This paper works towards establishing a clearer picture of Proto Mande through the identification of the internal morphology of a salience 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 Proost (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 1953) 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 database 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 singled 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 525 word list collected by Prost (1953) for the Eastern Mande languages, and have supplemented these with dictionaries of Soninke (Friedland 1977), Bobo (Ladris and Prost 1981), Semba (Prost 1971) and grammars of Soninke (Kendall et al. 1968) and Vai (Weisert 1976) as well as my own comparative work in Southwestern Mande. While the real work will begin with a building up of 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 (Prost 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  b b a t t t d s n k g w y b y
Mande-B  b b a t t t d s n k g w y b b
Mande-V  b b a t t t d s n k g w y b b
gal  b b a t t t d s n k g w y b b
Soninke  b b a t t t d s n k g w y b b
Semi  b b a t t t d s n k g w y b b
Bah  b b a t t t d s n k g w y b b
Soninke  b b a t t t d s n k g w y b b
Soninke  b b a t t t d s n k g w y b b
Semi  b b a t t t d s n k g w y b b
Boo  b b a t t t d s n k g w y b b
Soninke  b b a t t t d s n k g w y b b
Boo  b b a t t t d s n k g w y b b
Soninke  b b a t t t d s n k g w y b b
Semi  b b a t t t d s n k g w y b b
Semi  b b a t t t d s n k g w y b b
Figure 1.

The present paper continues along these lines by examining a selection Mande comparative word sets 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 detecting the same morpheme in more than one word set, we can gain confidence in 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 for
proto languages] as a first approximation. These languages along
with their relation to Mande and percentages of cognition as
proposed by Riess (1988) are given in figure (2).

<table>
<thead>
<tr>
<th>Language</th>
<th>% of Mande</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soninke</td>
<td>26%</td>
</tr>
<tr>
<td>Sembia</td>
<td>17%</td>
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<td>Buba</td>
<td>5%</td>
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<tr>
<td>Mano</td>
<td>35%</td>
</tr>
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</table>

Figure 2.

4. Water. One of the best known examples of Proto-Mande
morphology, as Prost has noted, is the composition of *sall* as
a *south-water* and the analogous *mil* as *breast-water*. Figure
(3) brings out two characteristics of Proto-Mande morphology.
The first is the theme of fornication-division of initial
consonants that gives rise to the phenomenon of consonant
mutation in some of the languages (e.g. SMI, Deyer, 1974) and
which (as figure I also illustrates) generally yields stronger
consonants in the Northwestern languages and weaker consonants in
the Southeastern languages. As I have suggested elsewhere (Deyer
1985) this *alternation* is closely linked to the presence and (3)
existence of a nasal particle /m/ which often functions as a
definite article but has the mobility of a *class marker*.

Thus, Soninke /kon-/ and Mano /nyon/ may well represent an
*alternation* involving this nasal (e.g. /m-kon-/*breast*).

The second theme involves the considerable vowel variation
which I suspect results from assimilatory and harmonic influences
number | 242 | 240 | 142 | 386 | 385
---|---|---|---|---|---
gloss | mouth saliva water breast milk
Proto | ma | mi-xi | yi | sain | nyo
Mandeke | de | di-ji | je | sin | nyo
Kono-Vai | de | di-ke | je | sene | sene-ji
Mano | de | se-yi | yi | sise | siso-n-yi
SM | la | li-yi | ya | n-mi | gen-lya
Soninke | laqe | laxen-ji | zu | kon-be | sa-t-ti
Sembia | jo | jon-pago | jye | jye-n-dye
Dobo | do | dib | jil, jio | nyo-lingi | n-yo-lingi
San | le | se | sii | nyo | ---
Buba | le | lei-1 | yi | nyo | n-yo-1
Mano | le | lei-1 | yi | nyo | n-yo-1
Dan | di | li-i | yi | nyo | n-yo-1
Soro | le | le-y | yi | nyo | n-yo-1
Mea | le | di-i | yi | nyo | n-yo-1

Figure 3.

* The 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.

* When 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 *. This marks cognate sets identified by Westermann (1923).

* The Mandeke examples are primarily, but not exclusively, from Barbary. Examples from other Mandeke 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. Numeral. 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 /a/ with /gel/ as an apparent innovation in Western Mande. Likewise this establishes /gel/ for 'two' which differs slightly from Prost's /gel/, a pattern with vowel loss to account for some of the Southeastern variants because this vowel loss seems to represent an areal phenomenon. I also have proposed /gel/ as 'five' is place of Prost's /soro/ because of the prevalence of vowel harmony in Mande. While it is possible to account for the soundlessness 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 something like /kolo/. 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 have a doubt the morphological status of the first syllable /ya/ or /a/. In addition, the lexeme for 'three' /saro/ illustrates an /a\u0103/ development in South

<table>
<thead>
<tr>
<th>Eastern Mande</th>
<th>gloss</th>
<th>one</th>
<th>two</th>
<th>three</th>
<th>four</th>
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</thead>
<tbody>
<tr>
<td>Mandanen</td>
<td>kelen</td>
<td>dolo</td>
<td>fole</td>
<td>sakpa</td>
<td>nani</td>
</tr>
<tr>
<td>Kono-Vai</td>
<td>kelen</td>
<td>dolo</td>
<td>fole</td>
<td>sakpa</td>
<td>nani</td>
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<tr>
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<tr>
<td>SAM</td>
<td>gila</td>
<td>fole</td>
<td>sakpa</td>
<td>nani</td>
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<td>sik-lo</td>
<td>merato</td>
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<td>soom</td>
<td>fi</td>
<td>sur</td>
<td>naa</td>
<td></td>
</tr>
<tr>
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<td>ken</td>
<td>tele</td>
<td>pla</td>
<td>sau</td>
<td>naih</td>
</tr>
<tr>
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<td>do</td>
<td>pa</td>
<td>so</td>
<td>si</td>
<td></td>
</tr>
<tr>
<td>Boka</td>
<td>do</td>
<td>file</td>
<td>-----</td>
<td>siso</td>
<td></td>
</tr>
<tr>
<td>Mancro</td>
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<td>pele</td>
<td>yaka</td>
<td>yieze</td>
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<td>file</td>
<td>yaa</td>
<td>yieze</td>
<td></td>
</tr>
<tr>
<td>Mea</td>
<td>do</td>
<td>ple</td>
<td>yaga</td>
<td>yieze</td>
<td></td>
</tr>
</tbody>
</table>

| gunn          | five | six | seven | eight |
| Prost         | five | six | seven | eight |
| Mandanen      | soro | soro | soro-soro | sekpi |
| Kono-Vai      | soro | soro | soro-soro | sekpi |
| Sunu          | soro | soro | soro-soro | sekpi |
| SAM           | soro | soro | soro-soro | sekpi |
| Soninke       | soro | soro | soro-soro | sekpi |
| Sembia        | soro | soro | soro-soro | sekpi |
| Bobo          | soro | soro | soro-soro | sekpi |
| Boka          | soro | soro | soro-soro | sekpi |
| Mancro        | soro | soro | soro-soro | sekpi |
| Dan           | soro | soro | soro-soro | sekpi |
| Gorro         | soro | soro | soro-soro | sekpi |
| Mea           | soro | soro | soro-soro | sekpi |

Figure 4.

6. Male. Prost notes the confusion between /soro/ 'sheep' and /soro/ (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 Mandan-internal evidence exists to support this view.

In the Eastern Mandan languages, a couplet /kalar/ 'sheep' seems to have evolved on the /k Bates/ source and displacing /k/ as /kalar/. Alternatively /kalar/ may be a morphologically complex proto form which /k/ has displaced.

The most pervasive formation of the male of the species is through the use of a suffix /kgr/ with devoicing in the Western Mandan languages. This suffix corresponds closely with /kgr/ 'male'. In that regard Sembila kola-mo and SM zu-mu appear to be compounds of male and person (represented by both /k/ and /m/).

number 22 23 24 25,214 128

glass goat buck sheep ram
Proto to-go to-go to-go to-go to-go
Maneke okra zoro zoro zoro
Komo-Vai okra guma guma guma
Suzu --- ysk ysk ysk ysk

SM Bol'i/yie Beras zu-mu

Sominke su-go --- jake --- yoga
Seembia bi --- sega sega kola-no
Robo gwa gu-gura sege keyere gon
San bae --- sere si-gula guile
Buna ble ble-se sa da-pukaro gungile
Mano ble ble-kon ble sa ble-pukaro gungile
Dan ble ble-gur ble ble-gur ble-gur
Guro bori gya-ba gera br-kone gure
Moa ble ble-gura ble ble-gura gura

'bird'. Because of the reflex in Mandan /manou/ (tso-gon) via a variant of Meinhoff's law the proto form is more likely /gos/.

The Eastern Mandan languages have an alternative lexeme /k-obo-

'Hen' shows a consistent lexeme /kto meaning either something like 'chicken' or being a prefix to the stem /kko/ 'bird', but see 9 'female' below. The sibilant variant /s/ appears to be a natural development. The male suffix shows up in several instances along with the possibility of /ma/ as another.

number 211 33 218 32

glass hen chicken rooster bird
Proto to-go to-go to-go to-go-in
Maneke okra de-de de-de de-de
Komo-Vai to-su-te tix tix tix
Suzu to-ne --- ken

SM te-te te-te --- tto-n

Sominke sa-mine --- gema ye-lin-ge
Seembia te-te --- kikoo keke
Robo na-thon na-thon --- ye-la-la
San ko-ro ko-ro ko-sa ben-ne
Buna ko ko ko-sa ben
Mano to-go-n to-go to-go to-go
Dan to-go to-go to-go to-go
Guro ma-ne-bu ma-ne-bu ma-ne-bu aja-ne
Moa ma-ne-bu ma-ne-bu ma-ne-bu aja-ne

Figure 5.

5. Cattle. Most notes that the root /k/ is possibly a root for

'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


Phonologically the nasal functions 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
instances which take the /m/-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 /ni/ is unclear. Prust posts two forms,
*/ed/ and */eiri/. Taking the second form as basic, one can
derive the two forms /di/ and /diri/ as alternate strategies for
generating the open syllabled morphemes as characteristic of
Mande. Alternatively, the /ir/ might well be a demasculinized /n/
which is lost is some instances.

<table>
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<td>man</td>
<td>child</td>
<td>cattle</td>
<td>calf</td>
</tr>
<tr>
<td>Proto</td>
<td>*senuke-n</td>
<td>*mon-din</td>
<td>*edu-din</td>
<td>*en-dir-din</td>
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</tbody>
</table>
| Mande | *n-din | *din-l-ke | *l-ke | *din-
| Kono-Vai | *lai | *di | --- | --- |
| Suku | *sirru | *dina | *din | --- |
| SMN | *sirru | *dina | --- | --- |

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<td>wife</td>
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<td>woman</td>
</tr>
<tr>
<td>Proto</td>
<td>*me-n</td>
<td>*exu-e</td>
<td>*me-n</td>
<td>*exu-e</td>
</tr>
</tbody>
</table>
| Mande | ba | *u | *i-ke | *u-
| Kono-Vai | *u-ke | *e-ke | *u-ke | *u-
| Suku | *u | *u-ke | *u-ke | *u-
| SMN | *u-ke | *u-ke | *u-ke | *u-

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/ > /g/ is common in many of
the Northern Mande languages. The reflex */e/ or */e/
may well represent a continued weakening of the voiced variant and its interpretation
as an /r/ e.g. /ke/ > /ge/ > /ge/ > /ir/, but see other
discussion in the previous section. Other reflexes of the
morpheme */ge/ 'female' appear in 'wife' where Mande /masu/ is
literally 'person-female'. The suffix is also found in
'woman' where it combines with some other root /pf/, with
the same result. There is also an interpretation of 'chicken'
as the female of the species /tof/, but see above. The Ban form /debo/
is clearly a borrowing from Fulfulde /debbe/ where the word has a
rich morphology.

<table>
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<td>*me-n</td>
<td>*exu-e</td>
<td>*me-n</td>
<td>*exu-e</td>
</tr>
</tbody>
</table>
| Mande | ba | *u | *i-ke | *u-
| Kono-Vai | *u-ke | *e-ke | *u-ke | *u-
| Suku | *u | *u-ke | *u-ke | *u-
| SMN | *u-ke | *u-ke | *u-ke | *u-

<table>
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<td>*mon-din</td>
<td>*edu-din</td>
<td>*en-dir-din</td>
</tr>
</tbody>
</table>
| Mande | *n-din | *din-l-ke | *l-ke | *din-
| Kono-Vai | *lai | *di | --- | --- |
| Suku | *sirru | *dina | *din | --- |
| SMN | *sirru | *dina | --- | --- |

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<td>*exu-e</td>
<td>*me-n</td>
<td>*exu-e</td>
</tr>
</tbody>
</table>
| Mande | ba | *u | *i-ke | *u-
| Kono-Vai | *u-ke | *e-ke | *u-ke | *u-
| Suku | *u | *u-ke | *u-ke | *u-
| SMN | *u-ke | *u-ke | *u-ke | *u-

*Figure 6. Figure 7.*
II. 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 /i/-io/ its p-writable meaning is something like ‘rust’. Perhaps ‘hort’ 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’/x/-io and ‘name’/a/-go. Very weak evidence hints at possible reflexes in ‘laugh’ and ‘voice’.

<table>
<thead>
<tr>
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<td>(go)</td>
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</table>

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

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*The use of square brackets marks entries that are presumed non cognates.*
and the character of a possible inflectional /-

Bibliography


