, vowel harmony is also missing.

³ Bobo with its eight vowels (**ɪ**, **e**, **ɛ**, **a**, **ɔ**, **o**, **u**, **ə**) is probably an exception, but the phonemic status of **ə** is not certain. Even if it is a separate phoneme, it may be a recent innovation in this language.

East Senegal and Kenieba, Kagoro) and in Soninke.⁴ The Maninka of Kita seems to represent an intermediary six-vowel stage (**i, e, ε, a, o, u**, Keita 1984), although **ε** may be the result of a more recent restitution (Vydrine 2001:17).

In the great majority of the West Mande languages possessing nasal vowels, these are represented by a full set (**ĩ, ẽ, ẽ̃, ǣ, ɔ̃, õ, ũ** or **ĩ, ẽ, ǣ, õ, ũ** respectively).⁵ They correspond in other languages (Xasonka, Mandinka, Vai, Kpelle) to combinations of the vowels with a final non-syllabic **-ŋ**, and this situation is usually considered as more archaic, i.e.: ***-Vŋ > -Ṽ** (Creissels 1989:95–99; Bole-Richard 1985). South-West Mande languages display different stages in the disappearance of the word-final nasal consonant (in order of waning: Kpelle > Bandi > Loko > Looma > Mende). The impressive trace is, of course, the famous initial consonant alternation. Nasalisation of vowels is attested in Mende in the syllables with initial nasal consonants (and, as such, it is not a phonological feature), while in Kpelle and Looma it can be traced in vanished intervocalic nasal consonants. In Soninke, both nasal vowels and final consonant elements are absent, but their absence can be attributed to the morphology.⁶

All that has been said produces an impression that West Mande and South Mande, interrelated by a certain internal logic, manifest no evident ties between the branches. Taking into account the predominantly monosyllabic character of the South Mande languages, Creissels speculates (1989:107) that the “languages without nasal consonants” developed their “nasal harmony” through contraction of original disyllabic stems of the type CVNV and NVNV. In other words, this author postulates a proto-system close to that of Mandinka or Xasonka. Dwyer wrote (1989:54), “Typically a Mande language has seven vowels, dropping to five in northern areas and increasing to nine and acquiring vowel harmony in southern regions. This gives them a structural resemblance to neighbouring Kwa and Kru languages”.

⁴ This modification can also be considered an areal phenomenon: the groups speaking West Manding languages live in close contact with Soninke. The surrounding Atlantic languages (Pular, Wolof) distinguish only three degrees of aperture as well.

⁵ Here again, Bobo represents an exception: according to Le Bris and Prost (1981), its seven or eight oral vowels correspond to a set of five nasals: **ĩ, ẽ, ǣ, ɔ̃, ũ**. Such a situation is typical for West African languages with Cross-Height Vowel Harmony (CHVH), which makes two hypotheses possible:

a) the vocalic system of Bobo is a result of simplification of a more archaic nine or ten-vowel system with CHVH;

b) the actual vocalic system of Bobo may have an opposition of upper +ATR and –ATR vowels (**ĩ : ȷ, u : ũ**) ignored by the authors of available descriptions (Casali 1995 enumerates many cases where this opposition is disregarded in descriptions of various Gur and Kwa languages written before the discovery of Advanced Tongue Root harmony).

It should be mentioned that the positioning of Bobo in the West Mande branch is not yet an established fact: in most classifications, it was either included under East Mande, or represented as a separate branch parallel with East and West Mande. Kastenholtz’s recent inclusion of Bobo under his North-Western branch of West Mande (together with the Samogo languages, Soninke and Bozo) is based on the ‘shared lexical innovations’ method, but this conclusion needs verification by more reliable methods.

According to yet another source (Sanou 1993:140), southern Bobo dialects (Běgě, Vɔre, Sia) have seven vowels, while the northern dialect Sɔgokire has nine. According to this author, “the latter system is more ancient, it allows explaining of one of the variants of plural markers by vowel harmony”. Unfortunately, he does not provide an inventory of vowels of the Sɔgokire dialect.

⁶ The Soninke evidence leads one to believe that several nasal consonants were opposed in word-final position in Proto-Soninke (and, probably, in Proto-Mande), cf. Vydrine 1994:70–75.

There is, however, some evidence that has not yet been taken into account by linguists and that can be crucial in the discussion concerning the direction of evolution of the proto-Mande vocalic system.

If we consider combinations of initial nasal consonants with the vowels of the second and third degree in seven-vowel West Mande languages (Bamana, Guinean dialects of Maninka, Vai, Mende, Soso, Jallonke...), we will immediately notice an interesting peculiarity: **n-**, **m-**, **ɲ-** combine very well with **ɛ** and **ɔ**, while combinations like **me**, **mo**, **ne**, **no**, **ɲe**, **ɲo** are non-existent in some of the languages and rare in the others. Even in the latter, such combinations are represented mainly by loans or ideophonic words which can be hardly reconstructed at the proto-language level.

From a synchronic viewpoint, this situation cannot be explained: although not numerous, combinations **me**, **mo**, **ne**, **no**, **ɲe** are, however, present, contravening no current combinatory rule. But it is evident that the nasal consonants were incompatible with the vowels **e**, **o** in the proto-language. And if we look for a system where such combinations are impossible, we find a typical South Mande pattern, which is shared by numerous Kwa (Williamson 1973) and Kru languages. The pattern is three series of vowels, nasal consonants that do not represent separate phonemes and appear only in combination with nasal vowels **ĩ**, **ẽ**, **ã**, **ɔ̃**, **ũ**,⁷ and a syllabic nasal, appearing in various positions without nasalising adjacent vowels.

Combinations with nasal consonants are not the only traces of the vowel harmony that presumably existed in Proto-Western Mande. Let us consider restrictions on combinations of vowels in monomorphemic disyllabic words in a seven-vowel Manding language. In Beledugu and Bamako dialects of Bamana (cf. Konatè 1989; Konatè and Vydrine 1989), those restrictions are many. They vary depending on the type of stem (CVCV, CV:CV, CVCṼ, CVCṼ, CVCṼ, CVCṼ, CVCṼ), but one feature is common to all of the types: vowels **e**, **o** are generally incompatible with **ɛ**, **ɔ**.⁸ It becomes understandable if we assume that the nine-vowel system of Proto-Western Mande evolved to the current type through the merger of **i** with **ĩ** and **u** with **ũ**, so that **o**, **e** and **ɔ**, **ɛ** remained the only remnants of the original vowel harmony system.

This evidence allows me to hypothesise that the Proto-Mande vocalic system belonged to the type predominant in South Mande, Kru, Kwa, Benue-Congo and probably Gur languages.⁹

⁷ Or: **ĩ**, **ẽ**, **ã**, **õ**, **ũ**. In the systems with seven oral and five nasal vowels, nasals are usually intermediary in aperture between neighbouring orals. So, **õ** is lower than **o** and higher than **ɔ**, **ẽ** is lower than **e** and higher than **ɛ**... In these languages it would be more precise to mark the nasals as **ẽ̃**, **õ̃** or **ũ̃**, **ẽ̃**.

⁸ I have found in the Beledugu dialect only one exception to this rule: **ɲɔ̃lé** 'grass *Imperata cylindrica*' (**ɲɔ̃lé**, **ɲɔ̃lé** in the Bamana dictionaries of Bailleul (1996) and Dumestre (1981–1992)). Anyway, such cases are rare in Bamana and can be explained by recent developments. In Maninka of Guinea, the corresponding form, **ɲɔ̃lé**, does not violate the rule.

⁹ My hypothesis goes in the same direction as the theory of suprasegmental nasality in Niger-Congo by Bole-Richard (1985) and the no-nasal-consonants approach by Stewart (1983). I would, however, express some objections to Bole-Richard's argumentation. First, his opposition to Stewart's interpretation seems to be merely apparent: in fact, "languages without nasal consonants" and "languages with suprasegmental nasality" are just two different interpretations of one and the same phonological type. Second, contrary to Bole-Richard's assumption, the interpretation of nasality as a suprasegmental phenomenon presents, by itself, no advantage if we try to explain the irregularity of nasal and non-nasal reflexes in the modern languages. If we postulate a suprasegmental element for a proto-language, it cannot be treated as a *deus ex machina* liberating us from the obligation to observe the principles of comparative methodology.

3. HOMORESONANCE

The phenomenon of homoresonance is broadly attested in Kru, Kwa and South Mande languages (for a survey and interpretation of this phenomenon see, among others, Bearth (1992)). The Guro language represents a good example (cf. Le Saout 1979); however, I do not share the suprasegmental interpretation of the phenomenon advanced by this author. In this language, there are two word-internal dental consonant phonemes possible, /l/ and /L/. The phoneme /l/ is realised as [l], which is in free alternation with zero in some vocalic contexts; or as [n] in the nasal context. /L/ is represented by four allophones: [r] or [l] in an oral context, [n] or [ɾ] in a nasal context. The distribution of the former and the latter member of each pair is conditioned by the morpheme-initial consonant: labial and velar consonants (Le Saout's "consonnes graves") go with [l] and [n], dental and palatal consonants ("consonnes aigües") with [r] and [ɾ].¹⁰

In the West Mande languages, the situation seems to have nothing in common with what we observe in South Mande. Let us consider the Manding case, more precisely the Bamana-Maninka-Xasonka-Kagoro-Mandinka complex, which is geographically distant from the South Mande area and reveals some archaic features not retained in most other West Mande languages.

In these languages, 'nasal homoresonance' is no longer present, although there is a certain statistical correlation between nasal consonants in morpheme-initial and morpheme-internal positions. As for the oral word-internal dentals, there are three regular correspondences between these languages that are independent of context and raise no problems.

- (3) Regular correspondences:
- A. -r- in all five languages (Proto-Manding *-r-);
 - B. -l- in all five languages (Proto-Manding *-l-);
 - C. Bamana -r- : Kagoro -d- ~ -t- : Maninka¹¹ -d- ~ -r- : Xasonka -t- : Mandinka -t- (Proto-Mande *T).¹²

There are, however, numerous stems which reveal bizarre and contradictory correlations. On one hand, we have a regular correspondence

- D. Bamana -l- : Kagoro -l- or -r- : Maninka, Xasonka, Mandinka -r-;

on the other, just the opposite:

- E. Bamana -r- : Kagoro -r- or -l- : Maninka, Xasonka, Mandinka -l-.

Taking into account the fact that 'simple' correspondences (types A, B, C) are attested in the same vocalic contexts as the complicated ones (D and E), we can hardly interpret the latter as conditioned variants of the former. Let us postulate *l̥ for the correspondence D in Proto-Manding, and *r̥ for the correspondence E.

¹⁰ In fact, the situation is more complex than is described by Le Saout, but this simplified scheme is sufficient for the understanding of the diachronic problem.

¹¹ Wherever Maninka is mentioned without specification, Maninka of Guinea is meant; or, more precisely, Maninka-Mori (the dialect of the Kankan area).

¹² Galtier (1980) proposes a reconstruction of Proto-Manding *-d- when we have -r- in Kong Jula, and of *-t- when the Kong Jula form has a -t-. Another possibility of differentiation between the voiced and unvoiced dental intervocalic stops in Proto-Manding can be suggested in relation to their opposition, although rare, in Mandinka. This question, however, is not relevant to the problem treated in this paper, and I will not pursue it here.

By way of digression, I would like to mention a peculiar interdependence between intervocalic dentals, initial labials and the vowel quality in the evolution of Manding languages. Let us consider the following correspondences:

(4)	Bamana	Maninka	Xasonka	Mandinka
in-law	búrã	bídã, bírã	bítaŋ	bítaŋ
leaf	fúra	fída, fíra	fíta	fíta
sweep	fúrã	fídã	fíta	fíta
red	bilé, blě	wulé	wùleŋ	wùleŋ
put; abandon	bílá, blã	bílá	bùla	bùla
two	fílá	fílá	fùla	fùla

Here again, we find a divergence between Bamana and West Manding (Maninka being a ‘compromise case’): Proto-Manding ***BUTA** > Bamana **BurA**, West Manding **BitA**; Proto-Manding ***BULA** > Bamana **BilA**, West Manding **BulA**. In other words, intervocalic dental consonants that condition the quality of the preceding vowel have opposite effects in Bamana and in West Manding.

A question arises: Is the influence going in the opposite direction? Do vowels and initial consonants condition intervocalic dentals? Let us consider representative lists of words for the correspondences D and E.

(5) D. Bamana -l- : Kagoro -l- or -r- : Maninka, Xasonka, Mandinka (Mdk.)¹³ -r-

	Bamana	Kagoro	Maninka	Xasonka
Acacia albida	bálansã	ñbálànsá, bálànsá	báransã	(Mdk. báran- saŋ)
bifurcation	bàló, bǎló		bàró, bǎró	(Mdk. bára, báruu)
to boil	bàlabála	bàrabára	bàrabára	bàrabara
flying termite	ñbíli, bíli		bíri	
gravel	bèlé		bèré	bère
lock, key	bàlabàlá ‘lock’		bàrabara ‘key’	
run	bòlí	bòrí	bòrí	bòri
take unawares	bàlá		bàrá	(Mdk. bàra)
smith’s tongs	bàlá	bàlá	bàrá	bàyaŋ (Mdk. bàayaŋ)
hoe up	bùlukú	bùrukú	bùrukú	(Mdk. búruka)
gardenia	búlě, búrě, ñbúrě	búrě	búrě	búreŋ
reel	ndóla, dóla		dóra, dúra, dóro	dóoro
indigo	gàlá	gàrá, gàará	kàrá	gàra

¹³ For economy of space, I provide Mandinka examples only when a Xasonka form is missing, or when the Mandinka form is different from the Xasonka one in some important relation. In most cases, I do not elaborate in the chart the semantic evolution of words in each individual language (they will be represented in all details in the etymological dictionary of Mande on which I am currently working).

	Bamana	Kagoro	Maninka	Xasonka
entrust (Ar. <i>kallafa</i>)	kàlifá		kàrifá	xàrifa
read (Ar. <i>qara'a</i>)	kàlá	kàrá, qàrá	kàrá	xàraŋ
trousers (Ar. <i>kalsa</i> 'stocking')	kùlusí	kùrusí	kùrusí	kùrutí

(6) E. Bamana -r- : Kagoro -l- or -r- : Maninka, Xasonka, Mandinka -l-

	Bamana	Kagoro	Maninka	Xasonka
stick	béreke		bèleké, gbèleké	—
five	dúuru	lúulu	lóolu	lúulu
heavy	gírí	gírí, gírí, gílí	gbílí	xúli
fry	jírã, yírã	yíra, yírã, yílã	yílã	yíla
merchant	jùlá, (Bel.) jùrá	jùlá	jùlá	jùla
rope	jùrú	jùlukíse, jùrú	jùlú	jùlu
prophet	kíra	kíra	kéla, kíla, cíla	kíla
boat	kúrú, kúnu	kúrú, kúlú, kólo, xúlú	kúlú	xúluŋ
copper	nsírã, sírã	̀nsítã, sítã, sùlá	sùlá	—
hyena	súrugu		súluku	
road	síra	síra, síla	síla	síla
fear	sírã	sírã, síra, sílã, síla	sílã	síla
Moor	súrika	síraka	súlaka, sóloka	(Mdk. súlaa)
Tuesday (Ar. <i>ṯala:ṯa</i>)	tàratá	tàratá	tàlatá	tàlata

Even a superficial glance at these lists reveals that in (5) a great majority of words have a labial or velar consonant (Le Saout's "grave consonants") in the preceding syllable (41 cases out of the total of 50),¹⁴ while in (6) dental, alveolar and palatal consonants ("acute consonants") of the preceding syllable are more numerous (10 out of the total of 14).

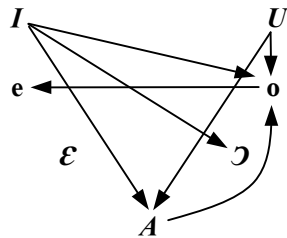
Another factor to be taken into consideration is the vocalic frame. Combinations attested in Bamana of the vowels preceding and following the dental sonorant are shown in (7) below. The direction of arrows corresponds to the sequence of the vowels in a frame; the identical vowels of the frames are indicated by capital italic letters.

¹⁴ I presume that Arab loans beginning with *a-* in fact have a glottal stop before the *a-*, and this glottal stop should be counted with the velars.

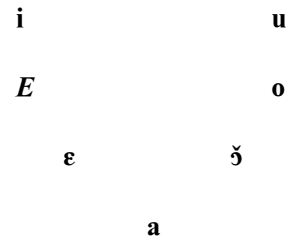
(7) Type CVCV:

a. After a “grave consonant”

Bamana -l-, Maninka etc. -r-

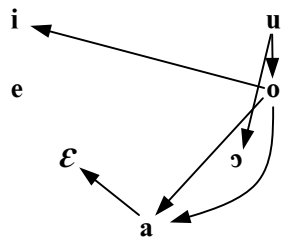


Bamana -r-, Maninka etc. -l-

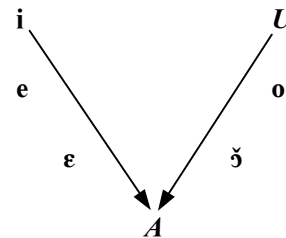


b. After an “acute consonant”

Bamana -l-, Maninka etc. -r-



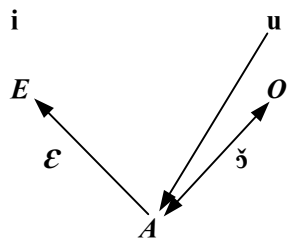
Bamana -r-, Maninka etc. -l-



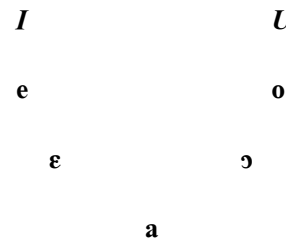
(8) Type CVCṼ

a. After a “grave consonant”

Bamana -l-, Maninka etc. -r-

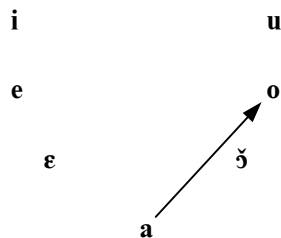


Bamana -r-, Maninka etc. -l-

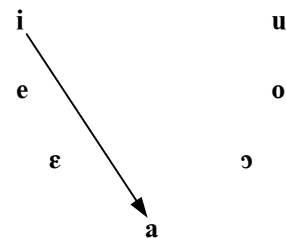


b. After an “acute consonant”

Bamana -l-, Maninka etc. -r-



Bamana -r-, Maninka etc. -l-



It turns out that the correspondences D and E are in perfect complementary distribution, and this distribution has a systematic character.

The situation can be interpreted as follows: There existed in Proto-Manding an intervocalic phoneme *-l- with two allophones, [l] and [r]. The distribution of these allophones was regulated primarily by a Homoresonance Rule of the same type as in Guro, modified to a certain extent through the influence of the surrounding vowels. This rule was still in force in a relatively recent period, so that it affected some Arabic loanwords (unfortunately, these are not numerous enough in my lists to establish any rule). In Bamana, the allophones merged with the reflexes of 'regular' *-l- and *-r- respectively. In Maninka, Xasonka and Mandinka, for unknown reasons, the merger occurred in the opposite direction: *[l] > -r-, *[r] > -l-. The Kagoro language, strongly influenced by Bamana, represents an intermediary case.

I have to admit that there are some mixed cases which follow the general trend described above in some of the languages, but which deviate from it in certain individual languages:

(9)	Bamana	Kagoro	Maninka	Xasonka
Thursday (Ar. 'al-hamis)	àlamísa, àlakámisa	àlhámisa	àlamísa	àraxamisa
hinder	bàlí	bàlí	bàlí	bàli, bàri
habit	dèlí	dèlí, dàlí	dèrí, dàrí	dàli
make	díla, dílá, dála	dlá		dára (Mdk. dádaa, dédaa)
untie	fóni, fálé, félé?	Híli	fúlé, fúré, fóli	firiŋ
reproach	jàlakí	jàrakí	jàrakí	jàlagi (Mdk. jàlayi)
green parrot	sòló	còró	sòló	sòro
supporting pole	ntúloma	túruma	tóloma	túluma
walk	yáala	yáala, yáalá	yáala, yára	yáala

These deviations may be explained in terms of variations in Proto-Manding, or peculiarities in the history of these stems in each particular language.

4. CONCLUSIONS

1. The gulf between the South Mande and the West Mande languages with regard to their phonological structure types turns out to be not as wide as it may seem. West Mande languages reveal traces of some archaic features (nine or ten-vowel systems with vocalic harmony; the absence of nasal consonant phonemes; the possibility of a syllabic nasal in word-final position; the mechanism of homoresonance; the contrast of fortis/lenis consonants), which make Proto-Western Mande close to the South Mande phonological type. This allows a reconstruction of the Proto-Mande type close to the Proto-Volta-Congo model.

2. In the Mande group, the phonological type of a language is shown to depend much more on areal than genetic factors. This factor should be seriously taken into account in reconstructing the proto-language.

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