STRUCTURAL AFFINITIES OF THE VOLTA RIVER LANGUAGES
ACKNOWLEDGEMENTS

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Structural Affinities of the Volta River Languages and their significance for Linguistic Classification.

Jack Berry B.A. (Leeds)

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1. Introduction

The languages of the Gold Coast are commonly divided into 2 groups:

(1) Languages of the Northern Territories:
   Dagbane, Mamprule, Talense etc.
   These languages are not considered further in this paper.

(2) Languages of Ashanti and the Colony:
   (1) Twi with the following major dialects and sub dialects.
      (a) Twi (Akuapem)
      (b) Fante
      (c) Ashanti-Akim:
          Ashanti
          Akim
          Brong
          Kwahu etc.
   (2) N\textsuperscript{z}\textsuperscript{e}ma with the following major dialects
      (a) N\textsuperscript{z}\textsuperscript{e}ma
      (b) Evaloue
      (c) Ahanta
(3) **Ga** with the following dialects
   (a) Teshi
   (b) Christiansborg

(4) **Adangme** with the following major dialects
   (a) Krobo
   (b) Shai
   (c) Ada

(5) **Ewe** (Anglo dialect: Keta)

(6) **Guang** with the following major dialects and sub-dialects
   (a) Kyerepong
      (i) Apirede
      (ii) Abonse
   (b) Hlate
   (c) Afutu

The interrelation of these six languages is the topic of this paper.

**Plan of the Work:**

For convenience in presenting the data, certain conclusions are anticipated early in the work. The Languages are divided first into three groups, vis:

- **Group A + B**, Twi-Nzema\(^{(a)}\)+Guang\(^{(b)}\)
- **Group C + D**, Ga-Adangme
- **Group E**, Ewe
and the structural affinities of each group are then described under the three headings of phonology, morphology and syntax, lexicon.

These affinities are held to be in each case evidence of a common source. The paper ends with a discussion of the inter-relation of the three established groups: earlier theories are presented, criticized, and an alternative hypothesis of acculturation is put forward to explain certain affinities between the groups.

Data:

Material published on Nzema, Guang and Adangme is scanty and in some cases unreliable; there is a considerable body of work on Ga, but it is also of very uneven quality; there are good grammars and dictionaries of Twi and Ewe. But all the information needed for this paper was obtained from personal observations made in London and the field during the past six years; for reasons of space, no attempt is made to indicate where the facts presented in this paper disagree with statements made in other descriptions of the better-known languages, such as Ga, Twi and Ewe.

Transcription:

All texts, even from those languages for which there

1. See bibliography.
an official orthography (i.e. Twi, Ga, Ewe) are transcribed in the Africa alphabet with the following additional conventions:

In the 9 vowel languages only (i.e. Twi, Guang, Nsima):

(i) \( \ddagger \) and \( \ddagger \) to represent the closer of 2 close vowels, (the opener pair to be represented by \( \ddagger \) and \( \ddagger \)).

(ii) In Nsima and Ewe (\( \ddagger \)) only the digraph dh to represent a voiced dental plosive, (d to represent a voiced alveolar plosive).

(iii) In Nsima only, nl to represent a voiced naso-lateral.

(iv) The labio-palatals: for the special conventions regarding these sounds see page 17.

(3) Tones:

\( \ddagger \) to represent a single syllable of low tone or the first of a succession of syllables of low tone immediately following a syllable of other than low low tone; (all other low tone syllables to be left unmarked).

\( \ddagger \) to represent a single syllable of high tone or the first of a succession of syllables of high tone, (the following high tone syllables to be left unmarked).

\( \ddagger \) in Adangme and Ewe only, to represent a single syllable of mid tone or the first of a succession of syllables.

(\( \ddagger \) In Ewe orthography \( d \) represents the dental, \( \ddagger \) of the alveolar plosive.

(2) Owing to the high degree of tonal inflection of all six languages it is difficult and often misleading to indicate tones of words quoted in isolation; tone, therefore, is shown only when its representation is germane to the argument of the thesis.
of mid tone (the following mid tone syllables to be left unmarked).

In Twi, Hausa and Guang only, to represent a single syllable of mid tone or the first of a succession of syllables of mid tone (the following mid tone syllables to be left unmarked).

- to represent a syllable of rising tone
- to represent a syllable of falling tone (high - low).
- to represent a syllable of falling tone (high - mid).

Language names: for simplicity of reference languages and dialects are listed by their official (i.e. English) names, although these names are frequently not used or recognized by the native speakers of the languages; for example, "Guang" is used throughout this paper instead of the more accurate but less widely known skiri, etc.; the Sa dialect of Adangme is called by its Ga name "Shai", the Lete dialect of Skiri by the English corruption of its Twi name "date" and Adangme and the Kota dialect of Ewe for example are spelt in romanized form and not daayme, ayle etc.
The influence of Twi on all six languages has been considerable. So much so in the case of Ga and Guang that any statement of the phonological structure of these languages ought to take account of their mixed nature. In the following pages the total lexicon of each language is first divided into:

1. native words and completely assimilated (i.e. unrecognizable) loans.  
2. partially assimilated (i.e. recognizable loans, usually from Twi).

and a different system of phonology is then postulated for each division of the lexicon.

Common to all three languages are syllables of the following types:

1. V
2. CV
3. CVs

(Where V = vowel; M = nasal consonant; C = consonant.)

Notes: (3) is the major syllable type; (1) and (2) are to be found in what are phonologically "sub-systems".

1. On the identification of loan words, see page 12.
"sub-systems" of affixial elements and as particles and interjections only.

Peculiar to Twi (Akuapem only) and Guang only, are syllables of the pattern: (4) CVW* (where * is best treated as a syllable prosody with closing and lengthening function.)

A similar evaluation of the end nasals* is suggested for syllables found only in Twi and Guang of the pattern: (5) CV m' (where m = closing nasality)

Syllable Prosodies: Unplaced features of the syllable in these languages are:-

(1) Quantity: length/shortness
(2) Tone: high/mid/low/ etc., pitch
(3) Accent: glottalization
(4) Labialization
(5) Palatalization

* Described under "System of Vowels", page 23
* m and n: see pages 13 and 27
* In 'Lautbilder', length may be accorded to either part of the syllable, e.g. Twi: Ku(m::) or Ku(::)m, 'quietly', see also page 16
* See page 25, 26
* See page 26
Tones: In group A there are 3 tones giving 6 essential intervals:

- Equal
- High-High
- Mid-mid
- Low-low

Unequal: High-mid
Mid-high
High-low
Low-high.

(The distinctions low-mid/low-high and high-mid/high-low are inoperative).

In Guang only, a 4th tone (high falling) gives a further 2 essential intervals: high-fall

low-fall

(all other potential intervals with fall being inoperative)

Accent: peculiar to the languages of both groups is (¬), a stress accent of the 'stød' type. Twi (Asante), for example, opposes weak (phonologically, zero) stress as in to, 'buy' to strong stress combined with glottal stop or at least glottal structure, as in -to?, 'die in battle'.

System of Consonants: The types of consonant sound that may be heard in the individual languages of these 2 groups may be represented in general phonetic terms as in Tables 1-3.
### Consonants:

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Labio-Dental</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Alveolo-Palatal</th>
<th>Velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p, b</td>
<td>t, d</td>
<td></td>
<td></td>
<td>k, kw, ǩv</td>
<td></td>
</tr>
<tr>
<td>Affricate</td>
<td>tʃ, tʃv, dz, dзв.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td></td>
<td>ny</td>
<td>nyw</td>
<td></td>
</tr>
<tr>
<td>Rolled</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>f, fw</td>
<td>s, sy, sw.</td>
<td></td>
<td>f, fw</td>
<td>h</td>
<td></td>
</tr>
<tr>
<td>Semi-vowel</td>
<td>w</td>
<td>y</td>
<td></td>
<td></td>
<td>w</td>
<td></td>
</tr>
</tbody>
</table>

### Vowels:

- **Close**: i, i̯
- **Half Close**: ɪ, ɨ
- **Half Open**: ə
- **Open**: ə, ɛ, ɔ

**Notes:**
- sy- = palatalized s
- sw- = labialized s
- etc.
(a) **Consonants:**

<table>
<thead>
<tr>
<th>bilabial</th>
<th>labio-dental</th>
<th>dental</th>
<th>alveolar</th>
<th>alveolo-palatal</th>
<th>velar</th>
<th>labio-velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>osive</td>
<td>b</td>
<td>dh</td>
<td>t, d</td>
<td>k, kw, kp, gb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fricative</td>
<td></td>
<td></td>
<td>ụ</td>
<td>tf, tfw</td>
<td>dz, dzw</td>
<td></td>
</tr>
<tr>
<td>palal</td>
<td>m</td>
<td>nh</td>
<td>n</td>
<td>ny</td>
<td>ụ, ụw</td>
<td></td>
</tr>
<tr>
<td>palal</td>
<td></td>
<td></td>
<td>l, nl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>affricate</td>
<td>f, fw</td>
<td></td>
<td>s, sy,</td>
<td>h, y</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>v, vv</td>
<td></td>
<td>sv</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ni-vowel</td>
<td>v</td>
<td></td>
<td>y</td>
<td>w</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) **Vowels:**

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>close</td>
<td>ọ, ọ</td>
<td></td>
<td>ọ, ọ</td>
</tr>
<tr>
<td>half-close</td>
<td>i, i</td>
<td></td>
<td>ọ, ọ</td>
</tr>
<tr>
<td>half-open</td>
<td>e</td>
<td>ạ, ạ</td>
<td>o</td>
</tr>
<tr>
<td>open</td>
<td>e, ẹ</td>
<td>a, a</td>
<td>o, ọ</td>
</tr>
</tbody>
</table>
### (a) Consonants:

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Labio-</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Alveolo-</th>
<th>Palatal</th>
<th>Velar</th>
<th>Labio-</th>
<th>Velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td><em>p, pw</em></td>
<td><em>t, d</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>k, kw</td>
<td></td>
<td>kp, gb</td>
</tr>
<tr>
<td>Affricate</td>
<td><em>ts, dz</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ts, ts</td>
<td></td>
<td>dz, dzw</td>
</tr>
<tr>
<td>Nasal</td>
<td><em>m, mw</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n</td>
<td>ny</td>
<td>q</td>
<td>qm</td>
</tr>
<tr>
<td>Lateral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>l, lv</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rolled</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td><em>f, fw</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>s, sy, f, sw</td>
<td></td>
<td></td>
<td>h</td>
</tr>
<tr>
<td>Semi-vowel</td>
<td><em>v</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>y</td>
<td>w</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### (b) Vowels:

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td><em>i, ɨ</em></td>
<td></td>
<td>ɨ, y</td>
</tr>
<tr>
<td>Half-close</td>
<td>i, ɨ</td>
<td></td>
<td>a, u</td>
</tr>
<tr>
<td>Half-open</td>
<td>e</td>
<td></td>
<td>e</td>
</tr>
<tr>
<td>Open</td>
<td><em>e, ɛ, ə</em></td>
<td>a, ɛ</td>
<td>ɔ, ɔ</td>
</tr>
</tbody>
</table>
Common features: plosives:

(1) a voiced and voiceless labial stop $^p$, $^p$
(2) a voiced and voiceless apical stop $^t$, $^d$
(3) a voiced and voiceless dorsal stop $^k$, $^g$

Notes:

$^p$ in Nsema and Guang is phonetically a
voiceless labio-velar plosive /kp/;

$^b$ is phonetically /b/

Both languages have also a voiced labio-velar
plosive /gb/. This in Nsema occurs only as
the 'mutated' form of $^p$ (kp) (1); and in
Guang is rare and only in loans from Ga or Ewe;
eg. gbtf, 'dog' (Ga, id); agberf, cassava, (Ewe,
agbeli) ;/p/in Nsema is very rare and only in the
most recent loans from Twi; in Guang it is common
but again only in obvious and the more recent loan
from Twi, Ga and Ewe; eg Guang, epaa(n), hired
labour (Twi, pad)

but

Guang, Kwe(v), skim (Twi p$^h$).

$^t$ is /t/ (alveolar) in Asante, /th/ (dental)
in Akuapem, /ts/ (affricate) in Fante (2)

Note (1) See note below on Consonant mutation in Nsema p.27.

Nasals: (1) a labial, $^m$
(2) an apical, $^n$
(3) a dorsal, $^\eta$

Notes: All languages of both groups have in addition a palatal nasal /ny/ and a labio-palatal-nasal /ny/ (nyw). In A only these are to be evaluated phonologically as $y$- and $yw$- modified velars.

In Nsena and Guang the labio-velar nasal /hm/ is either to be evaluated phonologically as $m$ (both languages) or in Nsena only, as the mutated form of $p$ (/pr/).

Similarly, /nh/ (dental nasal) and /nl/ (naso-lateral) in Nsena occur only as the mutated form of $l$ (/kl/) and $d$ (/dl/) respectively.

End nasals: in paragraph (1), page 6, $^\mathbb{A}$ was used to indicate a feature of certain syllables called roughly, closing nasal-salting. Phonetically, this may be:


(2) See note on syllabic structure, page 6 and note on hemorganic nasal prefixes below, page 27.

(3) See note below on consonant mutation in Nsena, page 27.
In A and B: 

(1)  ‘n: i.e. in final position, a bilabial nasal stop (without oral release); in included position, a bilabial nasal plosive with vocalic off glide.

In Twi and in Quang words loaned from (2)  ‘n: i.e. in Akuapem, /n/, a velar nasal: in Fante, /ŋ/, an alveolar nasal: in Asante and Guang (in final position) /y/, /w/, a Close nasal vowel; in included position, /n/, an apical nasal plosive with vocalic off glide: e.g.

(a)  ‘tam (v) Twi embrace

<table>
<thead>
<tr>
<th>Akuapem</th>
<th>Asante</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 p.s present:</td>
<td>3thm</td>
</tr>
<tr>
<td>o tēm</td>
<td></td>
</tr>
</tbody>
</table>

(1) 3 p.s preterite:  o-tē-mf  ɔ-ᴒ-mʜ-yɛ

(b)  ‘dāŋ (n) room

<table>
<thead>
<tr>
<th>Akuapem</th>
<th>Asante</th>
<th>Fante</th>
</tr>
</thead>
<tbody>
<tr>
<td>the house</td>
<td>o dāŋ nu</td>
<td>ɔdɛf nu</td>
</tr>
<tr>
<td>the house which</td>
<td>o dāŋ &amp;</td>
<td>ɔdɛn &amp;</td>
</tr>
</tbody>
</table>

(3)  Twi  Guang

| adswɪf | adwɪf  craft (n) |
| dāŋ | ɗaf  turn (v) |

(1)  Note: The Nsena reflex of final ‘n is syllabic (n and v) see page 59.

(1) Syllable division indicated by the hyphen.
Semi-vowels: (1) front unrounded, \( \hat{x} \ y \)
(2) back rounded, \( \hat{x} \ w \)

Notes: in the languages of both groups, \(/w\). (1)
a front rounded semi-vowel is heard as a
variant of \( \hat{x} \ w \) before front vowels (2)

\( /w/ \) may also be in Nsensa only the 'mutated'
form of \( \hat{x} b. \)

Laterals and trills: Guang only has an apical lateral, \( \hat{x} l. \)

Notes: \(/r/ \) is not heard in Nsensa.

\(/l/ \) is not heard in Twi.

\( l \) occurs in Nsensa only as the 'mutated' form
of \( d. (l) \)

The occurrence of \( \hat{x} \) in Twi and Guang is limited
to 2nd position only (i.e. \( C_{x} \) in radicals of the
type, \( C_{x} V_{1} C_{2} V_{2} \) ) (2) and is accordingly
evaluated phonologically as weakened \( * d \)

Notes: (1) IPA \( \hat{x} \) 
(2) see note below on palatalisation in Twi, page 26.
(1) see note below on consonant mutation in Nsensa, page 27.
(2) see note below on radical structure, page 28.
Double Nasals: are found in languages of both groups. They are in every case the phonetic realisation of m and voiced stop.1

Long Nasals: are found in 'lautbilder'. Like other over-long finals they may be considered the result of contraction. In most cases there are variants with reduplicated stems, e.g. Twi: t\u00f9m(\u00f8) and t\u0142nt\u00f9m: black

Fricatives: an alternance of three voiceless fricatives \u03d3/f/s/h.

Notes: the frontal fricatives \u03d2, \u03d3w,2 in the languages of Group A are to be evaluated as y- and yw- modified h.3

\u03d2/f/ is also heard nowadays in Guang (Apiride) as a variant of h before front vowels (Twi influence ?) and \u03d3w/ is heard in the more recent loans from Twi.

\u03d2: the voiced fricatives /v/, /z/, /y/ occur only in Nzema and are then the 'mutated' forms of \u03d3/s/h.4

1. See note below on prosodies of junction, p.26
2. See note below on palatalisation in Twi, page 26
3. See note below on consonant mutation in Nzema, page 27
Affricates: the frontal affricates (tʃ, tʃw, dʒ, dʒw) (1) of the languages of Group A are to be evaluated phonologically as y- and yw-modified velar plosives (2).

But Guang has the phonologically irreducible affricates, kts/nds; these are phonetically e.g. /tʃ/ (dental affricate) in the Abonse-Asiseso dialects; /tʃ/ (1) alveolo-palatal affricate in the Apirede dialect and /dʒ/ (voiced alveolo-palatal affricate) in all dialects.

In Apirede the labio-palatals tʃw, dʒw are found not only in loans from Twi but as the labialised variants of tʃ, dʒ before back rounded vowels, eg.

all dialects; adzaw tʃ - 'craft' / Twi, adzw10

Apirede, atʃwd, 'water' = Abonse atsu

note also:

Apirede; edzw6 yam = other dialects, edz6 (1).

Notes: (1) - I PA ts, tʃ or Cʃ, etc; the pronunciation varies considerably between dialects and speakers.
(3) System of vowels: the types of vowel sound that may be heard in the individual languages of these two groups may be represented in general phonetic terms as in Tables 1-3.

Common features: a basic system five vowel units:

- front
- mid
- back
- close: i, u
- mid: e, o
- open: a

Notes: Abstracted as a prosody at syllable level is 'q/h'. Phonetically this is co-constriction of the pharynx (giving 'creak') and its obverse, widened pharynx (giving 'dull' or 'breathy' voice). Correlate with these differences in quality of voice are differences in quality of vowel; the pharyngalized series in general tends to be opener and retracted somewhat towards a central tongue position, viz:

1. Some such treatment is necessary not only for comparative purposes but to enable a clearer statement of a feature common to the two groups and usually called vowel harmony. cf. the note on vowel sequences below, page 22.
<table>
<thead>
<tr>
<th>Phonological Unit</th>
<th>Phonetic realisation</th>
<th>Asante</th>
<th>Akuapem</th>
<th>Fante</th>
<th>Hsema</th>
<th>Guang</th>
</tr>
</thead>
<tbody>
<tr>
<td>$K_1$</td>
<td>$\text{hi}$</td>
<td>$\text{i}$</td>
<td>$\text{i}$</td>
<td>$\text{i}$</td>
<td>$\text{i}$</td>
<td>$\text{i}$</td>
</tr>
<tr>
<td>$K_2$</td>
<td>$\text{qe}$</td>
<td>$\text{e}$</td>
<td>$\text{e}$</td>
<td>$\text{e}$</td>
<td>$\text{e}$</td>
<td>$\text{e}$</td>
</tr>
<tr>
<td>$K_3$</td>
<td>$\text{ha}$</td>
<td>$\text{e}$</td>
<td>$\text{e}$</td>
<td>$\text{e}$</td>
<td>$\text{e}$</td>
<td>$\text{e}$</td>
</tr>
<tr>
<td>$K_4$</td>
<td>$\text{ho}$</td>
<td>$\text{e}$</td>
<td>$\text{e}$</td>
<td>$\text{e}$</td>
<td>$\text{e}$</td>
<td>$\text{e}$</td>
</tr>
<tr>
<td>$K_5$</td>
<td>$\text{hu}$</td>
<td>$\text{u}$</td>
<td>$\text{u}$</td>
<td>$\text{u}$</td>
<td>$\text{u}$</td>
<td>$\text{u}$</td>
</tr>
</tbody>
</table>
Successions of vowels: these are:

(1) successions of like vowels

(2) successions of unlike vowels.

Successions of type (1) may be phonetically

in all three languages, long vowels and are

usually described as such. But an alternative

analysis for phonological purposes is suggested

and length of vowel is here analysed in

Twi, Guang, Haema as a prosody of junction:

of eg. from Twi only:-

(a) pairs like ktaá; ktaá 'twin brother/twin sister'

ktaá < ktawá (1) by contraction. eg bferi; bforiwá etc

(b) the overlong finals of lautbilder etc. may be

considered as contractions. In most cases there

are variants with reduplicated stems: eg.

básaa or basabasa, muddled

Fitaa or Fitafita, white etc.

(c) verbs like thá, 'often', which have a paradigm

tonally and in other respects comparable with the

paradigms of eg. the verbs scf, 'spoilt',

kaf, 'remember'. Similar examples justifying the

analysis suggested are to hand in Guang and Haema.

(1) wa ± feminine suffix (obse).
in Asante only

(d) words like dswɛɛ, 'haughtiness' and ɛbɛɛ, 'woman'
    have variants in other dialects with successions of
    unlike vowels, eg Akuapem dswai, ɛbɛa.

(e) long vowels due to elision of r.
    kbaaɔnti, young man (cf. Akp. kbiʁaɔnti)
    ɔbɛɛɔma, 'vir', (cf. Akp. ɔbɛɾimɔ)

Successions of unlike vowels:

These are phonetically in Twi and Guang successions of
2 separate vowels. They are realised in utterance as
2 syllables having 2 separate pulses (1), are tonally
comparable in paradigm with verbs of unambiguous
syllable division (cf. gwai, 'peel' warf, 'marry')
and in deliberate speech are pronounced with a 'linking'
semi-vowel, y or w, appropriate to the junction.

Almost identical successions of vowels in Nsema are
diphthongs, i.e. have monosyllabic value and are
accordingly to be transcribed without prosodic link.

(1) they are always 'drummed' or 'slam-and-feint' as follows:

\[ \text{\textbf{\textit{bar}}} \]

\text{i.e. 'slam and faint'}
Successions of vowels possible within the radical in Twi, Nzema, Guang are:

<table>
<thead>
<tr>
<th>Twi</th>
<th>Nzema</th>
<th>Guang</th>
</tr>
</thead>
<tbody>
<tr>
<td>j-e</td>
<td>je</td>
<td>j-e</td>
</tr>
<tr>
<td>i-e</td>
<td>ie</td>
<td>i-e</td>
</tr>
<tr>
<td>j-ae</td>
<td>ja</td>
<td>j-ae</td>
</tr>
<tr>
<td>i-a</td>
<td>ia</td>
<td>i-a</td>
</tr>
<tr>
<td>y-e</td>
<td>ya</td>
<td>y-e</td>
</tr>
<tr>
<td>u-a</td>
<td>ua</td>
<td>u-a</td>
</tr>
<tr>
<td>y-o</td>
<td>yo</td>
<td>y-o</td>
</tr>
<tr>
<td>u-o</td>
<td>uo</td>
<td>u-o</td>
</tr>
</tbody>
</table>

: the following vowel successions are found in Guang and Twi only:

* e-i, * a-i, * y-o

: the corresponding Nzema forms have medial *k, e.g.:

Twi: bye (v) 'open' Nzema: byke
     kai (v) 'remember' kakyi
     sue (v) 'put down load' sukwe
between individual speakers and dialects the phonetic forms of *u ± a, *u ± e, etc., differ considerably in Twi, e.g.:

brother/sister: nwa nwa nua
open (v):       buie bpe bpe

Note that *nua most probably ≠ ni ± ba ≠ mother's child. of. also Akuapem adwam (Pante adsiban), food ≠di, eat.

Diphthongs: true diphthongs are heard in Twi (except the Asante dialect), and in Guang: these are all analyzable phonologically into vowel ± prosodic w: i.e. in end position they are in every case pronounced as an outgliding or ascending oral diphthong which starts at one of nine vowel positions and moves towards a fairly close y; in included position this diphthong is resolved into a dyadic vowel sequence having y in junction; the y clearly initial to the second syllable: e.g. of. Akuapem 5saw, 'he dances', and osa = wi, 'he danced'.

In the Asante dialect these forms with w are very rare; the regular correspondence being, Asante (V1-g) ≠ Akuapem, etc. (V1-g) + w.

Sequence of Vowels:

in paragraph 3, page 18, h/q was established to cover a type of vowel harmony characteristic of all three languages:
by which the vowels of a radical and its extensions are class members of one only of two possible sets.

Additional notes on the sequence of vowels are to be found under radical structure, page 59, and reduplication, page 74.

Nasalization: there are seven nasal vowels, vis:

<table>
<thead>
<tr>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>I</em></td>
<td>close</td>
<td><em>i</em></td>
</tr>
<tr>
<td><em>a</em></td>
<td>mid</td>
<td><em>a</em></td>
</tr>
<tr>
<td><em>A</em></td>
<td>open</td>
<td><em>A</em></td>
</tr>
</tbody>
</table>

Notes: it is important to distinguish
degrees of nasality: all vowels after nasal consonants are to some extent nasalised, but cf. the 'independent' nasality of \( \text{ma} \), don't give it, with the 'dependent' nasality of \( \text{ma} \), children, which is to be analyzed as \( \text{m} + \text{ba} \), i.e. a phonologically oral vowel.

**Syllable Prosodies:**

labialisation: in addition to the simple consonants (i.e. having one articulation only), already enumerated, 'modified' consonants are found in both A and B; these are considered as having a complex articulation; i.e. a primary articulation with a secondary feature or secondary features. Examples are:

- from Groups A + B (1) labialised consonants
- from Group A only (2) palatalised and labio-palatalised consonants.

(But see note on page.)
Labialised consonants in all three languages are followed only by front vowels, labialisation (w) is therefore abstracted as a prosody of the syllable.

Palatalised consonants in Twi and Hsema are followed only by front vowels and palatalisation (y) is therefore abstracted as a prosody of junction within the syllable (q.v.)

Phonetically, y and w is labio-palatalisation, which is so analyzed: tjw, jw, nyw are therefore mixed and heard in A before front and (less frequently) back vowels; e.g. in Twi, Asante wyp, 'make' = Akuapem ye

Nywu, 'weave' = nywini

Prosodies of junction; these are of 2 types:

(1) prosodies of junction within the syllable

(2) prosodies of syllable junction

Under (1) the frontal consonants of Twi and Hsema are analyzed as phonological velars:

tj is as analyzed as ky

tjw  kyw

dz  gy

dsw  gyw

j  by

jw  nyw

ny  ny

nyw

Fante only: ts, dz

ty, dy.
Under (2), the syllabic nasals of A and B are analysed as m, and certain geminate nasals are analysed as m and o: e.g.

\[
\begin{align*}
\text{A and B:} & \quad \text{mm} \ \Leftrightarrow \ m \ \text{and} \ b \\
\text{nn} & \ \Leftrightarrow \ n \ \text{and} \ d \\
\text{Twi and Guang only:} & \quad \eta \eta \ \Leftrightarrow \ \eta \ \text{and} \ \epsilon \\
\text{Nsena only:} & \quad \eta \eta \ \Leftrightarrow \ \eta \ \text{and} \ \nu.
\end{align*}
\]

The latter are examples of a process peculiar to Nsena and commonly called 'consonant mutation'.

Table 6 sets out below the phonetic realisation of the 9 so-called 'mutable' consonants in the 2 relevant types of junction: columns 3 and 4.

Morphologically these junctions are

(1) Singular / plural prefix and nominal stem
(2) pronominal prefix and nominal stem
(3) tense prefix and verbal base.

In each case the prefix is

(1) m, a homorganic nasal (column 3) or
(2) \( \nu \), one of five possible vowels and more Column 1 gives the phonological units postulated in this analysis and column 2 gives the phonetic realisation of these units when functioning as first consonant in an unaffixed radical
TABLE 6.

In these examples, four processes are abstracted as occasioning the four prosodies of junction:

1. **Gemination**, already mentioned, and under the general heading of 'lenition'
2. **Lateralization**
3. **Spirantization**
4. **Voicing**.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Zero ±</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>xp</em></td>
<td><em>kp</em></td>
<td><em>ngb</em></td>
<td><em>akp</em></td>
</tr>
<tr>
<td><em>kb</em></td>
<td><em>b</em></td>
<td><em>mm</em></td>
<td><em>ay</em></td>
</tr>
<tr>
<td><em>kt</em></td>
<td><em>th</em></td>
<td><em>ndh</em></td>
<td><em>adh</em></td>
</tr>
<tr>
<td><em>kd</em></td>
<td><em>d</em></td>
<td><em>nn</em></td>
<td><em>al</em></td>
</tr>
<tr>
<td><em>kk</em></td>
<td><em>ky</em></td>
<td><em>ng-yng</em></td>
<td><em>ah-ahy</em></td>
</tr>
<tr>
<td><em>kn</em></td>
<td><em>n</em></td>
<td><em>nn</em></td>
<td><em>arl</em></td>
</tr>
<tr>
<td><em>kf</em></td>
<td><em>f</em></td>
<td><em>nv</em></td>
<td><em>av</em></td>
</tr>
<tr>
<td><em>ks</em></td>
<td><em>s</em></td>
<td><em>ns</em></td>
<td><em>as</em></td>
</tr>
<tr>
<td><em>kv</em></td>
<td><em>w</em></td>
<td><em>ng</em></td>
<td><em>aw</em></td>
</tr>
</tbody>
</table>
Groups C and D

Syllabic structure: Common to both languages are syllables of 2 types:
(1) with one place only: V
(2) with 2 places, i.e. an initial and a final: CV

Unplaced features of the syllable are:
(1) yotization (y) (1)
(2) labialisation (w) (1)
(3) lateralization (j) (1)
(4) quantity: length/shortness (2)
(5) pitch: high, mid, low etc. tone

Placed features of the syllable are:
restricted to 2nd place only (1) /'/ nasality (4)
(II) /i/ length of vowel (5)

---

1) see note on semi-vowels pages 35 and 41
2) see note on lautbilder below, page
3) see below
4) 'placed' because syllables of type (1) are not found with nasal vowels. Similarly, yɪ, wɪ, ɪ, (V) y/w/l, are all equally impossible in either language but - fi, si, hi (CV) y/w/l, for example can and do occur in Adangme.
5) as distinct from length of syllable, see note on vowels, page 37.
Notes: syllabic nasals and syllables with end nasals are in every case identified as:

(1) loans from Twi

Ga: ŋkatie, ground nut
dadessy, cooking pot

(2) Adangme bem / Twi him, innocence

cf. older Adangme (ye) ŋwo

(2) as a result of contraction, e.g.:

(a) in Adangme, bëm / be + mi ʷ, 'sweeping'

cf. (in included position)
bëmi ᵇ, 'the sweeping'

(b) in Ga, ŋgbë / ngba, where.

(see my "Pronunciation of GA")

: a third type of syllable is restricted to a phonological sub-system of 'lautbilder' and may be represented formularially:

CV:N, where N is closing nasality, i.e. in Ga, a velar nasal, /ŋ/, in Adangme, a close nasal vowel /i/ or /u/, and (₁) is length of syllable, i.e. phonetically, length of vowel or length of nasal. Examples are:

English: 'bright': Ga: haraŋŋ/haraaŋ

Adangme: hlaaʃ
the pitch system of Gac closely resembles the systems of Groups A and B described above: there are three level tones and these give in turn six intervals:

<table>
<thead>
<tr>
<th>Equal</th>
<th>Unequal</th>
</tr>
</thead>
<tbody>
<tr>
<td>high-high</td>
<td>high-mid</td>
</tr>
<tr>
<td>mid-mid</td>
<td>high-low</td>
</tr>
<tr>
<td>low-low</td>
<td>low-high</td>
</tr>
</tbody>
</table>

In addition, a rising tone, which is heard in end position as a rise-fall, gives a further alternance of five intervals:

(1) rise - high
(2) rise - mid
(3) rise - low.
(4) high - rise.
(5) low - rise.
In addition, a rising tone (1) gives a further alternance of 5 intervals: rise = (1) high/ (2) mid/ (3) low/ (5) high/ (6) low — rise.

Note: the distinctions mid-high, mid-low, low-mid are phonologically irrelevant in Ga; but in Adangme all potential intervals are realized; and for the disyllabic piece there is a full tonal alternance of 16 'terms'; there is no stress accent in either language.

System of consonants: the types of consonant sound that may be heard in Ga and Adangme may be represented as in Table 7.

Common features: plosives: a breathed bilabial \( \times p \)

- (2), its voiced correlate \( \times b \)
- (3) a breathed apical \( \times t \)
- (4) its voiced correlate \( \times d \)
- (5) a breathed velar \( \times k \) step
- (6) its voiced correlate \( \times g \)
- (7) a breathed labio velar \( \times k_p \)
- (8) its voiced correlate \( \times g_b \)

Notes: in many words, \( \times p \) is phonetically /\( p \)/ a voiceless bilabial plosive in the speech of the older Gaasi but /\( f \)/, a voiceless bilabial fricative in the speech of the present generation, though /\( p \)/ is pronounced in

(1) in end position, this is heard as rise-fall.
unexceptionally in loan words, usually from Twi,

\( \text{\textit{nt}} \) is phonetically /\(t\)/ (alveolar) in Ga, /\(th\)/ (dental) in Adangme.

\( \text{\textit{nd}} \) is /\(d\)/ (alveolar) in both languages.

**Affricates:** common to both languages are:

1. a breathed frontal affricate \( \text{\textit{nts}} \)
2. its voiced correlate \( \text{\textit{dz}} \)

**Notes:** peculiar to Ga are the labiopalatals /\(tʃw\)/(1) and /\(dʒw\)/(1). The former is found almost exclusively in loan words from the Twi but the latter in a number of words of common Ga-Adangme origin (see note on labio-velarization page 42).

**Nasals:** common to both languages are the following nasal consonants:

1. a bilabial \( \text{\textit{m}} \)
2. an apical \( \text{\textit{n}} \)
3. a frontal \( \text{\textit{ny}} \)
4. a dorsal \( \text{\textit{ŋ}} \)
5. a labiovelar \( \text{\textit{nym}} \).

---

(1) These are not phonetically identical with the affricates of Groups A and B; (see my "pronunciation of Ga" page 10) cf. eg. The two distinct types of labialization; the affricates of Groups A and B are pronounced with inner rounding, those of Groups C and D with lips well-protruded.
Fricatives: common to both languages are the following

fricative consonants:

(1) a breathed labio-dental \textit{wF}
(2) its voiced correlate (rare except in loans from Awe) \textit{wV}
(3) a breathed apical \textit{wS}
(4) its voiced correlate (rare in \textit{G\#}) \textit{wZ}
(5) a glottal \textit{sh}

peculiar to \textit{G\#} is

(1) a breathed palato-alveolar
fricative, unrounded, /ʃ/
labialized /ʃw/

these sounds occur (1) in loan words from Twi where it is Twi \textit{shy, shyw}.

(II) in words of \textit{G\#-Adangme} origin, where

\begin{align*}
\text{G\#} & \quad \text{ʃ} = \quad \text{Adangme} & \quad \text{S} - \\
\text{G\#} & \quad \text{ʃw} = \quad \text{Adangme} & \quad \text{fy} - \\
\end{align*}

see pages .

Semi-vowels: these are in C and D (1) a liquid \textit{wl}

in D only (2) its breathed correlate \textit{whl}.
Notes: * k l in both Ga and Adangme is

(i) after apical and frontal consonants, /r/, a trill or with some speakers, a voiced alveolar fricative.

(ii) after labial consonants, a lateral flap.

(iii) elsewhere, /l/, a voiced alveolar lateral.

But modern Ga speech tends to use r and l indiscriminately in other than initial position.

k hl in Adangme is analysed as h plus l, i.e. as l-modified h and not as a simple consonant; see note on lateralisation below.

for y and w, see notes on yodisation and labialisation below.

System of vowels: -
### (a) Consonants:

<table>
<thead>
<tr>
<th>Category</th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Alveolar</th>
<th>Prepalatal and Palatal</th>
<th>Velar</th>
<th>Labio-velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p, b</td>
<td>t, d</td>
<td></td>
<td></td>
<td>k(kw)</td>
<td>kp, gb</td>
</tr>
<tr>
<td>Affricate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td>ny</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td>l, (hl)</td>
<td>r, hr</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rolled</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>f, v</td>
<td>s, z</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-vowel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### (b) Vowels:

- **Front**
  - Close: i, ɨ
  - Half-close: ɛ
  - Half-open: ɛ, ɨ
  - Open: a

- **Central**
  - Close: u, ʉ

- **Back**
  - Close: a, ɑ

**Notes:**

1. (hl) - breathed, e: Adangme only
2. (kw), (gw), - labialized
   - (tjw), (dzw), consonants
   - (f)Ga only.
3. (f) - Ga only.
System of vowels: The types of vowel sound that may be heard in Ga and Adangme may be represented in general phonetic terms as in Table 7.

Common features: 7 oral and 6 nasal vowels.

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Mid</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oral Nasal</td>
<td>Oral Nasal</td>
<td>Oral Nasal</td>
</tr>
<tr>
<td>Close</td>
<td>i</td>
<td>ı</td>
<td>u</td>
</tr>
<tr>
<td>Mid</td>
<td>e</td>
<td>ɛ</td>
<td>o</td>
</tr>
<tr>
<td>Open</td>
<td>a</td>
<td>ə</td>
<td>ʌ</td>
</tr>
</tbody>
</table>

The pronunciation of these vowels differs little between the 2 languages and has been described for Ga in my 'Pronunciation of Ga' pages 2-6.

Length of vowels in certain cases is analyzed in both languages as

1. a prosody of function, e.g. Ga baa (n) coming /ba(v) 'come' Adangme (Adan): eŋ ɓaa, 'he is coming', cf. (ɓɔ) eŋ, ɓaa.

2. Correlate with other syllable prosodies eg. tone. e.g. in Ga and Adangme: with rising tone.
(G) * (A) Òédo, where vowel duration is in each case noticeably longer than in e.g. (G) fe, (A) ñë, surpass. see my "Pronunciation of Ga” for recognition of at least 4 durations of vowel in Ga. (1)

(3) A result of contraction, e.g. (Gl) Ømå/ Ømå, your cloth.

Gl ká crab : Adangme káwi.

(4) As a syllable prosody: in lautbildler (G) dægbāñ or dægbāñ ‘well’, which may itself be considered as by contraction / dægbāñ dægbāñ.

(5) In Ga, as a feature of loan words eg. pūi / Twi pūi ‘many’

but in Ga only there are words in which length of vowel is inexplicable under (1) - (4) above; these are all monosyllables with low tone and in every case the Adangme word has the corresponding short vowel with low tone: eg.

-------------

(1) Alternatively it would be possible to analyze stems and radicals with a moving tone as di - and poly - syllables (as in Twi). This would simplify the tonal statement but is not done for 2 or more reasons:

(1) of the six possible tunes that accompany unambiguously disyllabic verbal(CVCV) in Adangme, for example, only one would be realized by verbs with long finals viz. the rise (low-high)

(2) the identical morpheme in comparable morphological but different tonal contexts may have at one time a level at another time a rising tone: the vowel duration will be different in the two cases. eg. Adangme imáyă I shall go

imáyă you will go (ma)
Ga | Adangme
---|---
fa | ph
bha | ba
sha | sa

cf. also the Ga words in morphological junction, e.g.,

fa | river | but | phi | rivers
bha | leaf | but | phi | leaves

Successions of vowel and diphthongs:-
Common to both languages are the following vowel sequences:-

kie, kie, kia, kiu
ku, kuu, kuia, ku

these are pronounced as monosyllables in Adangme and in words of Ga-Adangme origin in Ga¹; for the analysis of these vowel sequences, see note on syllable initials below.

1. With about equal prominence on the two syllables;
Notes:

1. In Ga only, the same sequence of vowels is in one word to be analyzed as (y/w and v) and in others as a disyllabic junction of (V and V), cf. sequences of the latter type in composition, e.g.

   Ñyà, house but Ñinà, window (house mouth)

   cf.: abifao, child but abifábi, children.

2. Other sequences of vowels in both languages may be realized phonetically as diphthongs, but are here analyzed as

   a) prosodies of junction: e.g.
      Adangme and Ga: ðbi, he asks ðbi (v), a
      Adangme: puì = negative of puì, etc.

   b) as a distinctive feature of loan words from the Twi (Akuapem), e.g.:
      Ga: hao (v), pester ðTwì: haw
      Ga and Adangme: kai, remember ðTwì: kai

3. Note also that Ga has certain successions of vowels not found in Adangme, but corresponding regularly with

   a) a pure Adangme vowel, e.g.
      Ga: ðàì, hat = Adangme: ðàì
      làì, firewood = làì

   or b) the same Adangme vowels in reversed sequence:
Syllable Initials: the pronunciation of words ending in the phonetic diphthongs enumerated above (page ) suggests a structural dividing line after i and u, rather than the consonant initial, cf. for example, the pronunciation of Adangme flafie / ffa/, where the systematic tone (a rise, cf: fâie / fa/) is carried by the second vowel, the first vowel having non-systematic level tone: i and u, in these vowel sequences, are, therefore, interpreted as realisations of a feature of the syllable initial and with l₁ (lateralization) are grouped with the consonantal terms of the initial alternance: the semi-vowels w, y and l, initially are similarly considered as prosodies of syllables beginning restricted to syllables of one-place: see Table 8 below.

1. Also treated as a feature of the syllable initial for similar and obvious reasons.
### Table 3

**Ada and Krobo syllable initials**

<table>
<thead>
<tr>
<th>Syllable type</th>
<th>V ((v = e))</th>
<th>CV ((c = f, \quad v = a))</th>
</tr>
</thead>
<tbody>
<tr>
<td>with yotization</td>
<td>ye</td>
<td>fya</td>
</tr>
<tr>
<td>with labiovelarization</td>
<td>we</td>
<td>wa</td>
</tr>
<tr>
<td>with both</td>
<td>---</td>
<td>wy(a/)w(a)</td>
</tr>
<tr>
<td>with lateralization</td>
<td>le</td>
<td>fla</td>
</tr>
<tr>
<td>and yotization</td>
<td>---</td>
<td>yra</td>
</tr>
<tr>
<td>with lateralization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and labiovelarization</td>
<td>---</td>
<td>lwa/wla</td>
</tr>
<tr>
<td>with none of the above</td>
<td>e</td>
<td>fa</td>
</tr>
</tbody>
</table>

**Notes:** (1) variant pronunciations are

<table>
<thead>
<tr>
<th>Ada</th>
<th>Krobo</th>
</tr>
</thead>
<tbody>
<tr>
<td>wya</td>
<td>wia</td>
</tr>
<tr>
<td>wya</td>
<td>yua</td>
</tr>
<tr>
<td>lwa</td>
<td>s-wla</td>
</tr>
<tr>
<td>lwa</td>
<td>s-lua</td>
</tr>
</tbody>
</table>
(a) **Consonants:**

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Prepalatal and Palatal</th>
<th>Velar</th>
<th>Labiovelar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p, b</td>
<td>t, dh</td>
<td>d</td>
<td></td>
<td>k, g, kp, gb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affricate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>tf, dz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td>ny, ƞ, ƞm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rolled</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>s, z</td>
<td>f, v</td>
<td></td>
<td></td>
<td>s, z, x, (h)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-vowel</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>y</td>
<td></td>
<td>v</td>
</tr>
</tbody>
</table>

(b) **Vowels:**

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td>i, ɪ</td>
<td></td>
<td>ɑ, ʊ</td>
</tr>
<tr>
<td>Half-close</td>
<td>ʊ</td>
<td>e, ʉ</td>
<td>e</td>
</tr>
<tr>
<td>Half-open</td>
<td>ɔ</td>
<td>e, ʉ</td>
<td>e</td>
</tr>
<tr>
<td>Open</td>
<td>a</td>
<td>ɔ, ɔ̃</td>
<td>ɔ</td>
</tr>
</tbody>
</table>

**Notes:** (h) - voiced pharyngeal fricative.
The types of consonant and vowel sound that may be heard in dialects of Ewe may be represented in general phonetic terms as in Table 9. The pronunciation of these sounds in the Anglo dialect (Keta) is described in my "Pronunciation of Ewe" q.v.

Notes: syllable structure: syllables are of the pattern (1) v,
(2) m i
or (3) cv
where v = a vowel, c, a consonant and m, a syllabic nasal, m.

/ŋ/ with syllabic function is analysable in all cases as a result of contraction:
cf. e.g. the pairs, ɖɖì and nyìɖì 'morning', etc. where ñ = nyì-

Similarly, any nasal consonant final in a syllable in words other than loan words is

1. but see note on nasals below.
here analyzed as a prosody of junction cf. e.g. Aygbá 〈 Amakpa, leaf1.

Anecho andhe 〈 ame de, someone.

a fourth type of syllable is restricted to 'lautbilder' and similar words and may be represented formularically, CV:N where N = a velar nasal and (:) = length of syllable, i.e. phonetic length of vowel of nasal consonant.

납니 or 납자, "of the same kind".

unplaced features of the syllable are

1. quantity: syllabic length/shortness;
   see above.

2. tone: high/mid/low/etc. pitch.

There are three level tones and these give the following significant intervals:

1. The nasal consonant in the following words is a feature of dialects of the Western Interior only:

akágb, vulture, kands, blood sande, light, etc.
(cf. the Anglo akágb, kadsu, sadhø);

it too is obviously to be considered as a prosody of syllable junction.
Equal

| high-high | high-low | low-high |
| low-high | high-mid | mid-high |

[The distinctions high-low/mid-low and low-mid/low-high are irrelevant in Hwej]

; in addition monosyllables occur with tonal movement; there are syllables with

(1) a rising tone, low-mid/high

[The distinction is again irrelevant]

which may succeed syllables of high or low tone; and syllables with one of two falling tones: (2) high-mid, (3) high-low;

these may succeed syllables of all types.

*system of consonants: the consonant units postulated for this study are:

plosives: (1) a voiceless bilabial k p
(2) a voiced bilabial k b
(3) a voiceless dental k th
(4) its voiced correlate k dh
(5) a voiced alveolar k d
(6) a voiceless velar k k
(7) the same with labialisation k kp
(8) the voiced correlates k g
(9) of (7) and (8) k gb
Notes: the phonetic realization of /b/ in Anglo is /f/, a voiceless bilabial fricative; in Anseho /ph/ a strongly aspirated p\textsuperscript{1} in Dahomey /hm/ a labialized glottal fricative. /p/ a voiceless bilabial plosive is found in all dialects in loan words only, usually from Twi, e.g. Anglo p\textsuperscript{2}, chisel / Twi ph\textsuperscript{2}.  

- b is /b/ in all dialects.  

- th and dh are realized as dental affricates /ta/ and /da/ before close front vowels in the dialects of the Western Interior, elsewhere as in Anglo; i.e. as dental plosives.  

- Similarly /k/ and /g/ before close front vowels are realized except in Dahomey as /tj/ and /dz/; i.e. are palatalized, e.g.  

<table>
<thead>
<tr>
<th>Dahomey</th>
<th>Other Dialects</th>
</tr>
</thead>
<tbody>
<tr>
<td>ki (v) quench</td>
<td>t\textsuperscript{1}</td>
</tr>
<tr>
<td>gi (v) give birth</td>
<td>d\textsuperscript{1}</td>
</tr>
</tbody>
</table>

- in Dahomey, /kp, /gh/ are phonetically, labialized velar plosives /kw/gw/; elsewhere  

---

1. After Westermann, 1927. 'An hat ein stark aspiertes p, den in den Westlichen f entspricht.'
the true labiovelars /kp/gb/ e.g.

Dahomey

\( \text{gwa (v) break} \)
\( \text{Fokwa (n) sandal} \)

Other dialects

\( \text{gba} \)
\( \text{afokpa} \)

Affricates:

(1) a voiceless affricate ː ts
(2) a voiced dental affricate ː dz

Notes:

ː ts/dz are palatalised in all dialects before close front vowels; i.e. are realised as /ts/ dz 1.

ː ts and dz interchange with s and t in many words e.g.

<table>
<thead>
<tr>
<th>Anglo</th>
<th>Dahomey</th>
<th>Western Interior</th>
</tr>
</thead>
<tbody>
<tr>
<td>take (v)</td>
<td>so</td>
<td>so</td>
</tr>
<tr>
<td>water (n)</td>
<td>si</td>
<td>si</td>
</tr>
<tr>
<td>horn (n)</td>
<td>so</td>
<td>so</td>
</tr>
<tr>
<td>fire (n)</td>
<td>so</td>
<td>so</td>
</tr>
</tbody>
</table>

Nasals:

(1) a bilabial, ː m
(2) an alveolar, ː n
(3) a frontal ː ny
(4) a dorsal ː q

Notes:

a syllabic bilabial nasal, m, has been noted under syllable structure, above; it is found only in the verbal paradigm where it

1. See note below on s, z.
has morphological function and appears to be a contraction, probably \(\text{me}^-\) - e.g. male yiyif, I am going
cf. m\(\text{e}\)le yiyi g\(\text{e}\), I shall be going.

\(\text{ny}\) is realised phonetically as \(/n/\) before nasal vowels in the dialects of the Interior only, elsewhere as \(/\text{ny}/\) a palatal nasal.

**Liquids and Semivowels:**

1. an apical liquid \(\text{m}\)
2. a palatal semivowel \(\text{ny}\)
3. a velar semivowel \(\text{w}\).

**Notes:**

In all dialects except Dahomey \(\text{m}\) is \(/\text{r}/\), usually a voiced alveolar fricative or tap, when in junction with apical and frontal consonants; in Dahomey it is \(/\text{l}/\) a voiced apical lateral.

\(\text{m}\) in all dialects in \(/\text{m}/\) before nasal vowels; in every other case \(/\text{l}/\).

\(\text{y}\) is \(/\text{y}/\) in all dialects.

\(\text{w}\) is \(/\text{w}/\) before back vowels in all dialects; \(/\text{w}/\), a voiced weak velar fricative before mid and front vowels in Anglo only.
<table>
<thead>
<tr>
<th>Anglo</th>
<th>Other Dialects</th>
</tr>
</thead>
<tbody>
<tr>
<td>se (n) sun</td>
<td>we</td>
</tr>
<tr>
<td>sh (v) cry</td>
<td>wh</td>
</tr>
<tr>
<td>sh (v) hide</td>
<td>wh</td>
</tr>
</tbody>
</table>

**Fricatives:**
1. A labial = hw
2. A labio-dental = f
3. Its voiced correlate = v
4. A voiceless apical = s
5. Its voiced correlate = z
6. A dorsal = x
7. Its voiced correlate = h

**Notes:** *s*, *s* are palatalized before close front vowels in all dialects (cf. *ts*, *ds*)

e.g. *has*, hand, is phonetically aff.

*has*, eggs, is aff.

In *Anglo* only there are certain apparent exceptions which require notice—
the frontal fricatives and affricates

(1, 3b, 3s, 4s) occur before vowels other than *a*:

(1) in loans, *at*fat*fa* mat /oa at*fat*fa*

(2) before reduced diphthongs in 1-

<table>
<thead>
<tr>
<th>(v)</th>
<th>dry</th>
</tr>
</thead>
<tbody>
<tr>
<td>/æ/</td>
<td>lean against</td>
</tr>
<tr>
<td>/ɔ/</td>
<td>strain.</td>
</tr>
</tbody>
</table>
And under similar conditions, apical fricatives may occur before *i*, eg. *aj, pipe ə diminutive *me, pot.*

*h* in Anglo is a voiced pharyngal fricative having as a variant in the Western dialects /s/ a voiced velar fricative.

*h* hw in Dahomey is phonetically a voiceless glottal fricative with lip rounding; in Anglo a voiced bilabial fricative /v/; in Anecho a voiced pharyngal fricative with lip rounding:

<table>
<thead>
<tr>
<th>Dahomey</th>
<th>Anecho</th>
<th>Anglo</th>
</tr>
</thead>
<tbody>
<tr>
<td>blood  <em>xu</em></td>
<td>hu</td>
<td><em>və</em></td>
</tr>
<tr>
<td>war   <em>əwa</em></td>
<td>ahwa</td>
<td><em>a</em></td>
</tr>
<tr>
<td>smell  <em>xwa</em></td>
<td>hw*</td>
<td><em>və</em></td>
</tr>
</tbody>
</table>

System of Vowels:

A system of 5 vowels is postulated for this study: vis.

Front    mid    back
high *i*  *u*    *
mid *e*    *o*    *
low *a*    *a*    *

Notes: *e* is phonetically a mid central vowel in Anglo; in other dialects, a mid front.
2 vowel sounds heard in all dialects are here analysed phonologically as a result of contraction, *vis*.

: /ɔ/ a half-close front vowel in Anglo, a half open front in other dialects, is heard only

(i) in loans, e.g. *pɔ Twi psi, chisel
(ii) at certain morphological functions involving the suffixes e.g. eya, ye etc., e.g. verb + pronominal suffix *kaf > kss*, touch it
(iii) nominal + predicative particle *ga + ye > gë*, it is money
*Twaa le dɔgë, the bird is red (dɔgë, red + ye > dɔgë)
(iv) nominal + diminutive suffix *ka + e > kẹ*, thread (little string)
*gbadza + e > gbâdzu*, small and flat.

: similarly, a tentative analysis of /ɔ/, an open back vowel, as *w + a* suggests itself on the following counts:

(1) /ua/ and /wa/ is rare in Ewe except

1. I can find only *buu* (v) pretend, and *mua* (n) Priest in the larger Ewe Dictionary of Westermann.
at word junctions, e.g. nominal \(-\) demonstrative

in Anglo \(\text{dhuá}\) \(\text{the town}\)
Interior \(\text{dhuá}\)

(2) the dialectal variants \(\text{a/o with}\) contextual velarity

\begin{align*}
\text{Interior} & \quad \text{Anglo} \\
\text{kpá (n) hedge} & \quad \text{kpó} \\
\text{avláku (n) frog} & \quad \text{avlókui} \\
\text{and in all dialects:\ -} & \\
\text{\(\text{yá (v) hide or w o}\)} \\
\end{align*}

(3) the treatment of loans, cf.

\begin{align*}
\text{Twi} & \quad \text{Ewe} \\
\text{kwádjuwú} & \quad \text{kódzo (n) Monday boy born} \\
\text{kwábína} & \quad \text{kómla (n) Tuesday boy born} \\
\text{füa} & \quad \text{fu (v) pickup up} \\
\text{‘abyrogúà} & \quad \text{‘ablegó (n) chair} \\
\text{qwáni} & \quad \text{qlo (v) scratch, write} \\
\end{align*}

- Nasalization:\ all vowels occur \(\text{oral}\) or nasal

Length of vowel: \(\text{is here analyzed as}\)

(1) \(\text{a prosody of junctions: see note of successions of vowel below.}\)

\(\text{1. cf. in dialects of Interior adhes, the hunter adhe = a.}\)
(ii) correlate with other syllable prosodies, i.e.
(a) mid tone
cf. tå, head; nd, month
(b) tonal movement
cf. avd, dog; gb5, goat
(iii) a prosody of the syllable restricted to laudbilder and other phonologically special words; see note on page 45.

Successions of vowels: certain successions of vowels are found in the unaffixed radical; these are pronounced as diphthongs with about equal prominence on the two parts; they are ëe, ëia, ëio.

For similar reasons to those enumerated on page 44 for adangme, the i in these vowel sequences is interpreted as a realization of a feature of the syllable initial and with l is grouped with the terms of the initial consonantal alternance yatized and lateralized initials.

1. see my Pronunciation of Ewe, p.7.
analyzed as junctural prosodies:

ui \sim u/o + e
us \sim o + e
u \sim e + e1.
Among the criteria used to establish group A. and B. are certain common features of morphology and syntax; e.g.

Word Structure: the morpheme constituents of words are in general easily identified as

(1) invariable lexical elements, here called radicals;

(2) affixial elements, i.e. nominal and verbal prefixes and suffixes, usually of the pattern V.

Radicals are of 3 types:

(1) simple
(2) extended
(3) compound

Simple radicals are monosyllabic, extended radicals are monosyllabic or disyllabic, and compound radicals are rarely in Twi, more commonly in Guang, trisyllabic.

All types have unexceptionally a consonant initial. The monosyllabic...
Radical Structure: in all three languages simple radicals are of the pattern CV.

Extensions of the Radical: radicals of another type are here described as extended; the extending elements or, quite simply, the extensions, in each of the three languages may be represented formu-
larically thus:-

Group A and B: **d, **k, **n.

(Twi only): w, m.

Notes: before giving examples of each extension

1. i.e. the percentage of simple monosyllabic stems in a word count embracing the first 1,000 or so common words.
it is perhaps necessary to mention that
the morphological process involved is no
longer productive and that the morphemes
themselves do not admit of accurate semantic
analysis; they often interchange between
dialects and have apparently different
functions in different contexts. But
they are here considered isolable on
several counts:

(1) the dyadic nature of CVN, CVW, and
CVV structures in Twi and Guang,
established on phonological grounds
in section 2, pages 23 ff.

(ii) the existence in all three languages
of an identical, minimal element
(CV) common to etymologically
cognate words of different form classes.
e.g. Twi, yaw, pain; yari (v) ill.

(iii) the occurrence in all three languages
of a few pairs of the type:

1. In this field, unfortunately, it is still
necessary to stress the linguistic platitude
that recognition and isolation of a radical and
its extensions is essential for sound comparative
studies. Many of Greenberg's starred forms, to
quote the most recent example, are vitiated by
failure to equate radical with radical, extension
with extension, of, for example, his reconstruction
*bele, two as > Twi ebleq
Examples:

(1) Twi only -

fum (v) err, cf. Nz. fú
anym (n) five, cf. Nz. nnu
kyim (v) force out, cf. Guang kyf

(2) Twi only (Akuapem and Fauste only) -

Akp. dow (v) weed, cf. fow (v) wet, etc.
cf. Asarte Nzema do, fo.

(3) n: Akuapem n ≠ Asante, Guang ≠ Fante
n ≠ Nzema ní.

melt (v) naq ≠ naÀ ≠ nan ≠
turn (v) daq ≠ daÀ ≠ dan ≠
sell (v) toq ≠ toÀ ≠ ton ≠ toni
fort (n) abaq ≠ abaÀ ≠ abán ≠ asani

(4) a-infíx: Twi r ≠ Nzema l ≠ Guang r
call (v) fire = fele = fir
camp (n) nsirá = nzela =
rotten (v) puru = kpolo =
take leave (v) kira = kire
(5) ṅ - infixed: Twi n = Nzema nl = Guang n².
salt (n) nkyinf = ngyinf =
python (n) enfn = nyinl = enyani
sour (v) nyanf = nyanli =
drum (n) akyinf = kínli = kwani
(6) k: Twi= Nzema Guang k
open (v) bue = byke = buki
spoilt (v) asi = askyi =
strip (v) wai = waki =
etc.

Compound radicals: are found in all three languages and are apparently composed of two or more of the radicals already enumerated, e.g. Twi bata: their, is uncertain in most cases.

1. Vowel shift in r-infixed radicals is identical with that in reduplicated radicals, see page 74.
2. i.e. with contextual nasality.
Word Classification: In all three languages words may be grouped by the morpho-syntactical criteria enumerated passim below into

inflected

(1) nominals

(11) verbals

uninflected (iii) particles

In the following pages the morphological structure of each class is described in turn.

Nominals: The structure of this class of words is most conveniently described under the headings of

(1) prefix

(2) stem

Nominal Prefixes: All three languages classify nouns by prefixes: a prefix may be:

(1) - (4) one of 4 oral vowels,

i, e, a, o

(5) a nasal sonant, m

1. The classificatory system is lexical and rudimentary only; there is no concord of classes.

2. The vowels of prefix and suffix (below) belong to the same series (h/q) as the stem vowel; thus,

i = /i/ or /i/, e = /e/ or /e/, a = /a/ (Akuapem + Gurma)

/e/ (Fante), /e/ (Nzema), o = /o/ or /o/.
Examples: Twi: a-sù 'waterhole'
c-sù 'rain'
n-sù 'water'
Guang: ibìc 'market'
dìbìc 'stool'

of. Twi egwa/agwa

1. The prefixes frequently interchange between dialects particularly e and o, cf.
Twi: Akuapem, c-ese, house = Asante eda
      edu, ten = eda, Fante idm3.

Guang etc: Apirede, shirisa, nyerepong.
Apirede, shirisa.

Nominal stems: may be

(1) unaffixed: viz, the simple or extended radicals enumerated on page

1. A few nouns especially loans and compound stems take no prefix.

2. Other dialects of Twi have /a/, e.g. Akuapem Ampl (n), bat, Asante Amp.

3. As a prefix is found in Twi only in Fante and is rare in that dialect.
(2) suffixed: the nominal suffixes are given below,

Nominal Suffixes: are

(1) Twi *-i = Nzema *le = Guang *li

Examples:

Twi: oprai; Asante oprasya (ɔpra-ia)\(^1\)
brush, cf. pra (v) sweep.

Guang: adodi, hoe; cf. do, to weed.

Twi: akasai; Fante, akasaa\(^2\) cymbal;
 cf. kasa (v) speak.


\(^1\)Twi: mfrafrai, mixture; cf. fra (v) mix.

\(^2\)Twi: amunii, drinking place; cf. num, (v) drink.

Guang: cf. the names of the boroughs of the Guang towns, e.g. of Adukrom, adzekidi, abonidi, abunni (abun-di) etc.\(^3\)

---

1. For the correspondence, Asante je, ie, yo, ku = Twi i, i, y, u. See Ward, 1945.

2. a\(^3\) ai is common in Fante, see note on page 20

3. Note, however, the calque in Adukrom dialect only, asukii, resting place \(\text{Twi asu}^\text{ci}\), G. suki = Twi sus (v) put down a load.


(Twi: adi, adi, evening \( \triangleleft \) adi + a

Nsema: ali gywul, ditto \( \triangleleft \) ali + gywo
ali hyile, ditto \( \triangleleft \) ali + kyf

Note: the verbal noun in Guang, only, is structurally prefix + radical, of.
dgyi, eating \( \triangleleft \) gyi(v) eat
dbirî, talking \( \triangleleft \) birî(v) talk
etc.

(2) Twi \textbf{a} ba \textbf{=} Nsema \textbf{a} kyi \textbf{=} Guang \textbf{b} bi

Twi: abiw, small game; cf. abda, animal.
adâma, little bell; cf. adon, bell.

Nsema: nânify, small game; cf. nabi, animal
dânify, little bell; cf. dôni, bell.

Twi: obirîma, Asante obom \( \triangleleft \) obonim + ba\textsuperscript{1}, young man.

Guang: anyt \( \triangleleft \) anyt + bi, young man; cf. any, man

Twi: abiriwa, old woman\textsuperscript{2}.

Guang: atjikpebi, old woman; cf. atjî, woman.

\begin{enumerate}
\item cf. Fante obanyimba.
\item kyi is diminutive only Nsema \textbf{a} selcy \( \triangleleft \) Twi \textbf{a} abiriwa.
\end{enumerate}
(3) Twi n⁰¹: Nzema = nl²: Guang = n¹

Twi: ohwëñg³: Ewe man; Ewë = Ewe

ókrënn³: Ga man; ákrëq = Gà

etc.

Nzema: bòlofun²: Axim; Bòlofu = Axim

bëkun³: Baku

man

etc.

Guang: ñkire³: Kyerepong; ñkire = Kyere pong

man

aysantin³: Ashanti; aysanti = Ashanti

man

(4) Twi ŋu ŋlu²: Nzema = vàlu²: Guang = hu⁴

Twi: skyírewfu, writer; cf. kyiroy(v) write

skyírye skyírewfu, teacher; cf. kyiroy(v) show

Nzema: këlevulë, writer; cf. kële(v) write

kîle këlevulë, teacher; cf. kîle(v) show.

1. ñ Fante/nyñ

2. nl² by 'mutation' < n; v by 'mutation' < f

3. n¹ etc. were originally free nominals; the degree of autonomy still accorded in all three languages to this suffixial element, is shown by the absence of vowel harmony.

4. in Kyerepong; other dialects /pu/.
Guang: dhēhu, wise man; cf. dē, wisdom
ábitihu, palm wine maker; cf. dbi, palm
tree, ti(v) tap

Number: In all three languages, the plural of
nominals is formed by

(1) prefixation: plural prefixes are:
Twi: a/m Nsema a/m 1. =
Guang e/m

Examples: Twi: òhini King òhini
day òhini
òdá day òhini
òbá child òhini

Nsena: sháft trap ngani
dâdís knife ñnade
òya house asòya

Guangs ațaf woman ațaf
akpé road ñmâkпе
ekyrö town ñkuryọ

and/or

(2) suffixation: plural suffixes are:
(a) Twi ñ fu Nsena ñ ma Wang ñ ess
(b) Twi ñ ba Wang ñ bi

1. prefixation involves consonant mutation in
Nsena, see page 23.
Examples:

(a) Twi: mfantini, Fante man: mfantifu

Oburon, European: abεnθu

Nsama: benyinlίn, man of Benyinli

Sole vulé, Priest solevuléme (sole(v)pray)

Guang: akirini, Kyerepong okiriee

Asyantini, Ashanti asyantiese

(b) Akuapem adj, Asante adj, thing, nsnsma

Guang: éte thing nτébi

(c) Twi: agya father agyanum

ena mother enanum

Nsama: egye father egye

agwa friend agenda

Guang: asi father asiens

anj mother anjen

1. ehίεnli, ehίεvula, poor man, is to be considered as a calque, cf. Twi ohjian, shiafu hiri(v) needy.

2. The corresponding Twi and Guang plurals are by prefix only, e.g. Twi 3εnθu, Priest - plural, 3εθu.
For plurality of a special kind, i.e. iteration, the nominal may be reduplicated, e.g. Twi: ágyewáw₁ heaps of all kinds
| akúw, a heap
| Nzema: ndëbändëbo, flat things
| ëdëbá

1. Reduplication not repetition, note the tone.
In Twi certain nominals may be reduplicated; these are usually called adjectives in the standard Twi Grammar. It is necessary to distinguish:

1. a substantival form,
   e.g. Twi: ni fs, its beauty which is also

2. a predicative form (i.e. used with one of several copulas).\(^1\)
   e.g. Twi: dud yi yë fs, this tree is beautiful

3. an adnominal form (reduplicated)
   e.g. Twi: dud fefë bi, a beautiful tree

4. an adverbial form (reduplicated)
   e.g. Twi: wogoru fe, or
   wogoru fefa, or
   wogoru fefa fefa 2\(^2\), they play nicely (very nicely)

Of. also from Guan and Hsena with and without reduplication:

1. e.g. in Twi, ya, and dag, become; nyig, grow.

2. Akuapem / fefa fefa: Asante tends here to use the uncontracted form.
Guang: mù kɔfi, its goodness
its kɔfi, good thing
d3 kɔfi, it is good
âbwe mú kɔfi, he did it well.

Nsoma: i kɔnlɛma, its beauty
bàkà hyl if kɔnlɛma, this tree is beautiful
bàkà kɔnlɛma biɔ, a beautiful tree
bëdi ñgole kɔnlɛma, they play nicely
mëmakà ngënɛma, beautiful trees

Pronominals: Twi orthography, for example, is misleading in respect of pronouns and pronominal prefixes. 2.

1. In Twi and Guang a few only of these special nominals inflect for number, and are in these languages, words referring to size only, e.g.

Twi: abo aksɛfiaksɛfi, large stones

Guangñkuro ekpongkpo, big towns

2. Of. the spelling of "ɔkɔ", he goes, where "ɔ" is treated as a prefix, and of "ne dan", his house, which suggests two autonomous elements, although "wo dan ana ne dan", etc., your house or his, not "wo ana ne dan".
True pronouns (i.e. absolute forms) in the 3 languages are:

<table>
<thead>
<tr>
<th></th>
<th>Twi</th>
<th>Nzema</th>
<th>Guang</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1.</td>
<td>mi</td>
<td>mi</td>
<td>mi</td>
</tr>
<tr>
<td>S2.</td>
<td>wu</td>
<td>wimá</td>
<td>wu</td>
</tr>
<tr>
<td>S3.</td>
<td>anu</td>
<td>íné</td>
<td>mu</td>
</tr>
<tr>
<td>P1.</td>
<td>yeq</td>
<td>yeñá</td>
<td>snf</td>
</tr>
<tr>
<td>P2.</td>
<td>mu</td>
<td>bémá</td>
<td>snf</td>
</tr>
<tr>
<td>P3.</td>
<td>woq</td>
<td>bémá</td>
<td>bémá</td>
</tr>
</tbody>
</table>

**Pronominal Prefixes:**

<table>
<thead>
<tr>
<th></th>
<th>preverbal</th>
<th>pronominal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Twi</td>
<td>Nzema</td>
</tr>
<tr>
<td>S1.</td>
<td>mi</td>
<td>mi</td>
</tr>
<tr>
<td>S2.</td>
<td>wu</td>
<td>wí/o</td>
</tr>
<tr>
<td>S3.</td>
<td>o</td>
<td>o/yá</td>
</tr>
<tr>
<td>P1.</td>
<td>ye</td>
<td>ye</td>
</tr>
<tr>
<td>P2.</td>
<td>mu</td>
<td>be</td>
</tr>
<tr>
<td>P3.</td>
<td>wo</td>
<td>be</td>
</tr>
</tbody>
</table>

**Notes:**

1. o/o ye of. Aburi dialect (obsc.)
2. according to tense.
3. a few nouns of family relationship have the pronominal prefix o, e.g. Twi: oaf; Nzema: bai, his father.
Numeration: examples of Twi, Nzema and Guang numerals are set out in the comparative Table on page 103.

Notes:

Ordination: by periphrasis, e.g.:

2nd, etc. Twi: nia otu su ab Patterns, etc.
Nzema: mo to su rules
Guang:

Iteration: cf. in all three languages the composite forms,

Twi: \( \bigstar \text{pe } \xi \text{ occasion} \)
preku once
mpren\(\bigstar\) twice
but
mpren ab\(\bigstar\) three times.
Nzema: (fani \(\xi\) occasion)

fani ku once
fani gura twice

Guang:

Distribu-

tion: the distributive form of the numeral is a reduplication, e.g.:

one by one: Twi: m\(\xi\)ak\(\xi\) m\(\xi\)ak\(\xi\)
Numeral System: is mainly decimal, cf. the composite forms 11-19.

11 = 10 + 1: Twi: ḏpbiakū
Nzema: ḏply ni ku
Guang: ḏp aku
etc.

and 20-99

20 = 2 \times 10, Twi: aduonyŋ
Nzema: abulaŋwiŋ
Guang: eduonyŋ
Verbals: the verb in its base form, i.e. as the verbal interjection, is identical with the simple or extended radicals described above:

the base in Twi and Nsema may be reduplicated (to express plurality of subject/action/ob|ect)

Twi: di, eat; didi, feed
    bo, break; bubo, shatter
    gy, spill; gymn, spill in many places

Nsema: fia, hide; fisvia
    fja, carry fjevja on back
    tua, follow tuedua 2.

1. The possible vowel sequences in reduplicated and infixed stems are limited in all three languages to:

   h/q. -  1 - l  analyzed as  1 1
          t - o "    "    o o
          i - a) "    "    a a
          (with context-
          tual labial-
          lization)....u - a)
          u = o "    "    o o
          u - u "    "    u u

2. Note, lenition of radical Consonant in second place and the following additional vowel sequences for reduplicated di|yllabic bases peculiar to Nsema; all analysable as + a

   h/q. - i.e., uo.
Guang: kpa, long; kpukpa

Note: plurality in Guang only is in a few cases indicated by terminal extension of the simple radical, e.g.:

\[ \text{a} \quad \text{tse} \quad \text{split} \quad \text{tseri} \\
\text{b} \quad \text{twi} \quad \text{stray} \quad \text{fwiri} \\
\text{d} \quad \text{de} \quad \text{strike} \quad \text{denf} \\
\text{e} \quad \text{do} \quad \text{drop} \quad \text{dobf} \\

The following affixes are prefixed to the verbal base to indicate ingress in a compound radical:

Twi: ko/be

kod\(\text{i}\) go eat
bed\(\text{i}\) come eat

Nsena: ko/ba

mi\_\_\_\_\_\_gonni I did not go and eat
mi\_\_\_\_\_\_ali I have come to eat

Guang: wo/ba

wodzi go eat
bedzi come eat

Negation: the negative prefix is:

in Twi
and Nsena.\(\text{m} \), a homorganic nasal

in Guang: be

1. with the exception of the perfect tense in Nsena where the negative sign is ts.
System of Tenses: The verbal paradigm is set out for all three languages in Table 12, pages 104 to 112. Common to the group are the following tenses:

(1) Present, unaffixed, e.g.:
   Twi: miba daa} I always come here.
   Nzema: miba daa
   Guang: miba daa

(2) Stative, unaffixed, e.g.:
   Twi: swari
   Nzema: swali
   Guang: akpa
   it is long.

(3) Future, prefix:
   Twi and Guang { be
   e.g.
   Twi: oboba
   Nzema: ekoya
   Guang: abeba
   he will come

1. Distinguished tonally from (1).
2. Cf. ba (v) come.
(4) imperfect, prefix *d:

Twi: (na)– oriba

Nzema: oleba

Guang: ana be

(5) future immediate, prefixes:

Twi and) (4) and (3) above

Guang:

Nzema: ba

E.g.

Twi: oriba

Guang: ansbebe

Nzema: oba

(6) preterite, Twi and Nzema suffix, Guang unaffixed.

Twi: obai

Nzema: awali

Guang: be

(7) Perfect, prefix,

Twi: waba (ôaba)

Nzema: ânebe iva

Guang: i–i: ânebe

---

1. cf. copula in each language.

2. But tonally distinct from (1) and (2).

3. cf. nominal suffix.
(8) connected, prefix a, in Twi and Nzema only.

Twi: miko aba) I shall go and come
Nzema: miko a图画

(9) an imperative: Twi, prefix a, Guang and

Nzema, unaffixed, e.g.:

Twi: おんko he is to go
Nzema: おんEla he is to come
Guang: おんべ he is to come

The verbal noun is structurally identical
with the unaffixed base, e.g.

Twi: おんko going to Accra
Guang: おんEla to buy food
Nzema: おんEla
3. MORPHOLOGY

GROUP C + D

Radical Structure: radicals may be:

(1) simple, CV or Gy/ly V
(2) extended
   by (a) liquid and nasal suffixes;
   (b) l-infixation, y-infixation
   (see pages 41 and 42)
(3) reduplicated
(4) compounds, i.e. of (1) and (2) above.

: the proportion of radicals of type (1),
  i.e. monosyllabic, to others of types
(2)-(4) is higher in Adangme than in the
languages of Group A and B, but not so high as
in Ewe. In GH the figure is nearer that
for Twi.1.

Nominals: Structure: the nominal stem is in most
cases not formally different from the
radical as described above.

---

1. Monosyllabic-ity quotients are of the order:-
GH approx 50 per cent., Adangme 60 per cent.,
Ewe 70 per cent.
Prefixes: a few nouns in Adangme have the prefix a, in Ga, more, as well as the prefix Ḯ,¹ a homorganic nasal sonant, and o² e.g.: Ga: àdámdé Ad: dàdémé àmádá plantain mádá ddɔtɔ thicket dɔtɔ ntɔŋ net bag taŋ

; in both languages a special type of nominal has the prefix e, cf.
Ga: ēdij black one / df (v) black Adangme: āyumū / yu (v)

Nominal Suffixes: are
(1) Ga, bi Adangme, yo.
gbɛke child dzukwɛyo plural
gbɛkebi f dzukwɛwi abifo baby bimucyo plural
abifɔ bi f bimuɔwi
(2) Ga, nyo Adangme, no krobɔnyo man of klono Krobo blɔfɔnyo European blɛfɔnɔ

¹. Usually in loans (from Twi and Ewe): Adangme has a vowel prefix only when the original has a nasal prefix; cf. / Twi: Ḯkɔtɔfs groundnut Ga: Ḯkɔtfs Adangme: akɔtę
(3) GA, nuu/yoo = Adangme, ku/yo
tsinanuu       bull     nakd
tsinayoo       cow      nayo

etc.

(4) GA, tse/nyc = Adangme tse/nyc
mantse         king     matse
manysa         queen    manysa

(5) The verbal noun suffixes are,
GA:     mo, le, q
Adangme: mi only, and
GA:     length of vowel,
Adangme: reduplication suffix +

E.g.
GA:  bàa  coming  Ad.  bámi
yàa  going     yámi
hámô giving    hámi
dzale  right    dami
dzole  soft     dzômi

And in special constructions of the type:
GA:  éni rômi = Adangme: éni pômi, or
      a possibility
      éhèla dzole = éhlo dzômi, or
      his convalescence  éhlo dzôdzô

(6) GA, lo = Adangme, lo
fwe (v) ± swâlô player  ffelô / fis (v)
wo (v) ± wôlô collector hwâlô / hwe (v)
Number: plural suffixes are

(1) \( \text{Ga} \quad -1 \quad = \quad \text{Ako} \quad -1 \quad = \quad \text{Ada} \quad -\text{hy} \)

- e.g. fai pai pahi rivers
- tsui tsui tshuhi rooms
- nyisemi nyemii nysimfi walks (v.n.)

The nomen agentis in Adangme has the special plural suffix -li, e.g.

- peli plural of pelo < pe, do
- fisli " * fislo < fis, play

But Ga has regularly,

- feloi, fisloi etc.

Similarly, the special plural suffix of Ga words with stem extensions (page 79) has no correlate in Adangme

Ga: nane, foot; snadsi, feet but Adangme nane, nanei

(2) \( \text{Ga} \quad -\text{me} \quad \equiv \quad \text{Adangme} \quad -\text{me} \)

- e.g.
- tsamei tsem fathers
- nyemimsei nyemims brothers

Ga uses this suffix as the plural correlate of -nyo
But Adangme has -li/no of.
Ga: Krobonyo Ktobe Krobome
Adangme Klono " Kloli

(3) Ga: -bli: Adangme, -vi
child: Ga: gbékf children gbékfbi
  Adangme: doukwwe yo " doukwwevi
baby: Ga: abisfé babies abisfébi
  Adangme: bimuyo " bimuvwi
but
ant: Ga: tsatsu ants tsatsubii
  Adangme: tatu " tatui
and
twins: Ga: hídþf
  Adangme: hídþf

Note: certain nominals in both languages have

(he-now)(1) a substantival form: e.g.
  Ga: ndbe nd bído) new as it is
  Adangme: ndhe ne bído)
(2) a predicative form: e.g.
  Ga: ndam li yá ndhe, the cloth
  Adangme: bá o ye ndhe
(3) an adjunctival form:

1. but of. the special formations:
  Ga: kpsikpól knotted kps knot
  Adangme: píc픽 ragged píc rag
  Ga: jiwfitwi and the adjunctival form of the verbal noun in
  Adangme only: bnf pépé ehio dzodsof
Gat: maf he) new cloth
Adangme: bb he
Adangme: bp3 la he, he did it in a new way
ef. Gat: bf3 it chbe

Pronominals: the pronouns and pronominal prefixes are set out below in Tables and
Pronouns are:-

<table>
<thead>
<tr>
<th>TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ga</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>S1. mi</td>
</tr>
<tr>
<td>S2. bo</td>
</tr>
<tr>
<td>S3. le</td>
</tr>
<tr>
<td>Pl. wo</td>
</tr>
<tr>
<td>P2. yu</td>
</tr>
<tr>
<td>P3. am</td>
</tr>
</tbody>
</table>

Note: am, Ada dialect

im, Krobo dialect

emi, Prampram dialect.
Pronominal (pronominal and preverbal) prefixes are:

<table>
<thead>
<tr>
<th></th>
<th>Ga</th>
<th>Adangme</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1.</td>
<td>mi</td>
<td>i</td>
</tr>
<tr>
<td>S2.</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>S3.</td>
<td>e</td>
<td>e</td>
</tr>
<tr>
<td>Pl.</td>
<td>wo</td>
<td>wa</td>
</tr>
<tr>
<td>P2.</td>
<td>nye</td>
<td>nye</td>
</tr>
<tr>
<td>P3.</td>
<td>amg</td>
<td>a</td>
</tr>
</tbody>
</table>

**Verbs:**

The verbal base in its simplest form is structurally not different from the radical as described above:

- The simple base may be extended
  1. by affixation
  2. by reduplication

- Affixes are:
  1. Ingressives:
     - Ga, Adangme: ya, ba
       - Ingressive base, yafe + yape + go cut
       - Bafou + Bape + come cut
  2. Negative prefix
     - Ga, ka + Adangme, ka; e.g.:
fo/po - cut: negative base is
Ga, kɛpo; Adangme kɛpo.

pluralizing:
(3) suffix -mo
(4) infix -l/1

cf. e.g. the following plural bases in Ga:
kɛmo lie / kɛ
somɛ perch / sɛ
dra big / da
qamɛ tie / qamɛ
tjwia strike / tjwia

also to express plurality, the base may
be reduplicated, e.g.:
Ga: ame yeye nii, amsununu da:n they ate and
drank continuously.

System of Tenses:
The verbal paradigm is set out for both
languages in Table 14, pages 113-116

Common to both languages are the following
tenses:

(1) aorist, unaffixed, e.g.:
Ga: efo he cut it
Adangme:ipo he cut it, or he has cut it.

1. i.e. to express plurality of subject, object,
   complement.

2. In the sense of an action repeated.
(2) future, prefixed ma/ba, e.g.
Ga: ɓefo, he will cut it
Adangme: ɓmɓo

(3) iterative, suffix o, e.g.
Ga: ɓfo, he always cuts it
Adangme: ɓpo

(4) imperative, unaffixed, e.g.
Ga: ɓfo, he is to cut it
Adangme: ɓo

Notes: Only Ga has:

(5) a perfect tense, unaffixed:
ɓfo, he has cut it
for which Adangme has no correlate.

(6) a progressive tense, prefix mi, e.g.
ɓfo / mdɓo, he is cutting it
cf. nyɓmɓo
for which the corresponding Adangme is:
ɓɓo, he is cutting it
ɓɓo pbe, he isn't cutting it
i.e. copula + verbal noun.

(7) a second imperative, suffix a,
nysfoa, cut it
the Adangme has only a verbal interjection:

1. ɓefo / ḋɓafɓo, c.f. mafɓo / ḋɓafɓo / mibafɓo
2. But tonally distinct from (1) above and (5) below.
Negation:

derivation of the negative base is described under that heading, page

there are in addition certain negative tenses:

- tense (1) only, in both languages, the negative tense is derived by suffixation, i.e.
  Adangme ꞌwe; e.g. he didn't cut it: epdi ꞌwe po
  cf. etewé, he didn't keep it

Ga: v - vowel length: ef6o

- tense (5) Ga only; the negative tense is derived by suffixation, i.e.
  suffix ko: ef6e6, he hasn't cut it.

- tense (6) Ga only; the negative tense is derived by suffixation, i.e.
  suffix 4: ef6j, he isn't cutting it.
Numeration: Examples of Ga and Adangme numerals are set out in the comparative table on page 103.

Notes:

Ordination: ordinal suffix in Adangme only is -ma, e.g.
- ekpamè 6th
- lounge 100th

In Ga, there are no ordinal numbers, cf.
- moni ji ekpa le, the 6th person
- sima ni azi oha le, the 100th door.

Iteration: is expressed by -si, occasion, e.g.
- Ga: eba [11. enye]
- Adangme: eba si enye

Distribution: the distributive form of the numeral is a reduplication, e.g.
- 1 each: Adangme: kakanka / kake (l)
- Ga: kemkene / ekene

Numeral System: is mainly decimal, cf. the composite forms
- 11-19,
  - 11 = 10 + 1: Adangme: nyoyòma ka kake
  - Ga: nyoyòma ka ekene
  - etc.
- and 20-99,
  - 20 = 2 x 10: Adangme: nyiinyi enye
  - 30 = 3 x 10: Ga: nyoyòma enye

1. Plural of 1.
90.

: traces of a sextal system are to be found in the numerals 1-10:

cf. the change-point between 6-7.

7 (G) kpawo
(A) kpaago

8 (G/A) kpaanyo = 6 + 2.1.

1. Note: also in Ga only:
ŋmadzi enyo, etc., etc., 2 - 6 o'clock
but
ŋnilo kpawo, kpanyo, etc., 6 - 10 o'clock.
3: MORPHOLOGY:

GROUP E.

Radical Structure: Radicals are

(1) simple, or

(2) extended, i.e. with 1-infix, with 2-infix.

(3) reduplicated structure: many nominals.

Nominals: Many nominals are not recognizable by shape alone; their structure is that of the radical, described above.

e.g. ba, mud; ga, metal; fia, chief; tr5, deity.

Other nominals have

(1) a prefix

(2) a suffix.

Nominal Prefixes: a, e. o. occurs as prefix in the word 'Ewe' and in certain numerals, elsewhere rarely.

o/o is heard in Dahomey only, and is not common in that dialect.

There however, okp5, leopard; os0, mountain.

1. See note on lateralization and yotization, page 54.
: a as a prefix is common in all dialects, e.g.

- adu tooth; cf. du (v) bite
- afu mist; cf. fu (v) white
- aflui rumour; cf. flu (v) chatter
- alala name of cf. lalala (v) slowly flowing

Nominal Suffixes:

- are (1) -a
- (2) -e (-a)
- (3) to
- (4) no
- (5) vi
- (6) me
- (7) fe
- (8) li

Examples:

- (1) ahea, pauper \(\approx\) ahe, poverty.
- Anglo Dialect.
  - agblea, farmer \(\approx\) agble (n) farm
  - shakpaa, maker of palm wine \(\approx\) ahaa, palm wine + kpa (v) tap.
  - Ablotsia, White man \(\approx\) Ablotsi, Europe
  - Kukua, corpse \(\approx\) Kuku, dead
  - tsitsia, elder \(\approx\) tsitsi, old.

- (2) xo, cottage \(\approx\) xo, house
- goe, little gourd \(\approx\) go, gourd

- (3) afeto, landlord \(\approx\) afe, house
- yeueto, man of Yewe order.
(4) dono, invalid £ do, sickness
tokunco, deaf man £ to, carry, ku (v) die

(5) nyivi, calf £ nyi, cow
sou, feel £ so, horse

(6) kekeme, breadth £ ke (v) broad
kekame, length £ ko (v) high, long
noname, character £ no (v) be

(7) dowafe, place of work £ wo do, work
nunyafe, washing place £ nyá (v) wash

(8) vov3li, fear £ v3 (v) afraid
axoli, going £ xo (v) go

the nomen agentis is formed with the suffix-la,
e.g.

(9) ytyila, he who goes £ yi (v) go
dowola, he who works £ wo (v) work

Reduplication: the stems of many nominals are morpho-
logically reduplications for which no simple
radical exists: e.g.
baba, white ant
bob5, bean dish, etc.

for others, a correlate simple radical
is still to be found:
tsaetsae, 2nd younger brother; tsae, younger brother
foefoe, 2nd younger sister; foa, younger sister

All verbal nouns have reduplicated stems e.g. do wovo, the act of working / wo nu dudu, the act of eating / du etc.

Number: plurals of nominals and nominal pieces are formed by suffixation e.g.
devi, child deviwo, children
devi nyui, a good child devi nyuiwo good children
xoa the house xoa wo the houses
x5 nye my friend x5nye wo my friends

Adjectives: a special type of nominal is formed from verbals -
(1) by reduplication
(2) by suffixation (-e)
e.g. ko (v) high nyo (v) nice, good
atf la ko, the tree is high
atf ko, a high tree
xevi la nyo, the bird is nice
xevi nyo, a nice bird.

Nominals may be:

1. nyui / nyo + e, see page 55
(1) reduplicated
(2) suffixed

in post verbal position, e.g.

qusngusq, energetically \( \angle \) qus, strength
busdbud, monstrously \( \angle \) busd, something unheard of

nuvitdc, in brotherly fashion \( \angle \) novi, brother

\[ \text{with comparable syntactic function are} \]

words derived from verbals by lengthening

of the radical vowel\(^2\). e.g.

bee, secretly \( \angle \) be (v) hide
bun, covertly \( \angle \) bu (v) cover over

\[ \text{of. also} \]

doco (\( \angle \) docodo) softly \( \angle \) do (v) soft.

Pronominals: absolute pronouns are

8 1. nyb
8 2. wdb
8 3. dyd
P 1. miawo
P 2. midwdo
P 3. woawo

pronominal affixes are:

1. See note on to, page 92
2. See note on page 53, where length of vowel
   is analysed as resulting from contraction.
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<tr>
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<tr>
<td>82. wo</td>
<td>wo</td>
<td>è, nè</td>
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<td>83. e</td>
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</table>

Notes: nyc, wo, are suffixed to a very few nominals, prefixed to most, e.g. nòinyè qita, my brother yònyè me, behind me but nyè la, my beloved, etc. all other pronominal affixes are prefixed. e, mia, mid, wo are prefixed/locative and

1. Chiefly kinship terms and parts of the body.
verbal nouns under special conditions, e.g. 
Équ, outside it
Mis fôfo, striking us

(1) ne, wo, mi are pronominal prefixes for the 'connected' form of the verb, e.g.
Mokpa wo neva, I saw you coming
And
ev a etso, you came yesterday
but with front shifting, etso neva.
See page

1. cf. mîsâ fôfo, our striking
2. See page 101.
Numeration: examples of Ewe numerals are set out in the comparative table on page 103.

Notes:

Ordination: ordinal suffix is -lia, e.g.
- eve ≤ 2nd
- et3lia ≤ 3rd
- 1st (gbato) by suppletion.

Iteration: is expressed by si, occasion, e.g.
- ewoe si et3, he did it three times
- si evelia, the second time.

Distribution: distributive form of the numeral is a reduplication, e.g.
- evee, two each

Fractions: af3 = 1/2

Ordinals are used for all other fractions, e.g.
- enelia deka = 1/4
- eneliáwo et3 = 3/4

The numeral System: is mainly decimal, cf. the compounds 11-19, wuideke ≤ ewo + deka = 10 + 1, etc.
and 20-99.
- 20 blaaave = 2 x 10
- 30 blast3 = 3 x 10
- etc.

: traces of a sextal and a quartal system
are to be found in the numerals 1-10:

a change-point occurs between 6-7 and 8-9, cf.

7 adhe $\sim$ de $= 6 \times 1$.

9 enyi $\sim$ de $= 8 \times 1$.

1. cf. also the four day market week.
Verbal bases are:

(1) simple, i.e. monosyllabic and structurally identical with the radical.

(2) reduplicated, (disyllabic):
    e.g. lolo, by dudo, lisk.

(3) compounds, of two simple radicals,
    e.g. fanyi, knead; cf. also fa, knead and nyi, knead; but of these bases only a few are etymologically reducible at the present time.

Tenses:

Tense inflection is by affixation:

Table 15 page 116.

gives the paradigm of yi, go.

Tenses are:

(1) aorist, unaffixed, e.g.
    mayi, I am going
    eua ma, it happened
    eko, it is high
    ësi wàwùi la, eëi le xò me, when he had killed him, he fled from the house.
    ne eua la, if he comes.

(2) future, prefix a,
    mayi I shall go
ava etse? will he come to-morrow?
mawu enu hafi, I shall have finished
before you come.

(3) habitual, suffix, na,
meyina, I usually go
wome wonz o, one doesn't do it.

(4) 'connected', with special prefix,
(see note on page 97.)
e.g. namyiyi, let's go
mekpo wo neva, I saw you coming
miwo do, do some work!

the verbal noun is structurally the base
reduplicated\(^1\),
e.g. xo tutu, building houses (\(\angle\) tu, build, xo house)
egbe yiyi, he refused to go
yiyi sest wu gboyb\(\circ\), to go is harder than to come.
agbeli dudd, eating cassava
la dudd, edible meat

cf. also the following verbal pieces
(cf. \(\le (v) = be, no (v) = always\))
(1) mele yiyim I am going
(2) mele yiyi ge I am about to go
(3) meno yiyim I always went

---
1. cf. also note on page 94-
Verbal Interjection: the simple base may be used as an imperative, e.g. yi, go!

Note: properly speaking, there are no negative tenses in Ewe. Negation is a feature of clause and sentence; the negative sign consists of,

(1) a preverbal particle – me
and
(2) a sentence final particle – o.
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**Tense III**

**Tense IV**

**Tense V**

**Tense VI**
### Groups A and B

ba, etc. etc. come

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| bra | amā | bra | mābā | bra | amā | Tense X |
### Groups A and B

#### The Verb

warl, etc. = tall, long.

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**Tense I**

**Tense II**
warí, etc. - tall, long.

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Tense III

Tense IV

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<td>ndáh</td>
</tr>
<tr>
<td>tryal</td>
<td>ndáh</td>
<td>ndáh</td>
</tr>
<tr>
<td>tryal</td>
<td>ndáh</td>
<td>ndáh</td>
</tr>
<tr>
<td>tryal</td>
<td>ndáh</td>
<td>ndáh</td>
</tr>
<tr>
<td>tryal</td>
<td>ndáh</td>
<td>ndáh</td>
</tr>
<tr>
<td>bba</td>
<td>ndáh</td>
<td>bá</td>
</tr>
<tr>
<td>tryal</td>
<td>bámáda</td>
<td>bámáda</td>
</tr>
<tr>
<td>tryal</td>
<td>bámáda</td>
<td>bámáda</td>
</tr>
</tbody>
</table>
### TABLE 14.

**Group C and D**

**The Verbs**

*fo = po = cut*

<table>
<thead>
<tr>
<th>Ga</th>
<th>Adangae</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Affirmative</td>
</tr>
<tr>
<td></td>
<td>mifo</td>
</tr>
<tr>
<td></td>
<td>dfo</td>
</tr>
<tr>
<td></td>
<td>kfo</td>
</tr>
<tr>
<td></td>
<td>kifo</td>
</tr>
<tr>
<td></td>
<td>nykfo</td>
</tr>
<tr>
<td></td>
<td>bmo</td>
</tr>
<tr>
<td></td>
<td>lfo</td>
</tr>
<tr>
<td></td>
<td>mifo</td>
</tr>
<tr>
<td></td>
<td>dfo</td>
</tr>
<tr>
<td></td>
<td>kfo</td>
</tr>
<tr>
<td></td>
<td>kifo</td>
</tr>
<tr>
<td></td>
<td>nykfo</td>
</tr>
<tr>
<td></td>
<td>bmo</td>
</tr>
<tr>
<td></td>
<td>lfo</td>
</tr>
</tbody>
</table>

**Tense I**

**Tense II**
### Group C and D

\[ fe \equiv pt \equiv cut \]

<table>
<thead>
<tr>
<th>Ga</th>
<th>Affirmative</th>
<th>Negative</th>
<th>Adangme</th>
<th>Affirmative</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>miffo</td>
<td>int-poe</td>
<td>bpe - pbe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dsofo</td>
<td>bjes - poe</td>
<td>bbe - pbe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dsofo</td>
<td>bbe - pbe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tense I</td>
<td>be - poe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wamiffo</td>
<td>wajes - poe</td>
<td>wabé-pbe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nyamiffo</td>
<td>nyajes - poe</td>
<td>nybé-pbe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lamiffo</td>
<td>aye - poe</td>
<td>abé-pbe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>atiffo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Tense III|             |          |               |             |          |
| Tense IV |             |          |               |             |          |

1. mifbo    | mifbo   |
2. dsofo    | dsofo   |
3. dsofo    | dsofo   |

4. wosfo    | wosfo   |
5. nyosfo   | nyosfo  |
6. hasfo    | hasfo   |
7. dsofo    | dsofo   |
<table>
<thead>
<tr>
<th>Ga</th>
<th>Adangae</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Affirmative</strong></td>
<td><strong>Negative</strong></td>
</tr>
<tr>
<td>mafó</td>
<td>mafó</td>
</tr>
<tr>
<td>ćafó</td>
<td>ćafó</td>
</tr>
<tr>
<td>ćafó</td>
<td>ćafó</td>
</tr>
<tr>
<td>nyafó</td>
<td>nyafó</td>
</tr>
<tr>
<td>bsafó</td>
<td>bsafó</td>
</tr>
<tr>
<td>afó</td>
<td>afó</td>
</tr>
</tbody>
</table>

**Tense V**

| afó        | afó           | afó            | afó            |

**Tense I**

| bfoó       | bfoó          | bfoó            | bfoó            |

**Tense VI**

| bfoó       | bfoó          | bfoó            | bfoó            |

| fó        | fó            | kó            | kó            |

**Tense III**

| nyafóda    | nyafóda       | imáñó -poc    | imáñó -poc    |

| bsafó      | bsafó         | imáñó -poc    | imáñó -poc    |

| afó        | afó           | imáñó -poc    | imáñó -poc    |

| bfoó       | bfoó          | wamáñó -poc   | wamáñó -poc   |

| bfoó       | bfoó          | nyamáñó -poc  | nyamáñó -poc  |

| bfoó       | bfoó          | hamáñó -poc   | hamáñó -poc   |
### The Verb

**yi & go**

<table>
<thead>
<tr>
<th>Tense</th>
<th>Affirmative</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>mbyi</td>
<td>nyemáyi o</td>
</tr>
<tr>
<td>2</td>
<td>byi</td>
<td>mbyi o</td>
</tr>
<tr>
<td>3</td>
<td>dbyi</td>
<td>mbáyi o</td>
</tr>
<tr>
<td>Pl</td>
<td>miáyi</td>
<td>mbáyi o</td>
</tr>
<tr>
<td>2</td>
<td>miáyi</td>
<td>mbáyi o</td>
</tr>
<tr>
<td>3</td>
<td>wóáyi</td>
<td>wómbáyi o</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tense II</th>
<th>mbyi</th>
<th>nyemáyi o</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>byi</td>
<td>etc.</td>
</tr>
<tr>
<td></td>
<td>dbyi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>miáyi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>mláyi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>wóáyi</td>
<td></td>
</tr>
</tbody>
</table>

| Tense III | mbyína       | nyémáyi na o |
|           | byína        | etc.         |
|           | dbyína       |              |
|           | maínya       |              |
|           | miánya       |              |
|           | mlánya       |              |
|           | wóánya       |              |

---

**Note:**

- The verb table shows the affirmative and negative forms for different tenses and persons in the verb "yi."
<table>
<thead>
<tr>
<th>Tense IV</th>
<th>Affirmative</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>mbee-yiyinf</td>
<td>nyenleb-yiyinfi o</td>
<td></td>
</tr>
<tr>
<td>ebe-yiyni</td>
<td></td>
<td>etc.</td>
</tr>
<tr>
<td>eelb-yiyins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mfeleb-yiyid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nieleo-yiyid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wodeb-yiyid</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tense V</th>
<th>mbeo-yiyid</th>
<th>nyenbêo-yiyið  ë</th>
</tr>
</thead>
<tbody>
<tr>
<td>ẽbe-yiyid</td>
<td></td>
<td>etc.</td>
</tr>
<tr>
<td>ẽelb-yiyid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mefaneb-yiyid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nieleb-yiyid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wodeb-yiyid</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tense VI</th>
<th>mbeb-yiyid</th>
<th>nyenbêb-yiyið  ë</th>
</tr>
</thead>
<tbody>
<tr>
<td>ẽeb-yiyid</td>
<td></td>
<td>etc.</td>
</tr>
<tr>
<td>ẽeb-yiyid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mefaneb-yiyid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nieb-yeiðid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wodeb-yiyid</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Ewe

yi - go

<table>
<thead>
<tr>
<th>Tense VII</th>
<th>Affirmative</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>men-yiyi-m</td>
<td>ny-men-yiyi-m</td>
<td>etc.</td>
</tr>
<tr>
<td>en-yiyi-m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>en-yiyi-m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>men-yiyi-m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>men-yiyi-m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wol-yiyi-m</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tense VIII</th>
<th>m-le - yiyi - gé</th>
<th>ny-men-le - yiyi-gé</th>
<th>etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>le - titi - gé</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>le - yiyi - gé</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mi-le - yiyi - gé</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mi-le - yiyi - gé</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wol-le - yiyi - gé</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tense IX</th>
<th>yi</th>
<th>m-gyi o</th>
</tr>
</thead>
<tbody>
<tr>
<td>m-gyi</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Introductory Note: in establishing the 3 groups the primary evidence is lexical; i.e. within each group a proportion of the total lexicon (affixes and radicals) is common to 2 or all languages.

Obviously, the entries in any shared vocabulary of this sort are likely to be of 3 major types:

(i) primary: i.e. for which it is not possible or necessary to postulate a source external to the language group as it is now constituted.

(ii) derived: i.e. acquired directly or indirectly by the individual languages from a source external to the group.

(iii) diffused: i.e. originating in one of the languages of the group and thence acquired directly or indirectly by other languages of the group.

Entries of type (ii) are usually recognizable by direct historico-cultural evidence, e.g. book, lorry, bread etc and other European loans.
Entries of type (iii) are more difficult to identify and since ultimately the only valid proof of loaning is the historical fact of \textit{existence} an entry's prior existence in one language, the accurate recognition of either type (ii), or (iii) cannot be guaranteed.(1)

An attempt, however, has been made to exclude all such entries from the examples of common radicals given in the following pages, since the 3 types of entry have different historical implications and involve different types of linguistic relationship.

Under each group heading then a number of radicals common to the group are set out by way of example and in every case are quoted with notes on the phonological transformation rules involved.

\begin{flushleft}
(1) In this field the historical evidence, whether from literary documents or whatever source is notoriously meagre. The earliest extant text in Twi is the word list of P(eter) D(e) M(arees), Beschryvinghe ende Historische Verhuel Van Het GOUT KONINCKRIJK Van GUNEA. Amstelredam. 1602. For the other languages source material begins much later.
\end{flushleft}
In this paper the following features of a word are considered, among others, as evidence of borrowing:

1. **Phonological irregularity:**

   a. **Example (a):** p in Ewe

   \[ \text{pē} /\text{Twi}: \text{pēf, chisel} \]  (see page 47)

   b. **Example (b):** si in Gbugbla Adangme

   \[ \text{s in this dialect the juncture} \text{ s + i is realized} \text{ phonetically} /\text{ji}/, \text{but} \]

   \[ \text{sikli /Fr. sucre.} \]

   c. **Example (c):** tone in all languages

   \[ \text{e.g. (Asante)} \text{Twi: ɖkā, parrot } \]

   \[ \text{kñtā, paper (Port. carta),} \text{the unique tonal pattern of borrowed words being} \]

   \[ \text{first established by a comparison of loans identifiable, on other evidence}, \]

   \[ \text{e.g. kñtā and} \]

   \[ \text{kñkyl /clerk; pùrāsi /police, and dúkd /Dutch dock.} \]

2. **Morphological transparency:**

   a word common to more than one language, if it is obviously a secondary formation in one language (and irreducible in others) is assigned to that

1. The examples are purposely taken from Westermann's 'Das Tschu und Guang', and 'Die Westlichen Sudansprachen' to support later criticism of his classification of these languages.

2. In names for obvious cultural innovations.
language and eliminated as a diffusion.

e.g. paane, needle - in Ga
    Paani - in Guang

\[ \text{Twi: paan}1 \text{, pan (v) sew + di, thing} \]

Eve: abletsiri, Europe

\[ \text{Twi: aburo + kyiri} \]

Twi: kyiri \equiv\ land

cf. oburoni \equiv\ man of 'buro'

European in Ewe is yevu.

(3) topology: see page 146

when all possible entries of types (2) and (3)
have been eliminated there still remains within each
Group a fairly large corpus of 'primary' entries
common to all the languages of the group. The
figures given in Table 16 are based on comparative
lists of radicals made for the respective groups.
For Group A + B, for example, a list of the first
1,000 common radicals\(^2\) in Twi was made and
equivalent lists compiled for Guang and Nsema.

Strict identity of semantic function was demanded

---

1. cf. also length of vowel elsewhere analysed as a
    junctural prosody in Twi.

2. (simple monosyllables (CV) and extended mono-
    syllables, i.e. CV = the extensions enumerated
    on page 57, only)
of any word pair admitted for comparison and, undoubtedly a less rigorous method would produce higher and no less valid percentage figures, but it was felt that in the first instance, the evidence provided by well attested pairs only was sufficient to establish the relationship postulated in this paper.
<table>
<thead>
<tr>
<th>Language Pairs</th>
<th>Radicals Counted</th>
<th>Common to both languages</th>
<th>Per Centum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twi-Nzema</td>
<td>737</td>
<td>198</td>
<td>27.</td>
</tr>
<tr>
<td>Twi-Guang</td>
<td>695</td>
<td>147</td>
<td>21.</td>
</tr>
<tr>
<td>Nzema -Guang</td>
<td>712</td>
<td>133</td>
<td>18.</td>
</tr>
<tr>
<td>Ga- Adangme</td>
<td>672</td>
<td>210</td>
<td>31.</td>
</tr>
</tbody>
</table>

Not counted are

(1) Compound radicals
(2) Established loans.
GROUP A

Notes: the following transformation rules apply:

(1) Twi p = Nsema kp
   m-pá (n)  mat  è-kpa
   pś (n)  similar  tps
   pu (v)  refuse  kpu
   am-pá  truly  ajm-gbal. (<m + pa)

(2) Twi b = Nsema b
   ba-bá (n)  stick  ba-ká
   bá (n)  some  bá-e
   bu-e (v)  open  bu-ke

(3) Twi b = Nsema m (<m + b)
   á-bá (n)  seed  á-ma  (am + ba?)
   è-bí-rí (n)  time  è-mi-ka
   bógyá (n)  blood  m-mogya

(4) Twi b = Nsema y
   ba (n)  child  ya
   ñ-bá-a (n)  woman  ñ-k-łe
   è-bé (n)  proverb  è-ye-łe

(5) Twi t = Nsema t
   ti (v)  feel, hear  ti
   è-tí-r-ś (n)  head  tś-łe
   to-ŋ (v)  sell  to-ní

1. See note on page 27
2. See note on page 27
(6) **Twi t = Nzema dh = t**

<table>
<thead>
<tr>
<th>Twi</th>
<th>Nzema</th>
</tr>
</thead>
<tbody>
<tr>
<td>š-ta-m (n)</td>
<td>cloth š-dha-nli</td>
</tr>
<tr>
<td>ſ-ta (n)</td>
<td>twin š-dha-le</td>
</tr>
<tr>
<td>tó-w (n)</td>
<td>ball š-dho-ks</td>
</tr>
</tbody>
</table>

(7) **Twi d = Nzema d**

<table>
<thead>
<tr>
<th>Twi (v)</th>
<th>Nzema</th>
</tr>
</thead>
<tbody>
<tr>
<td>da (v)</td>
<td>sleep da</td>
</tr>
<tr>
<td>di (v)</td>
<td>eat di</td>
</tr>
</tbody>
</table>

(8) **Twi k, kw = Nzema k, kw**

<table>
<thead>
<tr>
<th>Twi (v)</th>
<th>Nzema</th>
</tr>
</thead>
<tbody>
<tr>
<td>ka-w (v)</td>
<td>bite ka</td>
</tr>
<tr>
<td>ka-i (v)</td>
<td>remember ka-kyi</td>
</tr>
<tr>
<td>ku- (n)</td>
<td>l ku</td>
</tr>
<tr>
<td>kwá-w (v)</td>
<td>daub ku-kwa (redupl. &lt;kwa)</td>
</tr>
</tbody>
</table>

and with nasal prefix:

<table>
<thead>
<tr>
<th>Twi (n)</th>
<th>Nzema</th>
</tr>
</thead>
<tbody>
<tr>
<td>ſ-j-ká (n)</td>
<td>life ſ-j-gwaglni</td>
</tr>
<tr>
<td>ſ-j-ky (n)</td>
<td>shea ſ-j-gy</td>
</tr>
</tbody>
</table>

(9) **Twi k = Nzema h = k**

<table>
<thead>
<tr>
<th>Twi (n)</th>
<th>Nzema</th>
</tr>
</thead>
<tbody>
<tr>
<td>š-kó-m (n)</td>
<td>hunger š-ho-ni</td>
</tr>
<tr>
<td>ku-nu (n)</td>
<td>husband hù-nli</td>
</tr>
</tbody>
</table>

(10) **Twi g = Nzema g**

<table>
<thead>
<tr>
<th>Twi (v)</th>
<th>Nzema</th>
</tr>
</thead>
<tbody>
<tr>
<td>gu-w (v)</td>
<td>slack gu</td>
</tr>
</tbody>
</table>

and

<table>
<thead>
<tr>
<th>Twi (n)</th>
<th>Nzema</th>
</tr>
</thead>
<tbody>
<tr>
<td>ſ-yu (n + gu?) (n)</td>
<td>oil ſ-yu-li (ŋ + guʔ)</td>
</tr>
</tbody>
</table>

---

1. See note on page 27
2. See note on page 27
(11) **Twi & Nsema**

- **gwa (n)** stool
- **gwa-w (v)** flog
- **gwa-ri (v)** bathe

(12) **Twi & Nsema**

- **fi-r-i (v)** buy or sell on credit
- **fo-w (v)** wet
- **fu-n-y (n)** corpse

(13) **Twi & Nsema**

- **sa-w (v)** scoop
- **n-sá (n)** hand
- **n-s£-q (n)** piece

(14) **Twi & Nsema**

- **n-sa-wá (n)** funeral money
- **n-sy (n)** water
- **n-s£ (n)** ashes

(15) **Twi & Nsema**

- **a-bM (n)** afternoon
- **h£-n-f (v)** shut
- **h£-w (v)** winnow

(16) **Twi & Nsema**

- **a-h£ (n)** teasing
- **h£-a (v)** poor

---

1. See note on page 27
2. See note on page 64.
(17) **Twi** _h__ _a_ **Nzema** _a_  
ha (n) outside _η_  
ha (v) see _ηη_  

(18) **Twi** _i_ _h_ _b__ _v_ **Nzema** _v_  
j-i-a (v) meet _yi-a_  
j-i-r-a (v) bless _yi-r-a_  

(19) **Twi** _i_ _w_ _h_ _v_ **Nzema** _v_  
j-i-w (v) bale out _wi_  
'a-jw-a (n) sand _a-wj-a_  

(20) **Twi** _i_ _i_ _h_ _a_ **Nzema** _a_  
a-tji-mi (n) drum _kɛ-nli_  
tji-r-ɛ-ɛ (v) write _kɛ-lɛ_  

(21) **Twi** _i_ _i_ _h_ _a_ **Nzema** _a_ _h_ _a_  
`n-tʃɛ-n (n) side _a-he-nle_  
a-tʃi (n) morning _a-hf_  

(22) **Twi** _d_ _a_ _v_ **Nzema** _d_ _a_ _v_  
dza-i (v) stop _dza-tʃi_  
a-dza (n) father _a-dza_  
a-dzw (v) cool _dzw_  
dzw (v) hack _dzw_  
dzw-ma (n) work _dzw-

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1. See note on page 26  
2. See note on page 27  
3. See note on page 27  
4. See note on page 28  
5. See note on page 28
(23) Twi ma Ny Nzema ny
   dze (v) receive dje
   dje-dze (v) tinkle dje-dje
   a-dze (n) deliverance a-lie-le.

(24) Twi ma Ny Nzema ny
   ma (v) give ma
   ia-ja-nj (n) nation ma-nli
   i-ja-nj (n) fresh a-mu-nli

(25) Twi ma Ny Nzema ny
   ni (v) be ni
   e-nj (n) honour nj
   nu-m (v) drink nu
   ny (v) stir ny

(26) Twi ma Ny Nzema ny
   i-nj (n) eye nj
   i-nj-nj (n) python nj

(27) Twi ny Ny Nzema ny
   nya (v) get nya
   nya-nj (v) insipid nya-nli
   nyj-nj (v) grow nyj

(28) Twi nyw Ny Nzema ny
   nywi-nj-i (v) bitter qu-nli
   nywi-nj-i (v) weave qu
   nywi-nj-i (v) leak qu

1. Where l = d, see note on page 27
<table>
<thead>
<tr>
<th>Twi w &amp; Nzema w</th>
<th>Twi w &amp; Nzema w</th>
</tr>
</thead>
<tbody>
<tr>
<td>wa-ri (v)</td>
<td>long wa-li</td>
</tr>
<tr>
<td>ɛ-wo (n)</td>
<td>snake ɛ-wo-le</td>
</tr>
<tr>
<td>ɛ-wo-a (n)</td>
<td>sun ɛ-wo-a</td>
</tr>
<tr>
<td>wu (v)</td>
<td>die wu</td>
</tr>
<tr>
<td>Twi w &amp; Nzema w</td>
<td>Twi w &amp; Nzema w</td>
</tr>
<tr>
<td>ɔ-yi-r-i (n)</td>
<td>wife ɔ-yi</td>
</tr>
<tr>
<td>ye-g (v)</td>
<td>rear ye-ni</td>
</tr>
</tbody>
</table>
Notes: The following transformation rules apply:

Vowels:

1. **Twi** ← **Guang**
   - "sí-n(n) piece" ~ "tf"
   - "h-sí-á(n) ë" ~ "sí-ë"
   - "ki-ri(v) catch" ~ "kyi-ri"
   - "hf-n(v) blow" ~ "ff nose"

2. **Twi** ← **Guang**
   - "à-be-η (n) horn" ~ "à-be-ri"
   - "è-kë (n) side" ~ "ny-kye-η"

3. **Twi** ← **Guang**
   - "n-tá-m (n) oath" ~ "ntê"
   - "á-dze (n) fire" ~ "á-gya"
   - "á-bje (n) stool" ~ "á-gwa"
   - "hire1. (v) mix" ~ "fral."

4. **Twi** ← **Guang**
   - "do (v) love" ~ "do"
   - "pe-w (n) knot" ~ "kpo"
   - "tö-w (n) ball" ~ "tö"
### (5) Twi u = Guang u
- n-sú (n) water
- dý-á (n) tail
- sú-m (v) support

### (6) Twi u = Guang w(e)
- n-sú (n) ashes
- tū (v) err
- kū (v) fight

### Consonants:

#### (7) Twi p = Guang kp
- pa (v) skim
- pó-w (n) knot
- à-pí-m (n) 1,000

### Twi b = Guang b
- ba (v) come
- bi-m (n) innocence
- à-bé-n (n) horn

### Twi b = Guang f
- ba-n (n) fence
- by-e (v) open
- bú-n (n) berk

### (8) Twi t = Guang t
- n-tá-m (n) oath

1. p = p only in presumed loans from Twi; see note page 12.
(9) Twi d ⋆ ꜜ Guang d

dô (v) love do
duô (n) tail adû
ë-duô (n) 10 i-dû

(10) Twi k. tî = ky ⋆ Guang k

kô (v) say ke
ñ-krä (n) blood ñ-kre
á-kü-nû (n) husband á-kü-ri
ki-ri (v) catch ki-ri
ñ-kyé-ñ(n) side e-ke

Twi kw ⋆ Guang kw

ñ-kwa-ñ(n) road ñà-kpê
ñ-kwa (n) life ñm-kpê

(11) Twi gw ⋆ Guang by

gwa-ri (v) bathe bje
e-gwa (n) stool á-bje

(12) Twi f ⋆ Guang h

ñ-ff (n) comb á-hí
j-r-a (v) mix hire/ he-r-e
fy-np(n) corpse hú-ní

(13) Twi s ⋆ Guang s

ñ-sa (n) war e-se
14) **Twi a = Guang t**

- `n-saa` (n) strong drink `n-te`
- `saa` (v) finish `te`
- `si`-n (n) piece `tji`

15) **Twi a = Guang ta**

- `sa` (v) cure `tsa`
- `so` (v) try, peck `tsa`
- `n-su` (n) water `n-tsá`

16) **Twi h : j = by = Guang j**

- `hí-m` (v) blow `fí` nose
- `hu-n-u` (v) dissolve `fű-so`
- `če-hú` (n) fear `i-fú`
- `hys-ŋ` (v) blow `fe-ří`

17) **Twi hw = Guang ḫy**

- `hwë` (v) beg for `fië` food
- `hwa-m` (v) smell `fí-n-če`

18) **Twi m = Guang m**

- `a`-ma`-nì` (n) gum `e`-mê
- `a`-mì`-m` (n) greed `a`-mì`
- `mp`-a (v) shut `mp`
(19) **Twi n = Guang n**

- à-ná-ŋ (n) 4 nɛ
- njí-m (v) know nj
- a-nú (n) mouth á-nu

(20) **Twi w = Guang w**

- wi-a (wu-a) (v) steal wu-rj
- ó-wj-a (n) sun á-wj
- wu (v) die wu

(21) **Twi w = Guang k**

- wu (v) give birth ku-ki (Ku)
- e-wú (n) honey á-ku
GROUP C + D

Notes: The following transformation rules apply:

Consonants:

(1) **Adangme n ➔ Ga f**
- pé (v) ➔ do ➔ fè
- ple (v) ➔ irritate ➔ fle
- po (v) ➔ cut ➔ fo

(2) **Adangme b ➔ Ga b**
- bè (v) ➔ sweep ➔ bè
- bè (n) ➔ horn ➔ bè
- ba (v) ➔ come ➔ ba

(3) **Adangme b ➔ Ga gb**
- bo (v) ➔ grow old ➔ gbo
- g-gb- (in compounds) ➔ foreign ➔ -gbo -

(4) **Adangme b ➔ Ga m**
- ba (v) ➔ borrow, lend
- b-l-a (n) ➔ gum ➔ a-ma

(5) **Adangme t ➔ Ga t**
- tè (n) ➔ stone ➔ tè
| tó (n) | sheep | tool |
| tū (v) | jump  | tū   |

(6) **Adangme d = Ga d**

do (n)  | grief  | do   |
dū (v)   | catch  | dū   |

(7) **Adangme d = Ga dz**
da (v)   | right  | dza  |
dō (v)   | dance  | dzo  |
dū (v)   | bathe  | dzu  |

(8) **Adangme k = Ga k. kw**

ke (v) give as a present ke.
kū (v) break across kū
kūs (n) neck kūs
kuo (v) climb kuo

(9) **Adangme g = Ga g**
gā (n) garden egg gā
gūgū (n) nose gūgū
gāgā (n) black ant gāgā

(10) **Adangme g = Ga n**
gā (n) advice nā
gā (n) ear nā
gōgō (n) cymbal nōnō

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1. See note on page 38
2. See note on page.
(11) Adangme kp = Ga kp
kpe (v) meet kpe
kpe (v) chip off kpe
kpe (n) knot kpe

(12) Adangme gb = Ga gb
gba (n) bridge a-gba
gbî (v) dry gb-1-I
gbo (v) die gbo

(13) Adangme fi = Ga fi
fi (v) tie fi
flî (v) winnow flî
fû (v) rise, eg. fû of dough

(14) Adangme fy = Ga fy
fîa (v) set on edge fswâ
fîe (v) play fswâ
fîo (v) suck fswâ

(15) Adangme z = Ga f
zîa (n) sand fîa
za-mi (n) urine fà-mo
zi-gbâ (n) ground fî-kpô'î

(16) Adangme s = Ga s
sá (n) mat sàa
sê (n) stool sêî
s-1-e (v) melt së-r-e
(17) Adangme a E Ga f-
*ef (v) burn
*ef (v) leave
*es (v) take
leave of

(18) Adangme h E Ga h
*he (v) give
*he (v) accept
*he (v) weed

(19) Adangme hv, hv E Ga y, v
*hi (v) full up
*hie (v) white
with contextual nasality
*hie (n) yesterday
*hie (n) debt
*hua (v) hard
*hua (v) sleep
*hua (n) tomorrow

(20) Adangme m E Ga m
*mé (v) build
*mé (v) swallow
*mé (n) fort

(21) Adangme m E Ga m
*mé (n) mud
*mé (múo) (v) laugh
(22) Adangme m = Ga b
m-1-a (v) coil round b-1-a
màmà (n) pity móbó
mo (n) you bo

(23) Adangme m = Ga m
mõ (n) person nò
mü (n) oil nu

(24) Adangme n = Ga n
nàné (n) foot nàne
na (v) get na
nõ (v) fight nõ

(25) Adangme ny = Ga ny
nyë (n) mother nyë
nyë (v) hate nyë
nyë (v) walk ny-1-ë

(26) Adangme ny = Ga n
nyu (n) water nà Ga nù
nyu-mu (n) male nà Ga nùu

(27) Adangme n = Ga n
nà (v) shut na
nà-1-a (v) wither nà-1-a
nò (n) salt nò
(28)  
Adangme  nm  »  Ga  nm

<table>
<thead>
<tr>
<th>Ga</th>
<th>Adangme</th>
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<tbody>
<tr>
<td>nh</td>
<td>nm</td>
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<tr>
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<td>food</td>
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<tr>
<td>n</td>
<td>palm</td>
<td>n</td>
</tr>
<tr>
<td>n</td>
<td>kernel</td>
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</tr>
<tr>
<td>n</td>
<td>bell</td>
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(29)  
Adangme  l  »  Ga  l

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<td>l</td>
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<td>n</td>
</tr>
<tr>
<td>n</td>
<td>canoe</td>
<td>n</td>
</tr>
<tr>
<td>n</td>
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(30)  
Adangme  ts  »  Ga  ts

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<td>ts</td>
</tr>
<tr>
<td>n</td>
<td>father</td>
<td>n</td>
</tr>
<tr>
<td>n</td>
<td>too much</td>
<td>n</td>
</tr>
<tr>
<td>n</td>
<td>room</td>
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(31)  
Adangme  dz  »  Ga  dz

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</tr>
<tr>
<td>n</td>
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<tr>
<td>n</td>
<td>resemble</td>
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</tr>
<tr>
<td>n</td>
<td>cool</td>
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(32)  
Adangme  w  »  Ga  w

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<td>w</td>
</tr>
<tr>
<td>n</td>
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<td>n</td>
</tr>
<tr>
<td>n</td>
<td>wear</td>
<td>n</td>
</tr>
<tr>
<td>n</td>
<td>smear</td>
<td>n</td>
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</table>

(33)  
Adangme  wy  »  Ga  dzw

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<th>Adangme</th>
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<td>wy</td>
<td>dzw</td>
</tr>
<tr>
<td>n</td>
<td>break</td>
<td>n</td>
</tr>
<tr>
<td>n</td>
<td>4</td>
<td>dzw</td>
</tr>
<tr>
<td>n</td>
<td>éwie</td>
<td>n</td>
</tr>
</tbody>
</table>
(34) Adangme y = Ga y

ya (v) scoop water ye

yō (n) woman yō.
Under this heading may be considered the outstanding problem of the interrelation of the 3 groups so far established, since much of the argument centres on the lexical affinities of the 6 languages.

A preliminary note is required on the ambiguity of the term "related" as used by earlier writers on the languages of the Sudan and Guinea Coast in general and on the Volta River languages in particular. Caught in the lawless revelry of similarity as William James used to put it, these writers have tended on the whole to emphasize a superficial resemblance between the languages of this area and to neglect the more important differences which make necessary at least a primary grouping of the type adopted here(1).

Though by comparison a scholarly and sober work, Delafosse's artificial classification based on two quite arbitrarily selected diagnostic criteria (class prefixes and tone) falls under this heading. see bibliography, Delafosse 1924.

(1) The only comment possible on this type of classification is Plato's on the word "barbaroi". In many cases the "related" languages are similar only in being different from the Indo European norm.
Others have attempted natural classifications.

Cf. A.N. Tucker's elaborate "definition" of a Sudanic language which lists 16 attributes. (1)

Since classification is essentially arbitrary and pragmatic both types of classification and their concomitant and different usages of the term "related" are equally valid, if pre-defined. (2) But these classificatory schedules are frequently held to have historical implications, i.e., are put forward as 'phylogenetic'. (3) This alone demands some examination of the differentia used. Most commonly these are listed as

(1) Phonetic: Mention has already been made of Delafosse's criterion of tone. Green (4) has suggested refinements.

- characteristic sounds, e.g., kp, gb and the implosives 'b' and 'd'.

(1) The Eastern Sudanic Languages, vol 1, 1940 p.56.

(2) Cf. J.R. Firth, Speech, 1930, p55. (Of Dutch, Danes, Swedes and the English) "If we consider their phonetic habits in the common sensual life, these people speak kindred languages."

(3) Cf. especially Carl Meinhof, ZK 1.

(4) The Classification of West African Tone Languages: Igbo and Efik. Africa vol XIX, 3, 1949. It is not clear what type of classification Green has in mind but obviously it can only be an artificial classification in the most restricted sense of the term. Using her differentia Ga could not be grouped with Adamawa despite the obviously close relationship that exists between the two languages in almost every other respect.
Mention has already been made of Delafoe's use of nominal prefixes. Other and more dubious criteria are for example, that "the singular and plural of nouns is not normally distinguished"; that "there is no case in nouns" and "no mood in verbs". (1)

These vary from criteria of the type, "the adjective precedes or follows (sic) the noun it qualifies" to the more elaborate hypotheses of Schober (2) and Blok. (3)

The view taken in this paper may be summarized as follows:


(2) "anschauungsfuhlle" - cf. Die Semantische Gestalt des Ewe, Anthropos, vol 28, pp 621-632. "Es ist der Fall denkbar dass Sprachen trotz verschiedenen Wortschatzes, trotz verschiedener Grammatik, Phonetik usw. doch in der Art verwandt sind, wie sie gegebenes Geistesgutsprachlich gestalten, d.h. verwandt in semantischer Beziehung."

(3) "lokaliseme", "polariteit", "onserheid-relatie", etc. cf. Afrikanistische Taalwetenschap, Problemen, Taak en Doel, Leiden 1950.
that the use of such evidence for special and ad hoc
(i.e., artificial) classifications is valid but that the
existing schedules are too wide. For example there is a
marked difference between the fairly elaborate nominal
prefix system of the languages of this Group A plus B and the morphological process of prefixation
in the languages of Groups C plus D and E and again between
these and the grammatical concord systems of Bantu.

(b) that in general, common phonetic and categorial habits
such as these present not a proof but a problem. In many
cases the answer to this problem can be found in a hypothesis
of "diffusion". The view has already been expressed that
insufficient attention has been paid in African comparative
linguistics to the two important factors of geographic
contiguity and continuity. To these factors have already
been attributed certain lexical affinities, i.e., calques
like Guang asukwe by analogy from Twi asusi, resting place
and simple borrowings

(i) note also the difficulties of classifying the 6
languages of this Group by the verbal systems; both
language types have certain attributes in common but
cf. the complex system of 10 tenses in the languages
of Group A plus B (with tense and negation by prefix)
and the much less complex system of the verb in the
languages of Group C plus D and E (with negation by
suffix or special sign.
Cassava: Ga: dunde / Twi: tree yam
Adangme: agboli / Ewe: agboli

It is equally feasible to appeal to diffusion in certain cases to explain departures from the established language type. For example, it is not unreasonable to assume that the Ga system of accentuation, which differs markedly from the Adangme, is due to Twi influence on Ga speech. Similarly, the existence of true labio-palatals in Ga and Guang dialects bordering on Twi speaking territory, and the growing tendency to palatalisation of velars in these dialects and to the labialisation of velars in Ga, are not improbably innovations due to Twi. At another level, too, recourse is made to this argument to explain differences of syntax and morphology between Ga and Adangme.

It is not insignificant that Adangme resembles the geographically contiguous Ewe in possessing, for example, a 'definite article' and in forming nominal of a special type by reduplication of the verbal base.

1. See note on page 17
2. cf. Adangme: tso a, tso paa, the tree, the trees, and Ga: tso ia, taoi le (le is 3rd p.s. pronoun cf. Twi: dua nu, the tree and amu, he, him).
3. cf. pages 81 and 94.
Note (1), page 148: In these languages what have been called in this thesis paper, "yolizalum", "labiovelarization" and "lateralizalum", for example, are common phonetic habits just as 'palatalization' is a universal phonetic trend, and they have the same value for classificatory purposes.
whereas Ga resembles Twi in the one case in its suppletive use of the 3 p.s. pronoun and lack of the reduplicative process in the other.

In the present writer’s view, the special conditions obtaining in the Gold Coast (and much of West Africa) i.e. almost universal bilingualism, frequent intertribal marriage and the political ascendancy of the Akan peoples give added crediblity to a diffusionist theory of this type.

In the last resort, of course, many of these “semantic and” phonetic habits (4) affinities can only be explained as due to the unavoidable necessity of classifying experience in speech with an obviously limited number of categories and physiological possiblities of articulation. For instance it is interesting to note that in all 6 languages

“brother/sister” mother’s child. of Twi nua (ni and ba); Ga nyymi (nye and bi) etc.

“believe” is expressed as a serial predicate = take, eat. of. Twi gyi’dij; Ga he; ye etc.

but this is at most equivalence of semantic function not identity of sememe unless a phonological correspondence can be established. This type of equivalence has been represented in this paper by the symbol 2 which signifies that it is to be ignored for purposes of the main argument. cf. page 64 Nsiga kyj 2 Twi ba.

(c) the type of relationship envisaged for the languages of the 3 groups established in this paper is of a different order and has implications of some form of common elaboration either by divergent, convergent or reticulate.

It is now possible to discuss the question whether the languages of all 3 groups are interrelated in this way.
The only writer to bring forward detailed evidence in support of this view is Westermann, who makes the five languages a major sub-group (Ewe-Tschi Gruppe) of the so-called Kwa family. In his "Das Tschi und Guang", a considerable amount of lexical material is produced for comparison; from it certain deductions are made as to an earlier common vocabulary; the method used also involves the reconstruction of an imposing number of hypothetical radicals. Westermann is generally considered to have proved his case, but the present writer believes that, irrespective of the truth or not of Westermann's basic hypothesis, the picture he presents is misleading. The relationship specified for these languages is a genetic relationship, and an uncritical reader of his paper might be forgiven for assuming it a close or recent one. It is not the purpose of this paper categorically to deny that these languages are related in this way, but rather to emphasize the remoteness of the relationship and the difficulties of its proof. Since the

1. Die Westlichen Sudansprachen, 1927.

2. The total of such radicals listed in "Das Tschi und Guang" is 511, but not all, of course, are presumed common to all five languages. It is significant, in fact, that the number of such radicals is relatively small.

3. Greenberg, for example, calls him "an eminently cautious observer".
Evidence acceptable to the present writer is largely negative, the simplest method appears to be an examination of Westermann's own data in some detail.

The evidence he presents seems unacceptable on several counts. Some of these have been mentioned previously in different connections: they are:

1. Failure to recognize loans; of many, one or two examples will suffice:

   - rust
   
   Two: ṣkānnare, Ga: ṣkanale, Ewe: akada;
   
   but
   
   ṣkānnare in Twi / nea ẹkānnade = that which affects iron.

   - similarly,

   Twi: agyankə (n) orphan / agya ṣka = father not left

   is equated with the Ewe wo adza, to expose orphan children.

2. The degree of latitude allowed in the semantic equations, e.g.:

   - Ewe: vi, child = Twi: obi, person.

   - Ewe: ku, die = Twi: ku, kill.

1. However improbable to speakers of Indo European such compounds may seem, they are very frequently to be found in Twi and Ewe.

2. child is 'ba/

3. die is 'wu/
Ga: gblo, wash = Twi: guare.
Ga: mlu, powder = Twi: aduru.
Ewe: ma, nicht = Twi: m, negation.

(3) the partial nature of the phonological correspondences, e.g.
Ewe: axa, side = Twi: nkey (\(\triangle left ia? (sic)\))
Ewe: (dhe) bala, palmwedel = Twi: bergw
Ewe: vd, durchsaubert sein = Twi: bon, penetrate as leaven does the dough

but also
Ewe: v6, riechen = Twi: bon, smell.

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1. Twi: guare is English 'bathe' for which the Ga is du.
2. Ga: mlu is dust, Twi: aduru is medicine \(\triangle left\) du, tree cf. Ga: sofa \(\triangle left tso =\) tree.
3. m is one only of several realizations of m.
But when much of the lexical evidence has been eliminated under these headings, there still remains certain seemingly valid correspondences which can only be explained by one of two hypotheses:

(1) that they are true vestiges of the postulated proto-language;

(2) that they are loans from a period earlier than the inception of current phonological and morphological habits with regard to borrowings. For example, Ewe nowadays pronounces borrowed words from Twi with /p/, pë has already been quoted; in the light of this, a correspondence Ewe: kpa, scrape = Twi: pa, cannot be dismissed immediately as an example of loaning.

Evidence which seems to fall more probably under (1) is, for example, certain resemblances between the pronominal prefixes of the languages of all groups, but the sound changes involved are not sufficiently corroborated elsewhere in the lexicon.

Evidence which seems to fall more probably under (2), is the example: Twi: kë Ewe: kp, in a few cases. A further example of this correspondence occurs in the numeral for 1,000 which seems common to all languages; here the special nature of the word in question renders a hypothesis of diffusion more plausible.

The question is not pursued further in this paper.
The numeral systems of all six languages show traces of possible diffusion; cf. the words for 1,000 already mentioned and for example iteration in Groups C, D and E.

Ga - Adangme si/ji = Kwe zi.

and the traces of earlier sexual systems in the numerals of Groups C, D and E. The question is not pursued further in this paper since obviously to decide categorically between (1) and (2) demands ideally a special type of historical knowledge that does not exist for these languages or, at least, a detailed consideration of peripheral languages beyond the scope of the present study and for which material is as yet not readily available.

For similar reasons it is not proposed to discuss the peculiarly restricted view held by both Westermann and Greenberg of the monogenetic implications of their evidence. (1)

A functionalist view is taken in this paper because of the meagre and highly dialectalised nature of any common language system to be established by such a hypothesis, the interrelation of the 6 languages is considered an irrelevant and methodologically improper question.

(1) convergent or reticulate formation (i.e. polygenesis) are not excluded as hypotheses.
5. Conclusions

Briefly to summarize, the following conclusions are reached in this paper.

(i) that the following languages are related in structure and vocabulary.

- Twi - Nzema - Guang
- Ga - Adangme.

(ii) that these structural and lexical affinities are such as to suggest an earlier common origin for the languages of each group.

(iii) that there are affinities of various kinds between the languages of different groups and that these affinities are most probably due to acculturation and

(iv) that it is unnecessary to postulate a common source for all six languages in order to explain them.
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MBOs - Mitteilungen des Seminars für Orientalische Sprachen, Berlin.
EAS - Zeitschrift für Afrikanische Sprachen.
ZAOS - Zeitschrift für Afrikanische und Ozeanische Sprachen.
ZACOS - Zeitschrift für Afrikanische, Ozeanische und Oceanasiatische Sprachen.
ZK - Zeitschrift für KolonialSprachen.
ZE - Zeitschrift für EingeborenenSprachen.
adjunct: a word which defines (modifies, qualifies) the primary words of a sentence or phrase; adnominals so define nominals, adverbals define verbal.


acculturation: "the process of the envelopment or change of culture which occurs when one socio-economic system influences another in a thorough-going manner".


calque: "Transposition, soit rigoureuse soit approximative d'un mot (gr. attikisein = lat. atticissare), d'un système ( lat. tra-ducere, all. uber-tragen), d'une construction (all. Was ist er fur ein Mann? fr. Qu'est-ce que c'est pour un homme?) ".


dyadic: secondary units are dyadic when under analysis they are found to consist of two sub-units. cf. Twi diphthongs, pp.23 ff.

elaboration, linguistic: may be divergent (i.e. two or more languages derive from an original language) convergent (i.e. a third language is produced from the influence of one language on another) reticulate (i.e. both divergent and convergent in turn).

gemination: doubling of consonant or vowel.

ingressive: the ingressive form of verbs in all 6 languages expresses motion (to or from the speaker) prior to the performance of the main action expressed by the verbal radical.

lateralization: cf. Eugenie Henderson, "Prosodies in Siamese"
lautbilder: i.e. "picture words". These are semi-interjections of an onomatopoeic nature which may in these languages accompany almost any verb to describe for example, the noise or manner of the action or the effect of the action on the doer or the watcher. Tucker calls them "ideophones", see his "The Eastern Sudanic Languages" pp. 312 ff.

lenition: "Pour une consonne, passage de la série des fortes à la série des douces, qui équivaut d'ordinaire à une sonorisation; ainsi dans le changement de s en z."

Marouzeau J. op. cit. p. 18.

phonaesthetic habits: attitudes to and preference for certain sounds.

piece: any segment of the chain of speech, complete in itself and which may serve as an isolate. e.g. in Ewe the verbal piece often consists of a verb and its concomitant nominal, neither of which exists independently of the other. cf. Firth, J.R. "Sounds and Prosodies" TPS 1948.

prosody: the term "prosodic feature" etc., is applied in this thesis to certain properties of the six languages which may be regarded as abstractions apart from the consonant and vowel systems. Consonants and vowels occur in fixed order or place; prosodic features are in this sense unplaced.

cf. Henderson, op. cit., Firth, op. cit.

spirantisation: "On designs quelquefois de ce nom la lenition des langues celtiques qui consiste en ce qu'une consonne, augmentant d'aperture, est affectée d'une sorte d'aspiration ou de renforcement de souffle, qui fait par exemple une occlusive devient spirante".

Marouzeau J. op. cit., p. 18.

topology: consideration of the geographical facts about a language from which conclusions can be drawn as to its history.
yodisation: (yodisation); "Se dit quelquefois de la palatalisation ou mouillure qui donne à l'oreille approximativement l'impression d'un yod (l'i en fonction d'une de sonante) ajoutée après la consonne."

Marouzeau, J. op. cit., p 195. See also Henderson op. cit. p. 191.

of. lateralization and labiovelarization which may be defined as above reading i and w(u) respectively for i.