

TOWARDS PROTO MANDE MORPHOLOGY

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This paper works towards establishing a clearer picture of Proto Mande through the identification of the internal morphology of a selection of Mande Cognates. The identification of such morphemes increases our confidence in establishing Mande cognate sets.

1. **Approach.** Much of the comparative work on Mande in the last 50 years has been based on a methodology that involves the comparison of a relatively restricted listing of common gloss sets for the various Mande languages under consideration. While this approach has proved successful in establishing the unity of Mande and its relation to Niger-Congo, it is now time to move ahead to the next stage in Mande comparative studies and trace phonologically and morphologically the evolution of specific proto Mande morphemes. Among the exceptions to the word-list approach are Westermann (1923) who truly sought to trace lexemes and Prost (1953) who provided commentary on the morphological makeup of the entries in the wordlists he collected for the Southeastern Mande languages. Also along these lines is my own article (Dwyer 1985) tracing the evolution of Western Mande definite articles. It is in the spirit of these efforts that I propose to continue.
2. **Expanding the Data Base.** In the past, such efforts have been hampered by a very limited data base, usually a one hundred word basic vocabulary list, but two major developments now permit us to overcome this limitation. First is the addition of considerable documentation for the Mande languages in the form of

dictionaries, grammars and comparative studies which make possible a richer comparative data base so necessary for an expanded comparative morphology.

Secondly, we can more efficiently manage these databases through the application of high-powered data-base microcomputer programs. Once machine readable, this comparative data is relatively easy to manipulate in the search for Mande cognates. Not only can these dictionaries be re-alphabetized according to their glosses, but the re-alphabetized glosses from different languages can be mingled using a variety of parameters for inspection for possible cognates which can then be marked and so sorted for further comparison.

3. Towards Proto Mande Morphology. Using this kind of methodology I have embarked on a broad project to construct and enlarge our inventory of Mande cognates. While the project is in its infancy, I have begun with the 100 word list for Western Mande collected by Long (1971) and the 325 word list collected by Prost (1953) for the Eastern Mande languages, and have supplemented them with dictionaries of Susu (Friedlander 1971), Bobo (LeBris and Prost 1981), Sembla (Prost 1971) and grammars of Soninke (Kendall et. al 1980) and Vai (Welmers 1976) as well as my own comparative work in Southwestern Mande. While the real work will begin with a building up to the proto system on a subgroup by subgroup basis, my initial work began with an attempt to get an overview of proto Mande so I could appreciate what I was working toward. I wanted some sense of the proto Mande

phonological system and well as a representative sample of Mande cognates (Dwyer 1987a and 1987b). This work has led to a first approximation of Mande correspondences is given in Figure 1. The explanation of the languages used and their relationships is given in the next section.

Proto	p	b	f	m	t	t'	d	l	s	z	n	k	k'	g	w	rj	kp	kp'	gb	y
Mandekan	f	b	?	m	t	t	d	d	s	s	n	s	k	s	k	ny	s	b	b	j
Kono-Vai	f	b	?	m	t	t	d	d	s	s	n	k	k	k'	ny	k	gb	b	y	
Susu	f	b	?	m	t	t	d	d	s	s	n	k	k	?	x	y	k	?	b	y
SWM	p	b	p	m	t	l	l	l	s	s	n	k	k	k	g	ny	k/B	kp	B	y
Soninke	f	b	?	m	t	t/d	d	l	s	y?	n	k	k	k	y	y	k	?	b	y
Sembla	f	b	d	m	t	t/d	d	d	s	s	n	k	k	k	k	?	kp	?	b	j
Bobo	f	b	f	m	t	t	d	d	s	s/y	n	k	k	k	g	ny	k	?	gw	y
San	p	b	f	m	t	t	l	l	s	z	n	k	k	g	w	ny	k	b	gb	y
Busa	p	b	?	m	t	t	l	l	s	z	n	k	k	g	w	ny	kp/k	gb	gb	i
Mano	p	b	v	m	t	t	l	l	s	z	n	k	k	g	w	ny	kp	gb	gb	y
Dan	p	b	?	m	t	t	l	l	s	z	n	k	k	g	w	ny	kp	gb	gb	y
Guro	f	b	v	m	t	t	l	l	s	z	n	k	k	g	w	ny	p	b	b	y
Mwa	p	b	v	m	t	t	l	l	s	z	n	k	k	g	w	ny	kp	gb	gb	y

Figure 1.

The present paper continues along these lines by examining a selection Mande comparative wordsets in an attempt to identify in them evidence of internal morphology and to add to the discussion already started by Prost and Westermann. Such attempts, while necessarily speculative at this time can serve to test reconstructions based on single gloss comparisons. That is, by detect the same morpheme in more than one word set, we can gain confidence in our our identification of true cognates and increase our understanding of their development.

Rather than examine all the roughly 27 Mande languages at this time, I have chosen to select representative languages (or

proto languages) as a first approximation. These languages along with their relation to Mande and percentages of cognation as proposed by Bimson (1980) are given in figure (2).

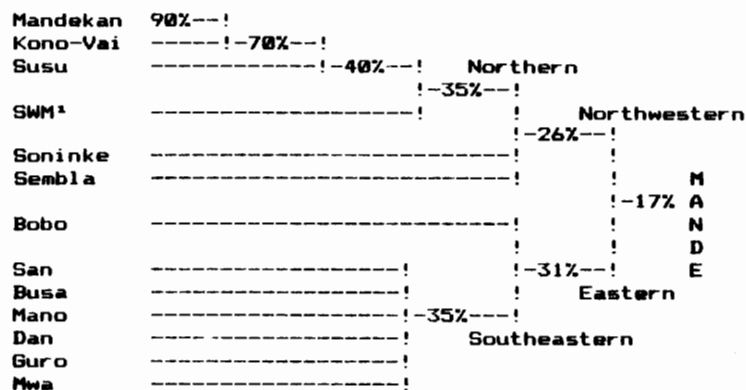


Figure 2.

4. Water. One of the best known examples of Proto Mande morphology, as Prost has noted, is the composition of 'saliva' as 'mouth-water' and the analogous 'milk' as 'breast-water'. Figure (3) brings out two characteristics of Proto-Mande morphology.

The first is the theme of fortition-lenition of initial consonants that gives rise to the phenomenon of consonant mutation in some of the languages (e.g. SWM, Dwyer, 1974) and which (as figure 1 also illustrates) generally yields stronger consonants in the Northwestern languages and weaker consonants in the Southeastern languages. As I have suggested elsewhere (Dwyer 1985) this "alternation" is closely linked to the presence (and

¹SWM (Southwestern Mande includes five languages: Kpelle, Lorma (Loma, Toma) Bandi, Loko and Mende spoken in Liberia, Guinea and Sierra Leone.

absence) of a nasal particle /#n/ which often functions as a 'definite article' but has the mobility of a 'class marker'. Thus, Soninke: /kon-/ and Mano: /nyoN/² may well represent an "alternation" involving this nasal (e.g., /#n-kon/ 'breast'.

The second theme involves the considerable vowel variation which I suspect results from assimilatory and harmonic influences

number ³	242	248	142	306	305
gloss	mouth	saliva	water	breast	milk
Proto	*da	*da-yi	*yi	*n-kōN	*n-kō-n-yi
Mandekan ⁴	da	da-ji	je	sin	nɔnɔ
Kono-Vai	da	da-	yi	susu	susu- ji
Susu	dɛ	sɛ-yɛ	yi	sisi	xi-n-yɛ
SWM	la	la-yi	ya	n- en-i	ge-n- iya (nɔnɔ)
Soninke	laqqe	laxan-ji	zu	kon-bɛ	-xa-t- ti
Sembla	jo	jon-fago	jo	kye	kye-n-dyo
Bobo	do	dibe	ji, zio	nyingi	n-yan-ningi
San	le	sɛ	mun	nyo	---
Busa	le	le-i	i	nyo	n-yo- i
Mano	le	le-yi	yi	nyoN	---
Dan	Di	Di-li	yi	nyoN	---
Guro	le	leri	yi	nyoN	n-yo-N-yi
Mwa	le, di	liri	yi	nyoN	n-yo-N-yi

Figure 3.

²The uppercase N is used here to mark nasalization on preceding vowels. Because it is my suspicion that nasalization of Mande is a progressive phenomenon, I prefer this orthographical device to the use of a tilde over the vowel.

³When Prost (1953) listed his cognate sets, he arranged them by presumed proto initial consonants and numbered them sequentially. The retention of Prost's numbering both avoids potential confusion and provides recognition of Prost's contribution. Accordingly, some entries have a second number preceded by a "W". This marks cognate sets identified by Westermann (1923).

⁴The Mandekan examples are primarily, but not exclusively from Bambara. Examples from other Mandekan languages have been substituted when they were felt to be more representative.

from neighboring vowels in general and from another definite suffix, this time a high front definite article, though in these examples I have refrained from complicating the representation of these morphemes by including such a particle.

5. Numerals. Prost was well aware of the internal morphology found in the numbers. Clearly, 'six', 'seven, and 'eight' are constructed using the base 'five' plus 'one', 'two', and 'three'. This morphology gives the base lexeme for 'one' as /*do/ with /gelen/ as an apparent innovation in Western Mande. Likewise this establishes: /*pele/ for 'two' which differs slightly from Prost's /*pra,fla/. I prefer a /*CVCV/ pattern with vowel loss to account for some of the Southeastern variants because this vowel loss seems to represent an areal phenomena. I also have proposed /*soli/ 'five' in place of Prost's /*suru/ because of the prevalence of vowel harmony in Mande. While it is possible to account for the unroundedness of the second vowel by positing a high-front definite suffix, as is argued elsewhere, this suffix is not normally attached to numerals. Prost also notes that Bobo has adopted the form /soro/ for 'hand', even though the proto form for 'hand' is more something like /*kpolo/. The strong medial consonant for 'three' suggests the possibility of morphological complexity. This view receives some morphological support in 'eight' for the Southeastern Mande languages, though such an analysis would leave in doubt the morphological status of the first syllable /ya or sa/. In addition, the lexeme for 'three' /*sakpa/ illustrates an /*s > y/ development in South

Eastern Mande.

gloss	one	one	two	three	four
		*do	*pela	*sa-kpa	*naxaŋ
Mandekan	kelen		fila	sakpa	nani
Kono-Vai	celen	dondo	fera	sagbe	nani
Susu	kelen		firiŋ	saxan	naani
SWM	gila		fele	sagba	naani
Soninke	bana	doo	fil-lo	sik-ko	naxato
Sembla	soen		fi	suf	naa
Bobo	ken	tele	pla	suo	naŋ
San		do	pa	so	si
Busa		dɔ	fla	---	siho
Mano		do	pele	yaka	yise
Dan		dɔ	pira	yaka	yisie
Guro		du	fia	yaa	ziyen
Mwa		do	ple	yaga	yizie
gloss	five	six	seven	eight	
Proto	*sori	*soro-do	*sori-pele	*sori-(sa)kpa	
Mandekan	soolu	woro	worom-fla	segi	
Kono-Vai	soru	sun-dondo	sum- fera	sun-sagba	
Susu	suli	sem-ni	solo- fere	solo-ma-saxan	
SWM	zɔɔ	we-ita	wɔɔ- fla	wa-yakpa	
Soninke	karago	tun-nu	nyeru	segu	
Sembla	no	tsiin	nyeen	kaa	
Bobo	sɔɔ	konna-la	ko-pra	koro-sonɔ	
San	sɔɔ	soro	so-ba	kibsi	
Busa	soro	solo-da	su-fla	sora-ho	
Mano	soli	sara-do	sara-pele	saa-ka	
Dan	suru	sa- do	sa-peŋ	saa-ka	
Guro	soru	sɛ- do	sura-fie	sora-a	
Mwa	sɔ	sora-do	sora-ple	sora-a	

Figure 4.

6. Male. Prost notes the confusion between /*saga/ 'sheep' and /*bole/ (termed 'goat' for convenience). As in a number of other Mande words, the status of the second syllable is unclear. Typically Mande second syllables have weak consonants and

harmonic vowels. The restricted nature of this second syllable, possibly as low as 15 types suggests some sort of class marker, though no other convincing Mande-internal evidence exists to support this view.

In the Eastern Mande languages, a couplet */*bera/* 'sheep' seems to have evolved on the */*bole/* source and displacing */*saga/* 'sheep'. Alternatively */*bera/* may be a morphologically complex proto form which */*saga/* has displaced.

The most pervasive formation of the male of the species is through the use of a suffix */*gure-n/* with devoicing in the Western Mande languages. This suffix corresponds closely with */*gure/* 'male'. In that regard *Sembla: kole-mo* and *SWM zu-nu* appear to be compounds of male and person (represented by both */nu/* and */mo/*).

number	22	23	24	25,214	120
gloss	goat	buck	sheep	ram	man
Proto	<i>*bo(re)</i>	<i>*bore-guren</i>	<i>*saga</i>	<i>*saga-guren</i>	<i>*gure-n</i>
Mandekan	ba	ba- koro	saga	saga-koro	xame/ke
Kono-Vai	ba		bara-wa	---	kai
Susu	---	---	yεε	---	xuma
SWM	Boli/yie		Bara		zu-nu
Soninke	su-go	---	jaxe	---	yugo
Sembla	bi	---	sega	segaba	kole-mo
Bobo	gwa	gu gura	sege	kekyere	gon
San	bwe	---	sere	si-gula	gule
Busa	ble	ble-sa	sa	da-gu,karo	gungbe
Mano	bɔ	bɔ-gon	baa	---	---
Dan	bɔ	bɔ-gon	bla	bla-gon	gon
Guro	bori	gyagya	bera	bra-kone	gɔre
Mwa	bɔ	bɔ-guren	bla	bla-gure	guran

Figure 5.

7. Birds. Prost notes that the root */*ko/* is possibly a root for

'bird'. Because of the reflex in Mande */ɲwoni/* (<*n-goni* via a variant of Meinhoff's law) the proto form is more likely */*go/*. The Eastern Mande languages have an alternative lexeme */*n-bo-ne/*. 'Hen' shows a consistent lexeme */*to/* meaning either something like 'chicken' or being a prefix to the stem */*ko/* 'bird', but see 9 'female' below. The sibilant variant */*si/* appears to be a natural development. The male suffix shows up in several instances along with the possibility of */*sa/* as another.

number	211	33	210	32
gloss	hen	chicken	rooster	bird
Proto	to-go			<i>*n-go-(ni)</i>
Mandekan	si-se	syε	do-n-do	ko-no
Kono-Vai	to-xu-le	tiε	---	ko-no
Susu	to-xe	---	---	xɔ-ni
SWM	te-ge	te-ge	---	ɲ-wɔ-ni
Soninke	se-line	---	gamma	ye-lin-ge
Sembla	te-ge	---	kukoo	ka-lle
Bobo	na-non	na-non	---	ye-la-la
San	ko-ro	ko-ro	ko-sa	ben-ne
Busa	ko	ko	ko-sa	ban
Mano	to-go-n	to-mu	to-gon	mon
Dan	to-gon	to-de	to-goN	ma-ne
Guro	ma-ne-bu	ma-ne-bu	ma-wuren	mia-ne
Mwa	ma-ne-bu	ma-ne-bu	ma=gulen	ma-ne

Figure 6.

8. Cattle. The morpheme for 'child' */*n-de-n/* shows up clearly in 'calf'. The recurrent */d - n/* "alternation" shows up in both 'child' and 'cow', reflecting the influence of the proposed nasal prefix */n-/* though the languages in which they appear is reversed. The word 'cow' may well consist of four proto morphemes: */*n-/*di-/*n-/*ke/* part-cattle-part-female.

Phonologically the nasal functions differently in each language,

preventing voicing with loss, causing voicing (with loss) and merging with a following voiced consonant. While argued earlier that this nasal particle might be a definite article, this instance seems to suggest a concordial situation and possibly the vestige of a class system. I have resisted this analysis because there seems to be no semantic correlation between those lexemes which take the /n-/ prefix and those which don't.

There is further suggestion of a feminine suffix /ke/ or /ge/ which is taken up in 9 below. The basis for the variation between /diri/ and /di/ is unclear. Prost posits two forms, /di/ and /dir/. Taking the second form as basic, one can derive the two forms /di/ and /diri/ as alternate strategies for generating the open syllabled morphemes so characteristic of Mande. Alternatively, the /r/ might well be a denasalized /n/ which is lost in some instances.

number	120	290	63	65
gloss	man	child	cattle	calf
Proto	*gure-n	*n-de-n	*n-di-n	*n-di-n-de-n
Mandekan	xa-me/ke	deN	m i-si	misi -de-n
Kono-Vai	kai	deN	---	---
Susu	xu-ma	dinae	---	---
SWM	zu-nu	lon-po		
Soninke	yugo	loN	---	---
Sembla	kolemo	don	fuin	---
Bobo	gon	non	nyanga	n-ya-n-no-n
San	gule	ne	de-ri	den- ne
Busa	gungbe	ne	zu	zu- fiyen
Mano	---	ne	di	di-n- yuno
Dan	gon	noe	du	du- noe
Guro	gore	lu	di-ri	di-ri-blun
Mwa	guran	ne	di-ri	di-n- e

Figure 6.

9. Female. Though the distinction between cow as 'a species' and as 'female of that species', the morpheme /ge/ appears to mark 'female'. The softening of /k > s/ is common in many of the Northern Mande languages. The reflex /ri/ may well represent a continued weakening of the voiced variant and its interpretation as an /r/ e.g. /ke --> ge --> ri/, but see other discussion in the previous section. Other reflexes of the morpheme /ge/ 'female' appear in 'wife' where Mandekan /muso/ is literally 'person-female'. The suffix is also found in 'woman' where it combines with some other root /ya/. with the same result. There is also an interpretation of 'chicken' as the female of the species /to/, but see 7 above. The Dan form /debo/ is clearly a borrowing from Fulfulde /debbō/ where the word has a rich morphology.

number	48	47	63	46	33,321
gloss	mother	wife	cow	woman	chicken
Proto	*n-da	m-n-s	*n-di-n-ge	+n-ya-ge-la	*to-go
Mandekan	ba	mu- su	m i- si	mu-so	sise
Kono-Vai	n-de	mu- su	n- i- ge	mu-so	to-xu-le
Susu	n- a	n-ya-xala	n- i- n-ge	n-ya-xa-la	to-xe
SWM	n-le	n-ya-za	n- i- n-ke	n-ya-za	te-ghe
Soninke	yimma	ya-xara	n- a-	ya-xara	se-lie
Sembla	n-ya	me-n- i	n- i- gi	me-ni	te- ge
Bobo	n- a-n	yu-gon	n-yu-n-ga	yu-go-n	na-non
San	n- a,	lɔ	di	lɔ	ko-ro
Busa	-da	n- o	zu	no	ko
Mano	n- a	n- a	di	na	to-go-n
Dan	de	debo	du	debo	to-gon
Guro	bu	n- e-n	di-r- i	neN	mane-bu
Mwa	le	n- a	di-r- i	na	mane-bu

Figure 7.

10. Fire. The collection here is both semantically and phonologically similar suggesting that morphology plays a role. If so 'fire' appears to be the least (morphologically) complex and a likely base upon which the other lexemes are constructed. 'Ash' may well be a compound consisting of 'fire-dirt' as there is some evidence (not presented here for a lexeme 'dirt' something like /*bo/. The evidence (both paradigmatic and syntagmatic) needed to reveal the meanings for the proposed /*-ye/ and /*-gi/ for 'heat' and 'black' is insufficient. Likewise, the question of a role for /*ta/ in the lexeme 'quench' is moot. Although the data is scant, 'cloud' (not shown) may also involve the base lexeme /*ta/.

number	230	341	323	169W26	350	253
gloss	black	black	fire	heat	ash	quench
Proto		*ti-gi	*ta	*ta-ye	*ta-bu	+li-po
Mandekan	fin	ti-gi	ta	te	ta-bu	da-bo
Kono-Vai	fin-ε	ti-ε	te	[so]	---	du-fe
Susu	fɔɔ	di-mi	te	[gbu]	---	[xuben]
SWM		te-li	[ɲon] ⁹	lu	lu-vu	---
Soninke	fina		[yinbe]	ta-ye	[xame]	---
Sembla	pi	ti-ε	ta	ta-fen	[nyɔɔ]	[kpin]
Bobo		du-gun	tɔɔ	tu	yi-be	di-be
San		ti	te	[furu]	to	li-pi
Busa		si-ra	te	[wova]	ti-bu	li-hi
Mano	---	---	te	ti-ye	yo-ve	li-pi
Dan	[ti]	ti	sie	te	[vo]	du
Guro	[ti]	ti	ce	cece	(cey)	di-ri]
Mwa	[tetirin]	---	tue	---	(je)	le

Figure 8.

⁹The use of square brackets marks entries that are presumed non cognates.

11. Sounds. 'Sing' and 'song (often 'dance')' in some instances are identical, while in others 'sing' is formed by adding the lexeme 'do' to 'song, dance'. The voiced variant, as mentioned earlier may reflect the influence of a prefixed nasal article. If we recognize a lexeme /*to/ its probable meaning is something like 'noise'. Perhaps 'fart' is in this regard a euphemism. Note that the verbal form is also formed with a 'do' verb. Again insufficient information prevents attempting glosses for the suffixes for 'ear'/*-lo/ and 'name'/*-go/. Very weak evidence hints at possible reflexes in 'laugh' and 'voice'.

gloss	358	351	355	244	244	278	250
Proto	+to-lo	*to-go	*toN(-bo)	sing	song	laugh	voice
Mandekan	to-lo	to-go	toN	*toN-ko	*n-toN	*yeli	*woli
Kono-Vai	to o	toro	---	don-...	don	yele	ko
Susu	[xu-li]	[xi-li]	---	---	don	---	---
SWM	[go-li]	laa	lun-bo	[sigi]	[sigi]	yele	xoi
Soninke	to-ro	to-xo	to	[suugu]		yeli	goli
Sembla	to-ro	to-go	---	kuee	rage	sayi	---
Bobo	tu-ro	to-go	toN	turu..	son turu	---	gure
San	tɔ	to	toN..bo	ler..	lo loe	zi	kon
Busa	tu-r	to	tu...bo	le..	si	yirasu	leo
Mano	to	tɔ	toN..bo	taN..	bo	yado	livi
Dan	tu-le	tɔ	toN..bo	taN..	bo taN	siye	---
Guro	te-ren	tɔ	tuN..bo	taN..	bo taN	yeto	we
Mwa	troNna	tɔ	toN..wa	nene..	fo nene	suesi	we
				soro..kpa	soro	soNse	we

Figure 9.

11. Conclusion. The discussions here, which have added to that offered by Prost (1953) concerning Proto Mande morphology must be seen here as very tentative. Nevertheless, such discussions help to solidify our understanding of the Mande lexical base as well as some of the issues relating to them such as fortition-lenition

and the character of a possible inflectional /*n/ and /*i/.

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