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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Introduction

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

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

(II) 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) Nzema with the following major dialects
    (a) Nzema
    (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) Late
   (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, viz:

- **Group A + B**, Twi-Nzem (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, and lexicon.

These affinities are held to be in each case evidence of a common source. The thesis 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 thesis 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
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, Nzima):

(i) ı and ù to represent the closer of 2 close vowels, (the opener pair to be represented by i and u).

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

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

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

(3) Tones:

‡ 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 tone: (all other low tone syllables to be left unmarked).

‡ 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).

‡ In Adangme and Ewe only, to represent a single syllable of mid tone or the first of a succession of syllables.

(#) In Ewe orthography ɗ represents the dental, ɗ of the alveolar plosive.

(‡) 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, Haima 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 Ga dialect of Adangme is called by its Ga name "Shai", the Ewe dialect of skiri by the English corruption of its Twi name "date" and Adangme and the Keta dialect of Ewe for example are spelt in romanized form and not dagme, agle etc.
Preliminary Note:
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.

Groups A + B:

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

1. V
2. M
3. CV

(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...
"sub-systems" of affixial elements and as particles and interjections only.

(loan words from Twi)

Peculiar to Twi (Akuapem only) and Guang only, are syllables of the pattern: (4) CVW\(^1\) (where W is best treated as a syllable prosody with closing and lengthening function.)

A similar evaluation of the end nasals\(^2\) 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\(^3\).
(2) Tone: high/mid/low/ etc., pitch.
(3) Accent: glottalization
(4) Labialization\(^4\).
(5) Palatalization\(^5\).
(prosody of junction within the syllable.)

1. Described under "System of Vowels", page 23

2. m and n: see pages 13 and 27

3. In 'Lautbilder', length may be accorded to either part of the syllable, e.g. Twi: K\(\text{um}(::)\) or K\(\text{u}(::)\)m, 'quietly', see also page 16

4. See page 25, 26

5. See page 26
Tones in group A there are 3 tones giving 6 essential 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>
</tbody>
</table>

(the distinctions low-mid/low-high and high-mid/high-low/mid 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.
(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>
</tr>
</thead>
<tbody>
<tr>
<td>plosive</td>
<td>t, d</td>
<td></td>
<td></td>
<td></td>
<td>k, kw, s, gw</td>
</tr>
<tr>
<td>affricate</td>
<td>te, dz</td>
<td></td>
<td></td>
<td>tf, tfw, dz, dzw.</td>
<td></td>
</tr>
<tr>
<td>nasal</td>
<td>m</td>
<td></td>
<td>n</td>
<td>ny</td>
<td>nyw</td>
</tr>
<tr>
<td>rolled</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fricative</td>
<td>f, fw</td>
<td>s, sy,</td>
<td>s, sw,</td>
<td>f, sw</td>
<td>h</td>
</tr>
<tr>
<td>semi-vowel</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
<td>w</td>
</tr>
</tbody>
</table>

(b) **Vowels:**

<table>
<thead>
<tr>
<th>close</th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>close</td>
<td>/i, i</td>
<td>wi</td>
<td>/u, y</td>
</tr>
<tr>
<td>half close</td>
<td>i, I</td>
<td>we</td>
<td></td>
</tr>
<tr>
<td>half open</td>
<td>e</td>
<td></td>
<td></td>
</tr>
<tr>
<td>open</td>
<td>e, e, ee</td>
<td>a</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

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

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Alveolo-palatal</th>
<th>Velar</th>
<th>Labio-velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consonant</td>
<td>b</td>
<td>dh</td>
<td>t, d</td>
<td>k, kw</td>
<td>kp, gb</td>
<td>g, gw</td>
<td></td>
</tr>
<tr>
<td>Fricate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>tf, tfw</td>
<td></td>
<td>ds, dzw</td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>nh</td>
<td>n</td>
<td>ny</td>
<td>ñ, ñw, ñm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td></td>
<td></td>
<td></td>
<td>l, nl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lled</td>
<td></td>
<td></td>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palatal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>s, sy, sw</td>
<td>h, y</td>
<td></td>
</tr>
<tr>
<td>Palatal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>z, zy, zw</td>
<td>f, tw</td>
<td></td>
</tr>
<tr>
<td>Nasal-vowel</td>
<td>w</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>Ì, Ì</td>
<td>Ì, Ì</td>
<td>Ì, Ì</td>
</tr>
<tr>
<td>Half-close</td>
<td>i, i</td>
<td>Ì, Ì</td>
<td>Ì, Ì</td>
</tr>
<tr>
<td>Half-open</td>
<td>Ì, Ì</td>
<td>Ì, Ì</td>
<td>Ì, Ì</td>
</tr>
<tr>
<td>Open</td>
<td>Ì, Ì</td>
<td>Ì, Ì</td>
<td>Ì, Ì</td>
</tr>
</tbody>
</table>
### (a) 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>
<th>labio-velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>plosive</td>
<td>p, pw</td>
<td>t, d</td>
<td></td>
<td></td>
<td>k, kv</td>
<td>kp, gb</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b, bw</td>
<td></td>
<td></td>
<td></td>
<td>g, gw</td>
<td></td>
<td></td>
</tr>
<tr>
<td>affricate</td>
<td></td>
<td></td>
<td>ts, dz</td>
<td></td>
<td>tf, tsw</td>
<td>dz, dzw</td>
<td></td>
</tr>
<tr>
<td>nasal</td>
<td>m, mw</td>
<td>n</td>
<td>ny</td>
<td>q</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lateral</td>
<td></td>
<td>l, lw</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rolled</td>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fricative</td>
<td></td>
<td></td>
<td>s, sy,</td>
<td>f, sw</td>
<td>h</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>sw</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>semi-vowel</td>
<td>w</td>
<td></td>
<td>y</td>
<td>w</td>
<td></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>Ё, ъ</td>
<td></td>
<td>й, й</td>
</tr>
<tr>
<td>half-close</td>
<td>ı, і</td>
<td></td>
<td>ы, у</td>
</tr>
<tr>
<td>half-open</td>
<td>ۆ</td>
<td></td>
<td>ө</td>
</tr>
<tr>
<td>open</td>
<td>ۆ, ۆ, ө</td>
<td>ы, ы, ө</td>
<td>5, 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Common features: plosives:

(1) a voiced and voiceless labial stop \( \frac{p}{b} \), \( \frac{b}{b} \)
(2) a voiced and voiceless apical stop \( \frac{t}{d} \), \( \frac{d}{d} \)
(3) a voiced and voiceless dorsal stop \( \frac{k}{g} \), \( \frac{g}{g} \)

Notes:

\( \frac{p}{b} \) in Nsena and Guang is phonetically a voiceless labio-velar plosive \( /\dot{b}/ \);
\( \frac{b}{b} \) is phonetically \( /\dot{b}/ \).

Both languages have also a voiced labio-velar plosive \( /\dot{b}/ \). This in Nsena occurs only as the 'mutated' form of \( \frac{p}{b} \) \( /\dot{p}/ \); and in Guang is rare and only in loans from Ga or Ewe; eg. \( \frac{gb}{gb} \), 'dog' (Ga, id); \( \frac{agber}{a} \), cassava, (Ewe, agbeli) \( /\dot{b}/ \) in Nsena 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, \( \frac{spa}{a}(n) \), hired labour (Twi, \( \frac{pa}{a} \))

but

Guang, \( \frac{kp}{kp} \), skim (Twi \( \frac{pa}{a} \)).

\( \frac{t}{t} \) is \( /\dot{t}/ \) (alveolar) in Asante, \( /\dot{th}/ \) (dental)
\( /\dot{th}/ \) in Akuapem, \( /\dot{ts}/ \) (affricate) in Fante \( (2) \)
\( /\dot{dh}/ \) (dental) occurs only in Nsena and in that language only as the 'mutated' form of \( \frac{tk}{tk} \) \( (1) \).

Note \( (1) \) See note below on Consonant mutation in Nsena p. 27.
Nasals: (1) a labial, \( \eta \)
(2) an apical, \( \eta \n \)
(3) a dorsal, \( \eta \eta \)

Notes: All languages of both groups have in addition a palatal nasal /ny/ and a labio-palatal-nasal /nyw/ (nyw).
In A only these are to be evaluated phonologically as y- and yw-modified velars (1).

In Nzema and Guang the labiovelar nasal /nm/ is either to be evaluated phonologically as m (both languages) (2) or in Nzema only, as the mutated form of \( \eta \eta \) (4).

Similarly, /nh/ (dental nasal) and /nl/ (nasal-lateral) in Nzema occur only as the mutated forms of \( \eta \eta \) (4) and \( \eta \eta \) (/d/) respectively (3).

End nasals: in paragraph (1), page 6, \( \# \) was used to indicate a feature of certain syllables called roughly, closing nasality. Phonetically, this may be:

In A and B

Note
(1) See note below on palatalisation in Twi, page 2b.

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

(3) See note below on consonant mutation in Nzema, page 27.
In A and B: (1) \( m \): 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 Guang words loaned from (2) \( n \); i.e. in Akuapem, /\( n \)/, a velar nasal: in Fante, /\( n \)/, an alveolar nasal:
in Asante and Guang (in final position) /\( y \)/, /\( y \)/, a Close nasal vowel; in included position, /\( n \)/, an apical nasal plosive with vocalic off glide: e.g.

(a) \( t\,\,\,a\,\,\,m \, (v) \) Twi embrace

Akuapem Asante

3 p.s present: \( 3\,\,\,t\,\,\,\,a\,\,\,m \) \( o \, t\,\,\,a\,\,\,m \)

(b) \( \,\,\,\,d\,\,\,a\,\,\,m \, (n) \) room

Akuapem Asante Fante

the house \( o \, d\,\,\,a\,\,\,m \, n u \) \( e\,\,\,d\,\,\,a\,\,\,m \, n u \) \( e\,\,\,d\,\,\,a\,\,\,m \, n u \)

the house which \( o \, d\,\,\,a\,\,\,m \, g \) \( e\,\,\,d\,\,\,a\,\,\,m \, g \)

(3) Twi Guang

adwif \( = \) adwif craft (n)

\( d\,\,\,a\,\,\,m \, = \) da turn (v)

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

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

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

: /\text{\textsc{y}}/ may also be in Nzema only the 'mutated'
form of \( \text{\textsc{k}} \ o \).

lateral and trills. : Guang only has an apical lateral, \( \mathfrak{m} \).

Notes: /\text{\textsc{r}}/ is not heard in Nzema.

: /\text{\textsc{l}}/ is not heard in Twi.

: /\text{\textsc{l}}/ occurs in Nzema only as the 'mutated' form of \( d \).

: the occurrence of \( \mathfrak{r} \) in Twi and Guang is limited to 2nd position only (i.e. \( C_2 \) in radicals of the type, \( C, V, C_2 V_2 \)) (2) and is accordingly evaluated phonologically as weakened \( *d \).

Notes: (1) \( \text{IPA Y} \)
(1) see note below on consonant mutation in Nzema, page 27.
(2) see note below on radical structure, page 62.
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: ṭy̥mː(ː) and ṭy̥nty̥mː black)

Fricatives: an alternance of three voiceless fricatives ḥʃ/ʃ/h.

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

: /ʃ/ is also heard nowadays in Guang (Apirède) as a variant of h before front vowels (Twi influence ?) and /ʃw/ is heard in the more recent loans from Twi.

: the voiced fricatives /v, z, y/ only in Nséma and are then the 'mutated' forms of ḥʃ/ʃ/h.⁴

1. See note below on prosodies of junction, p.26
2. = XPA, G.etc.
3. See note below on palatalization in Twi, page 26
4. See note below on consonant mutation in Nséma, page 27
Affricates: the frontal affricates (tʃ, tʃw, dz, dzw) of the languages of Group A are to be evaluated phonologically as y- and yw-modified velar plosives.

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

In Apirede the labio-palatal affricates tʃw, dzw are found not only in loans from Twi but as the labialised variants of tʃ, dz before back rounded vowels, eg.

*all dialects; adzaw ti - 'craft' Twi, adzwaw*

Apirede, atʃwɔ , 'water' Abonse atsu

note also:

Apirede; edzwɛ yam other dialects, edzɛ (1).

Notes: (1) I PA tɔ, tʃ or Cʃ, etc: the pronunciation varies considerably between dialects and speakers.
(1) See note below on labialization, page 26.
(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 4

<table>
<thead>
<tr>
<th>Phonological Unit</th>
<th>Phonetic realisation with prosodic symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Asante</td>
</tr>
<tr>
<td>1 k₁</td>
<td>i</td>
</tr>
<tr>
<td></td>
<td>i</td>
</tr>
<tr>
<td>2 k₂</td>
<td>e</td>
</tr>
<tr>
<td></td>
<td>e</td>
</tr>
<tr>
<td>3 k₃</td>
<td>e</td>
</tr>
<tr>
<td></td>
<td>a</td>
</tr>
<tr>
<td>4 k₄</td>
<td>o</td>
</tr>
<tr>
<td></td>
<td>o</td>
</tr>
<tr>
<td>5 k₅</td>
<td>y</td>
</tr>
<tr>
<td></td>
<td>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, Nzema as a prosody of junction:

of eg. from Twi only:

(a) pairs like átá: átáá 'twin brother/twin sister'

átáá < átawá (1) by contraction. eg bfori: 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 sáo, 'spoilt', kái, 'remember'. Similar examples justifying the analysis suggested are to hand in Guang and Nzema.

(1) wa = feminine suffix (obso).
(d) words like dzwɛ, 'haughtiness' and ɔbɛ, 'woman'
    have variants in other dialects with successions of
    unlike vowels, eg Akuapem dzwaf, ɔbfa.

(e) long vowels due to elision of r.
    ɛbaɛnti, young man  (cf. Akp. ɛbirɛnti)
    ɛbɛɛmɛ, 'vir', (cf Akp. ɛbɛɛmɛ)

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. gwaf, 'peel' warf, 'marry')
and in deliberate speech are pronounced with a 'linking'
semi-vowel, ɔ or ɛ, appropriate to the junction.

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

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

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

i.e. 'slam and feint'.
Sucessions 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>i-e</td>
<td>i-e</td>
<td>i-e <em>i-e</em></td>
</tr>
<tr>
<td>i-e</td>
<td>i-e</td>
<td>i-e</td>
</tr>
<tr>
<td>i-e</td>
<td>i-e</td>
<td>i-e</td>
</tr>
<tr>
<td>i-a</td>
<td>i-a</td>
<td>i-a</td>
</tr>
<tr>
<td>i-a</td>
<td>i-a</td>
<td>i-a</td>
</tr>
<tr>
<td>y-a</td>
<td>y-a</td>
<td>y-a</td>
</tr>
<tr>
<td>u-a</td>
<td>u-a</td>
<td>u-a</td>
</tr>
<tr>
<td>y-o</td>
<td>y-o</td>
<td>y-o <em>y-o</em></td>
</tr>
<tr>
<td>u-o</td>
<td>u-o</td>
<td>u-o</td>
</tr>
</tbody>
</table>

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

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

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

Twi: bye (v) 'open'  Nzema: byke
    kai (v) 'remember'  kakyi
    suz (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: nwia núa nuá
- open (v): bwie bpe bpe

Note that 'núa most probably ni + ba = mother's child.

Cf. also Akuapem adwaŋ (Fante adziban), food 'di, eat.

Diphthongs: true diphthongs are heard in Twi (except the Asante dialect), and in Guang: these are all analysable 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:

Cf. e.g. Akuapem ūsaw, 'he dances', and ūsá - wi, 'he danced'.

In the Asante dialect these forms with w are very rare, the regular correspondence being, Asante (V₁-9) ≠ Akuapem, etc. (V₁-9) + 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, viz:

Front | Central | Back
--- | --- | ---
* * | * * | * *
* * | * * | * *
* * | * * | * *
* * | * * | * *
* * | * * | * *

Notes: it is important to distinguish
degrees of nasality: all vowels after nasal consonants are to some extent nasalized, but cf. the 'independent' nasality of mmb, don't give it, with the 'dependent' nasality of mmb, children, which is to be analyzed as m + bb, i.e. a phonologically oral vowel.

Syllable Prosodies: labialization: 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) labialized 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 Nzema are followed only by front vowels and palatalization (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 wyr, 'make' = Akuapem yr
ηwyunu, 'weave' = ηwyini

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 Nzema are analyzed as phonological velars:
tj is as analyzed as ky

tju

dz

dzu

j

jw

ny

ŋw (nyw)

Fante only: ts, dz

ty, dy.
Under (2), the syllabic nasals of A and B are analyzed as m, and certain geminate nasals are analyzed as m and n.

E.g.:

A and B: mm \(\rightarrow\) m and n

nn \(\rightarrow\) n and d

Twi and Guang only: \(\eta\eta\) \(\rightarrow\) \(\eta\) and \(g\)

Nzema only: \(\eta\eta\) \(\rightarrow\) \(\eta\) and \(w\).

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

Table 6 sets out below the phonetic realization 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) \(\upsilon\), one of five possible vowels and zero.

Column 1 gives the phonological units postulated in this analysis and column 2 gives the phonetic realization of these units when functioning as first consonant in an unaffixed radical.
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'

(II) lateralization

(III) spirantization

(IV) voicing.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Zero 4</td>
</tr>
<tr>
<td></td>
<td>M 4</td>
<td>Y 4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>k p</th>
<th>kp-</th>
<th>mm-</th>
<th>akp-</th>
</tr>
</thead>
<tbody>
<tr>
<td>k b</td>
<td>b-</td>
<td>m-</td>
<td>ay-</td>
</tr>
<tr>
<td>k t</td>
<td>th-</td>
<td>nhdh-</td>
<td>adh-</td>
</tr>
<tr>
<td>k d</td>
<td>d-</td>
<td>mn-</td>
<td>al-</td>
</tr>
<tr>
<td>k k</td>
<td>K- ky-</td>
<td>ng-y(n)g</td>
<td>ah- ahy-</td>
</tr>
<tr>
<td></td>
<td>kyw-</td>
<td>yw(n)g</td>
<td>ahyw-</td>
</tr>
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<td>n-</td>
<td>mn-</td>
<td>anl-</td>
</tr>
<tr>
<td>k F</td>
<td>F-</td>
<td>m-</td>
<td>av-</td>
</tr>
<tr>
<td>k s</td>
<td>s-</td>
<td>ns-</td>
<td>az-</td>
</tr>
<tr>
<td>k w</td>
<td>w-</td>
<td>nq-</td>
<td>aw-</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) labialization (ω) (1)

(3) lateralization (l) (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) /~/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, yʌ, wʌ, lʌ, (V) y/w/l, are all equally impossible in either language but - fiɔ, suɔ, b1ə (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: ṣkatie, ground nut
    dadessu, cooking pot

(2) Adangme bem / Twi him, innocence
    cf. older Adangme (ye) ywo

(3) as a result of contraction, e.g.:
   (a) in Adangme, bën / bə + mi₁,'sweeping'
       cf. (in included position)
       bëmi o, 'the sweeping'
   (b) in Ga, ñgbë / ñgbe, where.
       (see my "Pronunciation of GA" pp. )

: a third type of syllable is restricted to
a phonological sub-system of 'lautbilder' and
may be represented formularically-
CV:N, where N is closing nasality, i.e. in
Ga, a velar nasal, /ŋ/, in Adangme, a close
nasal vowel /ı/ or /ʊ/, and (s) is length of
syllable, i.e. phonetically, length of vowel
or length of nasal. Examples are:-

   English: 'bright': Ga: harang/haraan
             Adangme: hlaaŋ

1. See note on page 31
the pitch system of Cn closely resembles the systems of Groups A and B described above: there are three level tones and these give in turn six intervals:

\[
\begin{array}{ll}
\text{Equal} & \text{Unequal} \\
\text{high-high} & \text{high-mid} \\
\text{mid-mid} & \text{high-low} \\
\text{low-low} & \text{low-high},
\end{array}
\]

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 \( p \)

(2), its voiced correlate \( b \)
(3) a breathed apical \( t \)
(4) its voiced correlate \( d \)
(5) a breathed velar \( k \) stop
(6) its voiced correlate \( g \)
(7) a breathed labio velar \( kp \)
(8) its voiced correlate \( gb \)

Notes: in many words, \( p \) is phonetically /p/ a voiceless bilabial plosive in the speech of the older Ga sięi 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,

\( \times t \) is phonetically /\(t\)/ (alveolar) in Ga, /\(th\)/ (dental)
in Adangme.

\( \times d \) is /\(d\)/ (alveolar) in both languages.

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

1. a breathed frontal affricate \( \times ts \)
2. its voiced correlate \( \times dz \)

**Notes**: peculiar to Ga are the labio-palatals /\(tfw\)/ and
/\(dzw\)/. 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 \( \times m \)
2. an apical \( \times n \)
3. a frontal \( \times ny \)
4. a dorsal \( \times \eta \)
5. a labio-velar \( \times \eta m \).

---

1. These are not phonetically identical with the affricates of
Groups A and B; (see my "pronunciation of Ga" page 10). Cf. e.g. 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

(2) its voiced correlate
   (rare except in loan words from Ewe)

(3) a breathed apical

(4) its voiced correlate
   (rare in Ga)

(5) a glottal

: peculiar to Ga is

(1) a breathed palato-alveolar

fricative, unrounded, /ʃ/
labialized /ʃw/
these sounds occur (1) in loan words from Twi
where it is Twi əhy, əhyw.
(II) in words of Ga-Adangme origin, where
   Ga ʃ = Adangme ʃ-
   Sa ʃw = Adangme fy-
   see pages .

Semi-vowels: these are in C and D
(1) a liquid ɔl

in D only (2) its breathed correlate ɔɬl.
Notes: 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.

* In Adangme is analyzed as h plus l, i.e. as l-modified h and not as a simple consonant: see note on lateralization below.

* For y and w, see notes on yotization and labialization below.

System of vowels:
(a) **Consonants:**

<table>
<thead>
<tr>
<th></th>
<th>bilabial</th>
<th>labiodental</th>
<th>alveolar</th>
<th>prepalatal and palatal</th>
<th>velar</th>
<th>labiovelar</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>plosive</strong></td>
<td>p, b</td>
<td>t, d</td>
<td></td>
<td>k(kw)</td>
<td>g(gw)</td>
<td>kp, gb</td>
</tr>
<tr>
<td><strong>affricate</strong></td>
<td></td>
<td></td>
<td></td>
<td>tš, dz</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>{tʃw}</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(dzw)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>nasal</strong></td>
<td>m</td>
<td>n</td>
<td></td>
<td>ny</td>
<td>η</td>
<td>ηm</td>
</tr>
<tr>
<td><strong>lateral</strong></td>
<td>l, (hl)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>rolled</strong></td>
<td>r, hr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>fricative</strong></td>
<td>f, v</td>
<td>s, z</td>
<td></td>
<td>(ʃ)(ʃw)</td>
<td>h</td>
<td></td>
</tr>
<tr>
<td><strong>semi-vowel</strong></td>
<td>w</td>
<td></td>
<td></td>
<td>y</td>
<td>w</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>i, í</td>
<td></td>
<td>a, ã</td>
</tr>
<tr>
<td>half-close</td>
<td>e</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>half-open</td>
<td>e, ë</td>
<td></td>
<td>ë, ö</td>
</tr>
<tr>
<td>open</td>
<td>a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

1. (hl) - breathed, e: Adangme only
2. (kw), (gw), - labialized
   {tʃw}, (dzw), consonants (ʃw) Ga only.
3. (ʃ) - 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>Front</th>
<th>Mid</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>Nasal</td>
<td>Oral</td>
</tr>
<tr>
<td>Close</td>
<td>i</td>
<td>u</td>
</tr>
<tr>
<td>Mid</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Open</td>
<td>a</td>
<td>a</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 vowel: in certain cases is analyzed in both languages as

(1) a prosody of function, eg. Ga baa (n) coming \( \underline{ba}(v) \) 'come'

Adangme (Adaa): eey baa, 'he is coming', cf (Klo) eey, bae.

(2) Correlate with other syllable prosodies eg. tone.

eg. in Ga and Adangme: with rising tone:
(G) ɛɛ (A) ɛɛɛɛ, where vowel duration is in each case noticeably longer than in e.g. (G) fe, (A) pɛ, 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. (Ga) bɔmɛɛ bɔmɛɛɛ, your cloth.

Ga kɛɛ crab = Adangme kɛwi.

(4) As a syllable prosody: in lautbilder (G) dzɔgbaaŋ or dzɔgbaaŋ 'well', which may itself be considered as by contraction / dzɔgbaaŋ dzɔgbaaŋ.

(5) In Ga, as a feature of loan words eg. pui / Twi pui '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 - syllabics (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 verbals(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 imayɛ I shall go

Imayɛ you will go (ma)
Ga | Adangme
---|---
fa | \( \mathbf{p} \)
ba | \( \mathbf{b} \)
sh | \( \mathbf{s} \)
cf. also the Ga words in morphological junction, e.g.
fa | river but \( \mathbf{f} \)hi rivers
ba | leaf but \( \mathbf{b} \)i leaves
and
Ga | Adangme
---|---
w | house \( \mathbf{w} \)
w | honey \( \mathbf{w} \)

Successions of vowel and diphthongs:
Common to both languages are the following vowel sequences:
\( \mathbf{x} \), \( \mathbf{x} \), \( \mathbf{x} \), \( \mathbf{x} \)
\( \mathbf{x} \), \( \mathbf{x} \), \( \mathbf{x} \), \( \mathbf{x} \)
these are pronounced as monosyllables in Adangme and in words of Ga-Adangme origin in Ga\(^1\); 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. *Ya*, house but *sinha*, window (house mouth) cf.: abifao, child but abifabif, 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: *ebio*, he asks *bi* (v), a
   Adangme: pui = negative of pù, etc.
(b) as a distinctive feature of loan words from the Twi (Akuapem), e.g.:  
   Ga: hao (v), pester *Twì: haw
   Ga and Adangme: kai, remember *Twì: 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: fái, hat = Adangme: pè
   làf, firewood = lè
   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 /fla:fi/ \(\Rightarrow\) \(fi\), where the systematic tone (a rise, cf: \(fa\)) 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 l\(^1\) (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

**Adangme syllable initials**

<table>
<thead>
<tr>
<th>Syllable type</th>
<th>V (v = e)</th>
<th>CV (c = f, 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>wya/ywa (1)</td>
</tr>
<tr>
<td>with lateralization and yotization</td>
<td>le</td>
<td>fla</td>
</tr>
<tr>
<td>with lateralization</td>
<td>---</td>
<td>yra</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>a-lwa</td>
<td>a-lua</td>
</tr>
</tbody>
</table>
### (a) Consonants:

<table>
<thead>
<tr>
<th>Type</th>
<th>Bilabial</th>
<th>Labio-dental</th>
<th>Dental</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, dh</td>
<td>d</td>
<td></td>
<td>k, g</td>
<td>kp, gb</td>
<td></td>
</tr>
<tr>
<td>Affricate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ts, dz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td></td>
<td>ny</td>
<td>η</td>
<td>ηm</td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rolled</td>
<td></td>
<td>r</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>s, z</td>
<td>x, (h)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-vowel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>y</td>
<td></td>
<td>w</td>
</tr>
</tbody>
</table>

### (b) Vowels:

<table>
<thead>
<tr>
<th>Type</th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td>i, I</td>
<td></td>
<td>a, u</td>
</tr>
<tr>
<td>Half-close</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Half-open</td>
<td>ė</td>
<td>e, ę</td>
<td>o</td>
</tr>
<tr>
<td>Open</td>
<td>a</td>
<td></td>
<td>ę, ę</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) =, or (3) cv
where v = a vowel, c, a consonant and =, a syllabic nasal, m.

/ŋ/ with syllabic function is analyzable in all cases as a result of contraction: cf. e.g. the pairs, ñdị and nyídị 'morning', etc. where ñ- / ny-

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

but see note on nasals below.
here analysed as a prosody of junction cf. e.g. áŋgbá, ámakpá, leaf. 
Anecho andhe, someone.

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

song or song, '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:

akáŋgá, vulture, kandzê, blood sandê, light, etc. (cf. the Anglo akáŋká, kadzê, sadhê);

it too is obviously to be considered as a prosody of syllable junction.
The distinctions high-low/mid-low and low-mid/low-high are irrelevant in Ewe.

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 *p
(2) a voiced bilabial *b
(3) a voiceless dental *th
(4) its voiced correlate *dh
(5) a voiced alveolar *d
(6) a voiceless velar *k
(7) the same with labialization *kp
(8) of (7) and (8) *gb
(9) of (7) and (8) *gb
Notes: the phonetic realization of /h/ in Anglo is
/ʃ/, a voiceless bilabial fricative; in
Anecho /ph/ a strongly aspirated p;1 in
Dahomey /hw/ 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∫, chisel /Twi p∫/.

| b | /b/ in all dialects.
| th | th and dh are realized as dental
      affricates /ts/dz/ before close front vowels
      in the dialects of the Western Interior,
      elsewhere as in Anglo; i.e., as dental
      plosives.
| k | similarly k and g before close front
      vowels are realized except in Dahomey as /tʃ/
      and /dz/; i.e., are palatalized, e.g.

Dahomey Other Dialects
ki (v) quench tʃi
gi (v) give birth dzı

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

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

Dahomey Other dialects

gwa (v) break gba
Fokwa (n) sandal afokpa

Affricates: (1) a voiceless affricate *ts
(2) a voiced dental affricate *dz

Notes: *ts/dz are palatalized in all dialects before close front vowels; i.e. are realized as /ts/ dz.

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

<table>
<thead>
<tr>
<th>Angle</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>zo</td>
<td>zo</td>
</tr>
<tr>
<td>fire (n)</td>
<td>zo</td>
<td>zo</td>
</tr>
</tbody>
</table>

Nasals: (1) a bilabial, *m
(2) an alveolar, *n
(3) a frontal *ny
(4) a dorsal *ŋ

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 /me - e.g. mele yiyim, I am going 
cf. mele yiyi ge, I shall be going.

ny is realized phonetically as /ny/ before nasal vowels in the dialects of the Interior only, elsewhere as /ny/ a palatal nasal.

Liquids and Semivowels:  
(1) an apical liquid □
(2) a palatal semivowel □ y
(3) a velar semivowel □ w.

Notes: In all dialects except Dahomey □ l is /r/, usually a voiced alveolar fricative or tap, when in junction with apical and frontal consonants; in Dahomey it is /l/ a voiced apical lateral.

□ l in all dialects in /l/ before nasal vowels; in every other case /l/.

□ y is /y/ in all dialects.

□ w is /w/ before back vowels in all dialects; /y/, a voiced weak velar fricative before mid and front vowels in Anglo only.
fricatives: (1) a labial ʷ h
(2) a labio-dental ʷ f
(3) its voiced correlate ʷ V
(4) a voiceless apical ʷ S
(5) its voiced correlate ʷ Z
(6) a dorsal ʷ X
(7) its voiced correlate ʷ h

Notes: ʷ e, ʷ z are palatalized before close front vowels in all dialects (cf. ʷ ts, dz)
e.g. ʷ sf, hand, is phonetically ʷ sf.
ʷ sf, egg, is ʷ sf.

4 In Anglo only there are certain apparent exceptions which require notice:—
the frontal fricatives and affricates
(/j, ʒj, tj, dz/) occur before vowels other than ʷ i:—
(1) in loans, ʷ tfatja mat / ʷ a ʷ tfatja
(2) before reduced diphthongs in ʷ i:
ʒa (v) / ʷ sia dry
ʒe (v) / ʷ sie lean against
tʃe (v) / ʷ tsie strain.
And under similar conditions, apical fricatives may occur before ñi, eg. ñi, pipe / diminutive se, pot.

ñ h in Anglo is a voiced pharyngeal fricative having as a variant in the Western dialects /ς/ a voiced velar fricative.

ñ hw in Dahomey is phonetically a voiceless glottal fricative with lip rounding; in Anglo a voiced bilabial fricative /ς/; in Anecho a voiced pharyngeal fricative with liprounding:

<table>
<thead>
<tr>
<th>Dahomey</th>
<th>Anecho</th>
<th>Anglo</th>
</tr>
</thead>
<tbody>
<tr>
<td>blood</td>
<td>xu</td>
<td>hu</td>
</tr>
<tr>
<td>war</td>
<td>axwa</td>
<td>ahwa</td>
</tr>
<tr>
<td>smell</td>
<td>xwa</td>
<td>hwɔ</td>
</tr>
</tbody>
</table>

System of Vowels: a system of 5 vowels is postulated for this study; viz.

<table>
<thead>
<tr>
<th>Front</th>
<th>mid</th>
<th>back</th>
</tr>
</thead>
<tbody>
<tr>
<td>high</td>
<td>ñi</td>
<td>ñu</td>
</tr>
<tr>
<td>mid</td>
<td>ñε</td>
<td>ño</td>
</tr>
<tr>
<td>low</td>
<td>ña</td>
<td></td>
</tr>
</tbody>
</table>

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

: /ɛ/ a halfclose front vowel in Anglo, a half open front in other dialects, is heard only

(i) in loans, e.g. pɛ / Twi psi, chisel
(ii) at certain morphological functions involving the suffixes e. eya, ye etc., e.g. verb + pronominal suffix kɛɛ > kɛɛ, touch it
(iii) nominal + predicative particle
gɛ + ye > gɛ, it is money
Xea le dzɛ, the bird is red (dzɛ, red + ye > dzɛ)
(iv) nominal + diminutive suffix
ka + e > kɛɛ, thread (little string)
gbɛɛɛ + e > gbɛɛɛɛɛ, 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 Ewe1 except

1. I can find only bua (v) pretend, and nua (n) Priest in the larger Ewe Dictionary of Westermann.
at word junctions, e.g. nominal + demonstrative

in Anglo dhuá) the town
Interior dhuá

(2) the dialectal variants a/o with contextual velarity

Interior Anglo
kpá (n) hedge kpó
avlóku (n) frog avlókui

and in all dialects:
\( y/a (v) \) hide or w a

(3) the treatment of loans, cf.

<table>
<thead>
<tr>
<th>Twi</th>
<th>Ewe</th>
</tr>
</thead>
<tbody>
<tr>
<td>kwádwú</td>
<td>kódzo (n)</td>
</tr>
<tr>
<td>kwábiná</td>
<td>kómla (n)</td>
</tr>
<tr>
<td>fua</td>
<td>ò (v)</td>
</tr>
<tr>
<td>'abyrogá</td>
<td>'ablegó (n)</td>
</tr>
<tr>
<td>gwáni</td>
<td>ñlo (v)</td>
</tr>
</tbody>
</table>

| Nasalization: | all vowels occur oral or nasal |

Length of vowel: is here analyzed as

(1) a prosody of junction: see note of successions of vowel below.

---

1. cf. in dialects of Interior adhes, the hunter adhe + a.
(ii) correlate with other syllable prosodies, i.e.
(a) mid tone
   cf. tā, head; nd, month
(b) tonal movement
   cf. avā, 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 æ, ëa, ëo.

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, if yotized and lateralized initials.

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

ui \angle u/o + e

us \angle o + e

\angle e + e1.

1. cf./tui/hit him \angle tu

/ kui/cut it open \angle ko

/ ywe/call him \angle yo
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 monosyllabicity
quotient\(^{1}\) in Twi is approximately 45 per cent, or slightly less, in Nzema 40 per cent, about the same or more in Guang.

From radicals are derived

(1) by affixation

(2) reduplication, etc.

(a) the verbal base, and

(b) the nominal stem:

but often both stem and base are identical with the radical.

Radical Structure: in all three languages simple radicals are of the pattern C(V).

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 formally thus:

Group A and Bi: \( ^{2}d, ^{2}k, ^{2}n \).

(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\(^1\) on
several counts:-

(i) the dyadic nature of CVW, 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:-

\[\begin{align*}
1. \quad \text{In this field, unfortunately, it is still necessary to stress the linguistic platitude that recognition and isolation of a radical and its extensions is essential for sound comparative studies. Many of Greenberg's starred forms, to quote the most recent example, are vitiated by failure to equate radical with radical extension with extension, cf. for example, his reconstruction}
\text{ekele, two as } > \text{Twi objeq}
\end{align*}\]
Twil:  
- buya (v) close
- sua (v) take up
- to (v) buy
- sā (v) tether

Nzema: 
- buya (v) close
- sua (v) take up

Guang: 
- sj (v) tie
- tijing (v) stick in
- sure (v) take up

Examples:
(1) Twi only - ꎾ
- fum (v) err, cf. Nz. fū
- anum (n) five, cf. Nz. nnu
- kyim (v) force out, cf. Guang kyf

(2) Twi only (Akuapem and Faute only) - ꎿ
- Akp. dow (v) weed, cf. ow (v) wet, etc.
- cf. Asante Nzema do, fō.

(3) ꎾ n: Akuapem n = Asante, Guang / Fante
- n = Nzema nī.
- melt (v) naŋ = naI = nan ꎾ
- turn (v) daŋ = daI = dan ꎾ
- sell (v) toŋ = toI = ton ꎾ toni
- fort (n) abaŋ = abaI = abān ꎾ asani

(4) ꎾ d-infix: Twi r = Nzema l = Guang r
call (v) fire₁ = fele = firi

camp (n) nsira = nzela =

rotten (v) puro = kpolo =

take leave (v) kira = kire

(5) d-help: Twi n = Nzema nl = Guang n².
salt (n) nkyinf = nyyinlf =

python (n) enjin = nyinlf = enyani

sour (v) nyanf = nyanli =

drum (n) akyinf = kinli = kwani

(6) k-help: Twi = Nzema = Guang =

open (v) bue = byke = buki

spoil (v) sai = sskyi =

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

\{(i) nominals
(ii) 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\(^1\) 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,

\[ i = /i/ \text{or} /i/, e = /e/ \text{or} /e/, a = /a/ \text{or} /a/ \text{ (Akuapem + Gwam) } \]
\[ e/ \text{ (Fante), } /\beta/ \text{ (Nzema). } o = /o/ \text{ or } /\alpha/. \]
(6) zero 1.
and in Akuapem only,
(4) as 2.

Examples:

Twi:  
- a-siŋ: waterhole  
- o-siŋ: rain  
- n-siŋ: water

Guang:  
- ibje: market  
- ḣebje: stool

cf. Twi egwa/agwa

the prefixes frequently interchange
between dialects particularly e and o, cf.

Twi: Akuapem, odaŋ, house = Asante edaŋ
    edu, ten = edam, Fante idaŋ

Guang: apirede, skirisse, hyerepong,
    apirede, skirisse

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 ámpɛŋ (n),
   bat, Asante ápɛŋ.

3. ṉw 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 di = Nzema gi = Guang di

Examples:

Twi: oprai; Asante oprasys (ɔpra-iɛ)\textsuperscript{1}. brush, cf. pra (v) sweep.

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

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


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

Twi: anumli, 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.\textsuperscript{3}.

---

1. For the correspondence, Asante ɛ, is, ɛ, ɛu = Twi ɛ, i, ɛ, u. See Ward, 1945.

2. ɛɛ (ai) is common in Fante, see note on page 20

3. Note, however, the calque in Adukrom dialect only, asukii, resting place Twi aasu, G. suki = Twi sus (v) put down a load.
Twil: adisbi, evening \( \triangleleft \) adi + sa

Nzema: ali gywule \( \triangleleft \) ali + gywo

ali hyile \( \triangleleft \) ali + kyi

Notes: the verbal noun in Guang, only, is structurally prefix + radical, cf.

dégyi, eating \( \triangleleft \) gyi(v) eat

èbiri, talking \( \triangleleft \) biri(v) talk etc.

(2) Twi \( \neq \) ba \( \neq \) Nzema \( \neq \) kyi \( \neq \) Guang \( \neq \) bi

Twil: abúawa, small game; cf. abda, animal.

adóma, little bell; cf. adó, bell.

Nzema: nánfkyi, small game; cf. náni, animal
dánfkyi, little bell; cf. dóni, bell.

Twil: abàřma, Asante òbèmá \( \triangleleft \) òbànim + ba\(^1\)
young man.

Guang: anyèmi \( \triangleleft \) anyè + bi; young man;

cf. anyè, man

Twil: abiríwa, old woman.\(^2\)

Guang: atjikpebi, old woman; cf. atjí,

woman.

1. cf. Fante òbànymíba.

2. kyi is diminutive only Nzema òsèleysá is \( \triangleleft \) Twil. abiriwa
(3) \( \text{Twi} \ n^1 \text{ŋ}^2 \cdot \text{Nzema} \text{nl}^1 \text{ŋ}^2 \cdot \text{Guang} \text{nl}^1 \)

Twi: ohwànŋ\(^3\): Ewe man; Hw\(\dot{a}\) = Ewe

èkrânŋ: Ga man; nkraŋ = G\(\dot{u}\)

etc.

Nzema: bôlœfunli: Axim: Bôlœfu = Axim man

bàkunli: Baku man
cetc.

Guang: àkiren: Kyerepong: ëkire = Kyere pong man

asyantinî: Ashanti: asyanti = Ashanti man

(4) \( \text{Twi} \text{fu} \text{Nzema} \text{vûle}^2 \cdot \text{Guang} \text{hû}^4 \cdot \)

Twi: skyirewfu, writer; cf. kyirew(v) write

skyirskyirefu, teacher; cf. kyire(v) show

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

kilehilevalë, teacher; cf. kile(v) show.

1. \( \equiv \) Fante/ny\(\dot{a}\)

2. \( \text{nl}^1 \text{ŋ} \text{by 'mutation' } \text{\&} \text{n} \text{v by 'mutation' } \text{\&} \text{f} \)

3. \( \text{nl}^1 \text{ŋ} \text{etc. were originally free nominals; the degree of autonomy still accorded in all three languages to this suffixial element, is shown by the absence of vowel harmony.} \)

4. \( \text{in Kyerepong; other dialects /pu/} \)
Number: In all three languages, the plural of nominals is formed by

(1) prefixation: plural prefixes are:
   Twi: $a/\hat{a}$ $= \text{Nyema} = a/m$ 1. $= \text{Guang} = e/m$

Examples: Twi: ñhini King ñhini
dêdê day ñná
ôbdê child nimá

Nyema: shanî trap ngani
dàdîs knife ňnade
ôjûa house azjûa

Guang: atsf woman atsf
akpê road ňmkpê
ekyrô town ňkurô

and/or

(2) suffixation: plural suffixes are:
   (a) Twi $\neq$ fu $\neq$ Nyema $\neq$ ma $\neq$ Guang $\neq$ esc
   (b) Twi $\neq$ ba $\neq$ Guang $\neq$ bi

1. prefixation involves consonant mutation in Nyema, see page 23.
Examples:  
(a) Twi: ọfantini: Fante man: mfantifu  
oburoni: European: abuṣfü  

Nyema: benyinlinlị, man of benyinlinlị 

sole vulé Priest solevuléma 
(sôle(v)pray)  

Guang: akirini, Kyerepong okiriesse 
man  
asiantini Ashanti asyantiesse 
man  

(b) Akuapem adf, Asante adf, thing, nnisema  

Guang: été thing nti bi  

(c) Twi: agya father agyanum  
ena mother enanum  

Nyema: egyā father egyémd disrespect  
agọqu friend egọqu  

Guang: asi father asiane  
anj mother anjene  

---

1. ehjœnli, ehjœvule, poor man, is to be considered as a calque, cf. Twi ehjanj, ahiafu ˂ him(v) needy.  

2. The corresponding Twi and Guang plurals are by prefix only, e.g. Twi ạsọfú, Priest - plural, ạsọfú.
For plurality of a special kind, i.e. iteration, the nominal may be reduplicated, e.g. Twi:  bánhwákwé1. heaps of all kinds

 mplwé, a heap

Nzema: ndéndénda, flat things

mpléndé

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

(1) a substantival form,
   e.g. Twi: ni-js, its beauty
   which is also

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

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

(4) an adverbial form (reduplicated)
   e.g. Twi: wogoruf ye, or
       wogoruf ye, or
       wogoruf ye 2\(^{st}\), they play nicely (very nicely)

cf. also from Guan and Nzema with and without reduplication:

1. e.g. in Twi, ye, and day, become; nyiq, grow.

2. Akuapem /jejejeje: Akan tends here to use the uncontracted form.
Guang: m̀ kúṣà, its goodness
 its kúsà, good thing
df kúsà, it is good
àbwé m̀ kúsà, he did it well.

Nsema: i kénléma, its beauty
 bàká hyl li kénléma, this tree is beautiful
bàkà kénléma bie, a beautiful tree
bèdi agole kénléma, they play nicely
nnakà ngulémàl', 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 akẹsìfìkósi, large stones

Guang: nkuro ekpoŋmkpo, big towns

2. cf. the spelling of "èkò", he goes, where "è"
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>81.</td>
<td>mi</td>
<td>mémi</td>
<td>mi</td>
</tr>
<tr>
<td>82.</td>
<td>wu</td>
<td>wùmù</td>
<td>wu</td>
</tr>
<tr>
<td>83.</td>
<td>onu (neuter)</td>
<td>inà</td>
<td>mu</td>
</tr>
</tbody>
</table>

P1. yeq yeq yeq yeq

P2. mu (Fante) bémé énf

P3. wog (Asante) bémé énu

Pronominal Prefixes:

<table>
<thead>
<tr>
<th></th>
<th>preverbal</th>
<th>prenominal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Twi</td>
<td>Nzema</td>
</tr>
<tr>
<td>81.</td>
<td>mi</td>
<td>mi</td>
</tr>
<tr>
<td>82.</td>
<td>wu</td>
<td>e/wo₂</td>
</tr>
<tr>
<td>83.</td>
<td>o</td>
<td>o/ye₂</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>

Note: vowels, h/q according to root vowel.

1. *beq of. Aburi dialect (obsc.)
2. according to tense.
3. a few nouns of family relationship have the pronominal prefix o, e.g. Twi: osi; Nzema: bì, 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 ou su abjen, etc.
Nzema: mo to su yw¡5
Guang:

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

Twi: (2 pe = occasion)
preku once
mpreny twice
but
mpen ablesa three times.
Nzema: (fani = occasion)
fani ku once
fani guro twice

Guang:

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

one by one: Twi: mniakû mniakû
Numeral System: is mainly decimal, cf. the composite forms 11-19.

11 = 10 + 1: Twi: dỳbiaku

Nzema: bỳlỳ ni ku

Guang: dỳ aku

e tc.

and 20-99

20 = 2 x 10 Twi: adùony

Nzema: abularwi

Guang: eduony
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 Nzema may be reduplicated (to express plurality of subject/action/object)

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

Nzema: fia, hide; fievia
    fja, carry fievia on back
    tua, follow; tuadua

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

   h/q. =
          i - l analyzed as  i i
          i - e          e e
          i - a          a a
          (with contextual labialization)

2. Note, lenition of radical consonant in second place and the following additional vowel sequences for reduplicated disyllabic bases peculiar to Nzema; all analyzable 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.:

\[
\begin{align*}
\text{m} & \quad \text{m} \\
\text{ts} & \quad \text{split} \\
\text{tw} & \quad \text{stray} \\
\text{de} & \quad \text{strike}
\end{align*}
\]

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

Twi: ko/be

- kod\_j go eat
- bed\_j come eat

Nzema: ko/ba

- mi\_an gonni I did not go and eat
- mi\_z ali I have come to eat

Guang: wo/ba

- wodzi go eat
- bedzi come eat

Negation: the negative prefix is:

in Twi

and Nzemal. \text{m}, a homorganic nasal

in Guang: \text{be}

---

1. with the exception of the perfect tense in Nzema
where the negative sign is \text{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)
Nzema: miba daa} I always come here.
Guang: miba daa)

(2) Stative, unaffixed\textsuperscript{1}, e.g.:

Twi: swari)
Nzema: swali) it is long.
Guang: akpa)

(3) Future, prefix:

Twi and) be\textsuperscript{2}.
Guang } be\textsuperscript{2}.

Nzema: ke e.g.

Twi: obéba)
Nzema: okéha} he will come
Guang: absba)

\begin{enumerate}
\item Distinguished tonally from (1).
\item cf. \textnumero ba (v) come.
\end{enumerate}
(4) imperfect, prefix əd ;

Twi: (na)- əri ba
Nzem: a le ba I am/was coming
Guang: ane ba

(5) future immediate, prefixes:

Twi and Guang (4) and (3) above
Nzem: ba
e.g.
Twi: əribaba
Guang: ansbebe
Nzem: ìbà

(6) preterite: Twi and Nzem suffix, Guang unaffixed.

Twi: ìbài
Nzem: ìvali he came
Guang: ìbe

(7) perfect: prefix,

Twi: waba (wàba)
Nzem: ìnèbe ɪsà he has/had come
Guang: ɪ- ə: ìnèbe

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 asa)

(9) an imperative; Twi, prefix a, Guang and Nzema, unaffixed, e.g.:

Twi: ogko he is to go
Nzema: oselá he is to come
Guang: abè he is to come

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

Twi: Dkrag ko going to Accra
Guang: tegyi so to buy food
Nzema:
3. Morphology

Group C + D

Radical Structure: radicals may be:
(1) simple, CV or Cy/WV
(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 Adangue 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 quotients are of the order:
   GH approx 50 per cent.; Adangue 60 per cent.;
   Ewe 70 per cent.
Prefixes: a few nouns in Adangme have the prefix a, in Gā, more, as well as the prefix N,\(^1\) a homorganic nasal sonant, and O\(^1\) e.g.:

Gā: àdājme
   àmáàdà plantain
   òàdjì thicket
   ntàq net bag
daàjme

in both languages a special type of nominal has the prefix e, cf.

Gā: édíj black one \(\Leftrightarrow\) df (v) black
Adangme: éyumù " " \(\Leftrightarrow\) yu (v) "

Nominal Suffixes: are

(1) Gā, bi ≠ Adangme, yo.
   gbeke child dzukwéyo
   plural
   gbeke'bi⁠f dzukwéwi
   abifao baby bimuọyo
   plural
   abifábi⁠f bimuọwi

(2) Gā, nyo ≠ Adangme, no
   krobọnyo man of klono
   Krobo
   blofọnyo European blèfônò

\(^1\) Usually in loans (from Twi and Ewe): Adangme has a vowel prefix only when the original has a nasal prefix: cf. \(\Leftrightarrow\) Twi: ìkàtàs groundnut
   Gā: ìkàtàs
   Adangme: ìkàtàs "
(3) Gś, nuu/yoo = Adangme, ku/yoo
tsinanuu    bull      nak’d
tsinayoo    cow        nāyo
          etc.

(4) Gś, tse/nye = Adangme tse/nye
  mantse  king      matsx
  mannyx  queen      manyx

(5) the verbal noun: suffixes are,
  Gś:      mo, le, q
  Adangme: mi only, and
  Gś:      length of vowel,
  Adangme: reduplication suffix
  e.g.

  Gś: bəa  coming    Ad. bāmi
       yəa  going      yāmi
       həmə  giving    hāmi
       dzale  right    dāmi
       dzole  soft     dzəmi

and in special constructions of the type:-

  Gś:  eni pom  = Adangme: eni pēmi, or
       a possibility
       eni pēpē

       ēhēla dzole =  ēhīa dzəmi, or
       his convalescence  ēhīa dzŏdzŏ

(6) Gś, lə = Adangme, lə
  jwe (v) = jwelə player     jfelə ∪ jie (v)
  wo (v) = wolo  collector    hwelə ∪ hwe (v)
Number: plural suffixes are

(1) **Ga -i Þ Klo -i Þ Ada -hi**

<table>
<thead>
<tr>
<th>Ga</th>
<th>Klo</th>
<th>Ada</th>
</tr>
</thead>
<tbody>
<tr>
<td>fai</td>
<td>pai</td>
<td>pahi</td>
</tr>
<tr>
<td>tsui</td>
<td>tsui</td>
<td>tsuhi</td>
</tr>
<tr>
<td>nyismei</td>
<td>nysmii</td>
<td>nysmiih</td>
</tr>
</tbody>
</table>

- the nomen agentis in Adangme has the special plural suffix -li, e.g.
  - peli: plural of pelo < pe, do
  - fisi: = fisi < fie, play

but Ga has regularly,
  - felo, sweloi etc.

: similarly, the special plural suffix of Ga words with stem extensions (page 79) has no correlate in Adangme
  - Ga: nane, foot : nadzi, feet but Adangme nane, nanei

(2) **Ga ms Þ Adangme mc**

<table>
<thead>
<tr>
<th>Ga</th>
<th>Adangme</th>
</tr>
</thead>
<tbody>
<tr>
<td>tf smei</td>
<td>tf sme</td>
</tr>
<tr>
<td>nyemimsei</td>
<td>nyemima</td>
</tr>
</tbody>
</table>

- Ga uses this suffix as the plural correlate of -nyo
  - but Adangme has -li/no of.
Ga: Krébyo Ktobo Krobo
Adangme Klono " Klori

(3) Ga, -bli : Adangme, - wi

child: Ga: gbekeit children gbékebif
      " Adangme: doukw3yo " doukw3wi
baby: Ga: abis3o babies abisabif
      " Adangme: bimusyo " bimuswi
but
ant: Ga: tsats4u ants tsatsubi
      " Adangme: tatu " tatui
and
twins: Ga: hëdzfi
      Adangme: hëwfi

Note: certain nominals in both languages have
(he- new) (1) a substantival form: e.g.
Ga: ñhène nfi ñdizf) new as it is
Adangme: ñhè ne ñdizf )
(2) a predicative form: e.g.
Ga: mèndà li yè hèhè, the cloth
     is new
cf. Adangme: bô o yè ñhè
(3) an adjunctival form: 1.

1. but of. the special formations:
Ga: kpsikps1 knotted kpo knot
Adangme: pispis ragged pia rag
Ga: ñwñ wiwi ñwé
and the adjunctival form of the verbal noun in
Adangme only:- ñnfi pépé ehio dzodoé
Gas: mma hé) new cloth
Adangme: bë hé
Adangme: ɛpë lë hé, he did it in a new way
cf. Ga: ɛfë lë ése

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

<table>
<thead>
<tr>
<th>Ga</th>
<th>Adangme</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1.</td>
<td>mi</td>
</tr>
<tr>
<td>S2.</td>
<td>be</td>
</tr>
<tr>
<td>S3.</td>
<td>ls</td>
</tr>
<tr>
<td>Pl.</td>
<td>wo</td>
</tr>
<tr>
<td>P2.</td>
<td>nys</td>
</tr>
<tr>
<td>P3.</td>
<td>amu</td>
</tr>
</tbody>
</table>

Note: amf, Ada dialect
imi, 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>nyc</td>
<td>nyc</td>
</tr>
<tr>
<td>P3.</td>
<td>ams</td>
<td>a</td>
</tr>
</tbody>
</table>

**Verbals:**

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, yafo  yapo  go cut
  
  baso  bapo  come cut

- (2) Negative prefix

  Ga, ka  Adangme, ko;  e.g.:
fo/po - cut: negative base is
Ga, kōfô; Adangme kōpo.

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

cf. e.g. the following plural bases in Ga:
kōmō lie < kō
sōme perch < sō
dra big < da
q̄m̄s tie < q̄ms
tjwia strike < tjwa

: also to express plurality, the base may be reduplicated, e.g.:

Ga: ame yeye nii, amununu dağ: 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/da, e.g.
Ga: teso, he will cut it
Adangme: emdp

(3) Iterative, suffix o, e.g.
Ga: f66, he always cuts it
Adangme: epos

(4) Imperative, unaffixed2, e.g.
Ga: ef6, he is to cut it
Adangme: ep6

Notes: Only Ga has:

(5) a perfect tense, unaffixed:
ep6, he has cut it
for which Adangme has no correlate.

(6) a progressive tense, prefix mi, e.g.
edf6 / dimf6, he is cutting it
cf. nyemf6
for which the corresponding Adangme is:
ep6 poe, he is cutting it
ep6 pbe, he isn't cutting it
i.e. copula + verbal noun.

(7) a second imperative, suffix a,
ny6foa, cut it
the Adangme has only a verbal interjection:

1. teso /bnaf6, c.f. madf6 / mbanf6 / mmbaf6
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 \(^\text{k}\)we; e.g. he didn't cut it: epùi*kepo we cf. etèwè, he didn't keep it

Ga: v = vowel length: e\(\hat{\text{c}}\)\(\text{e}\)o

- Tense (5) Ga only; the negative tense is derived by suffixation, i.e.
suffix ko: e\(\hat{\text{c}}\)\(\text{e}\)\(\text{e}\)b, he hasn't cut it.

- Tense (6) Ga only; the negative tense is derived by suffixation, i.e.
suffix nj: e\(\hat{\text{c}}\)\(\text{e}\)j, he isn't cutting it.
Numeration: Examples of Ga and Adangme numerals are set out in the comparative table on page 103.

Notes:

Ordinal: Ordinal suffix in Adangme only is -ne, e.g.
6th  ekpandé
100th  lâfandé

in Ga, there are no ordinal numbers, cf.
meni ji ekpa la, the 6th person
jinaa ni dzi sha la, the 100th door.

Iteration: Is expressed by *si, occasion, e.g.
Ga:  eba {ii1. enyọ)  he came twice.
Adangme: eba si enyọ

Distribution: The distributive form of the numeral is a reduplication, e.g.
1 each:  Adangme: kakaaka  kake (1)
Ga:  komkomé  ekome

Numeral System: is mainly decimal, cf. the composite forms 11-19,
11 = 10 + 1:  Adangme: nyọma kə kake
Ga:  nyọma kə ekome

etc.

and 20-99,
20 = 2 x 10:  Adangme: nyọmọ enyọ
30 = 3 x 10:  Ga:  nyọmọ enyọ

1. Plural of si.
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
\[ 7 = 6 + 1 \]
8 (G/A) kpaany\textsuperscript{6} = 6 + 2.1.

1. Note: also in Ga only: njmdzi enyo, etc., etc., 2 - 6 o'clock
but
njmle kpawo, kpanyo, etc., 6 - 10 o'clock.
Radical Structure: Radicals are
(1) simple, or
(2) extended, i.e. with 1-infix, with y-infix.
(3) reduplicated structure: many nominals.
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: are a, e, o. e 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
- alalae name of cf. lalala (v) slowly flowing

Examples:

1) ahea, pauper □ ahe, poverty.

Anglo

Dialect.

agblesa, farmer □ agble (n) farm
ahakpaa, maker of palm wine □ aha, palm wine + kpa (v) tap.
Ablotsia, White man □ Ablotsi, Europe
Kukua, corpse □ Kuku, dead
tsitsia, elder □ tsitsi, old.

(2) xo-e, cottage □ xo, house
goe, little gourd □ go, gourd

(3) afeto, landlord □ afe, house
yeveto, man of Yewe order.
(4) dono, invalid £ do, sickness
tokunc, deaf man £ to, ear; ku (v) die

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

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

(7) dowofe, place of work £ wo do, work
nunyofe, washing place £ nyô (v) wash

(8) vovisti, fear £ v3 (v) afraid
azali, going £ zo (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 morphologically reduplications for which no simple radical exists: e.g.
baba, white ant
bobô, bean dish, etc.

: for others, a correlate simple radical is still to be found:
tsactsae, 2nd younger brother; tsae, younger brother
fofo, 2nd younger sister; fofe, younger sister

all verbal nouns have reduplicated stems

e.g. do wowo, the act of working / wo
nu dudu, the act of eating / du

etc.

Number:

plurals of nominals and nominal pieces
are formed by suffixation [Suffix wo] e.g.
devi, child deviwo, children
devi nyui, a good devi nyuiwo good child

xoa the house xoa wo the houses

x3 nye my friend x3nye wo my friends

Adjectives:
a special type of nominal is formed from
verbs -
(1) by reduplication
(2) by suffixation (-e)
e.g. ka (v) high nyo (v) nice, good

ati la ka, the tree is high
ati koko, a high tree

xeui la nyo, the bird is nice
xeui nuyil, a nice bird.

nominals may be:

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

in post verbal position, e.g.

guesgues, energetically \( \angle \) gues, strength

busdbusdi, monstrously \( \angle \) busi, something unheard of

nuvitsie, in brotherly fashion \( \angle \) novi, brother\(^1\)

: with comparable syntactic function are

words derived from verbals by lengthening

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

bee, secretly \( \angle \) be (v) hide

bnu, covertly \( \angle \) bu (v) cover over

cf. also

dadoda (\( \angle \) dadododa) softly \( \angle \) do (v) soft.

Pronominals: absolute pronouns are

S 1. nyè
S 2. wò
S. 3. eyà
P 1. miàwò
P 2. miàwò
P 3. woawò

pronominal affixes are:

---

1. See note on to, page 92

2. See note on page 53, where length of vowel
   is analyzed as resulting from contraction.
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<tr>
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<tr>
<td>P3.</td>
<td>wo/wofe</td>
<td></td>
<td>wó</td>
</tr>
</tbody>
</table>

Notes: nye, wo, are suffixed to a very few nominals,<sup>1</sup> prefixed to most, e.g. nỳỳnyè qutah, my brother yònỳè me, behind me but nỳè la, my beloved. etc.

: all other pronominal affixes are prefixed.

: e, mia, mid, wo are prefixed/locative and

---

<sup>1</sup> Chiefly kinship terms and parts of the body.
verbal nouns under special conditions, e.g. équ, outside it
mía fófo, 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 eva etso, you came yesterday but with front shifting, etso neva.

See page

1. cf. míaře ŋoře, 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.
- Evelia 2nd / eve
- et3lia 3rd / et3
1st (gbato) by suppletion.

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

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

Fractions: af3a = 1/2
ordinals are used for all other fractions, e.g.
- enelid deka = 1/4
- enelidwo et3 = 3/4

The numeral System: is mainly decimal, cf. the compounds 11-19, wuideke / ewo + deka = 10 + 1, etc. and 20-99.
- 20 blaave = 2 x 10
- 30 blaat3 = 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 adhre \( \leq \) adhe \( + \) de = 6 + 1.

9 enyide \( \leq \) enyi \( + \) de = 8 + 1.\(^1\).

---

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

1. Simple, i.e. monosyllabic and structurally identical with the radical.
2. Reduplicated, (disyllabic):
   e.g. lolo, by dudo, lick.
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
   eva me, it happened
   ekə, it is high
   ėsi wəwui la, ėsi le xo me, when he had killed him, he fled from the house.
   ne eva 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,
meinya, I usually go
wome wonz o, one doesn't do it.

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

: the verbal noun is structurally the base
reduplicated1,
e.g. xo tutu, building houses (tu, build, xo house)
egbe yiyi, he refused to go
yiyi sesu wu gboybo, to go is harder than to
come.
agbeli dud, eating cassava
la dud, edible meat

: cf. also the following verbal pieces
(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
(4) mono yiylm  I always go
(5) mano yiylm  I shall always go
etc.

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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## TABLE 13

### Groups A and B

#### The Verb

<table>
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<th>TWI (Akp)</th>
<th>(b), etc.</th>
<th>TWI (Akp)</th>
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**Tense I**

**Tense II**
Groups A and B

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<p>| abá         | ammá     |              | Tense V  |</p>
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Groups A and B

The Verb

wari, etc. = tall, long.

<table>
<thead>
<tr>
<th>NZEMA</th>
<th>GUANG (Apirade)</th>
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#### Group C and D

**The Verbs**

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| mifo | mifōkb |
| bfo  | bfokb |
| bfo  | bfokb |
| wifo | wifōkb |
| nyfso | nyfōkb |
| hmfbo | hmfōkb |
| bfo  | bfokb |

**Tense II**

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| bfo  | bfokb |
| bfo  | bfokb |
| wifo | wifōkb |
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| hmfbo | hmfōkb |
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| 1 wórdó       | wórfó          | wórmádpd      |
| 2 nyórdó      | nyórfó         | nyórmádpd     |
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<tr>
<td></td>
<td>mienb-yiyid</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>wbonb-yiyid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VI</td>
<td>mbonb-yiyid</td>
<td>nyambànbo-yiyid 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>bbb-yiyid</td>
<td>etc.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>anoo-yiyid</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>mmamb-yiyid</td>
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<td></td>
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<tr>
<td></td>
<td>mmamb-yiyid</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>wbonb-yiyid</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Tense</td>
<td>Affirmative</td>
<td>Negative</td>
<td></td>
<td></td>
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<td>-------</td>
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<tr>
<td>VII</td>
<td>menxà-yiyím</td>
<td>nyêmência-yiyím b</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>ènɔ-a-yiyím</td>
<td>etc.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>ènɔ-a-yiyím</td>
<td></td>
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<tr>
<td></td>
<td>miènɔ-a-yiyím</td>
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<tr>
<td></td>
<td>miènɔ-a-yiyím</td>
<td></td>
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<tr>
<td></td>
<td>wônɔ-a-yiyím</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIII</td>
<td>mèle - yiyi - gé</td>
<td>nyêmélè - yiyi-gé b</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ìle - titi - gé</td>
<td>etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ìle - yiyi - gé</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>mièlè - yiyi - gé</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>mìlele - yiyi - gé</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>wòlè - yiyi - gé</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IX</td>
<td>yi</td>
<td>mègàyi o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>mìyì</td>
<td></td>
<td></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 currently 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 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.

(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 Verhael Van Het GOOT KONINKRIJK Van GUNEA. Amstelredam, 1602. For the other languages source material begins much later.
In this paper the following features of a word are considered, among others, as evidence of borrowing:

(1) phonological irregularity:

- **(a)** p in Ewe

  \[ p \notin \text{Twi: } pëf, \text{ chisel} \]

  (see page 47)

- **(b)** si in Gbugbla Adangme

  in this dialect the juncture \( s + i \)

  is realized phonetically \( /ji/ \), but

  sikli \( \notin \text{Fr. sucre} \).

- **(c)** tones in all languages

  - **(Asante)** Twi: \( \text{ákô, parrot} \)

    k\(\text{mát}a\), paper (Port. carta),

    the unique tonal pattern of borrowed words being

    first established by a comparison of loans identifiable, on other evidence, e.g. k\(\text{mát}a\) and

    k\(\text{rákyl} \text{clerk, pùròsi police, and dùkù Dutch dock} \).

(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 Tschi 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. paano, needle - in Ga
     Paani - in Guang
     Twi: paani \( \angle \) paam (v) sew + di, thing

Ewe: abloteiri, Europe
     Twi: aburo + kyiri

Twi: kyiri \( \geq \) land

cf. oburoni = man of 'buru'

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 Nsena. 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 monosyllables, 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 16.

<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.
Notes: the following transformation rules apply:

1. **Twi p = Nzema kp**
   - *m-pá* (n) mat *è-kpa*
   - *ps* (n) similar *tps*
   - *pu* (v) refuse *kpu*
   - *am-pá* truly *am-m-gba* (<m+pa>)

2. **Twi b = Nzema b**
   - *bá-a* (n) stick *ba-ká*
   - *bí* (n) some *bí-e*
   - *bu-e* (v) open *bu-ke*

3. **Twi b = Nzema m (<m + b)**
   - *bá* (n) seed *bá-má* (*am+ba?*).
   - *è-bí-r-i* (n) time *è-mi-ka*
   - *bógyá* (n) blood *m-mogya*

4. **Twi b = Nzema y**
   - *bá* (n) child *yá*
   - *bá-a* (n) woman *yá-le*
   - *bá-cí* (n) proverb *bá-yé-le*

5. **Twi t = Nzema t**
   - *ti* (v) feel, hear *ti*
   - *è-ti-r* (n) head *tá-le*
   - *táo-n* (v) sell *táo-ni*

1. See note on page 27
2. See note on page 27
(6) **Twi t ë Nze ma dh = t¹.**

<table>
<thead>
<tr>
<th>Twi</th>
<th>Nze ma</th>
</tr>
</thead>
<tbody>
<tr>
<td>ɗ-ta-m (n)</td>
<td>ɗ-dha-nli</td>
</tr>
<tr>
<td>ɗ-ta (n)</td>
<td>ɗ-dha-lë</td>
</tr>
<tr>
<td>tō-w (n)</td>
<td>ɗ-dho-kë</td>
</tr>
</tbody>
</table>

(7) **Twi d ë Nze ma d**

<table>
<thead>
<tr>
<th>Twi</th>
<th>Nze ma</th>
</tr>
</thead>
<tbody>
<tr>
<td>da (v)</td>
<td>da</td>
</tr>
<tr>
<td>di (v)</td>
<td>di</td>
</tr>
</tbody>
</table>

(8) **Twi k, kw ë Nze ma k, kw**

<table>
<thead>
<tr>
<th>Twi</th>
<th>Nze ma</th>
</tr>
</thead>
<tbody>
<tr>
<td>ka-w (v)</td>
<td>ka</td>
</tr>
<tr>
<td>ka-i (v)</td>
<td>ka-kyi</td>
</tr>
<tr>
<td>ku-h (n)</td>
<td>ku</td>
</tr>
<tr>
<td>kwa-w (v)</td>
<td>ku-kwa (redup. &lt;kwa)</td>
</tr>
</tbody>
</table>

...and with nasal prefix:

<table>
<thead>
<tr>
<th>Twi</th>
<th>Nze ma</th>
</tr>
</thead>
<tbody>
<tr>
<td>ɗ-j-kwa (n)</td>
<td>ɗ-j-gwa-nli</td>
</tr>
<tr>
<td>ɗ-j-kwë (n)</td>
<td>ɗ-j-gu</td>
</tr>
</tbody>
</table>

(9) **Twi k ë Nze ma h = k²**

<table>
<thead>
<tr>
<th>Twi</th>
<th>Nze ma</th>
</tr>
</thead>
<tbody>
<tr>
<td>ɗ-kɔ-m (n)</td>
<td>ɗ-ho-ni</td>
</tr>
<tr>
<td>ku-nu (n)</td>
<td>-hù-nli</td>
</tr>
</tbody>
</table>

(10) **Twi ɗ ë Nze ma ɗ**

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

...and

<table>
<thead>
<tr>
<th>Twi</th>
<th>Nze ma</th>
</tr>
</thead>
<tbody>
<tr>
<td>ɗu (n + gu?) (n)</td>
<td>ɗu-li / (ŋ + gu-?)</td>
</tr>
</tbody>
</table>

1. See note on page 27
2. See note on page 27
(11) Twi gw  Nzema bê-
gwa (n) stool bja
gwa-w (v) flog bja
gwa-ri (v) bathe bja

(12) Twi f  Nzema f
fi-r-i (v) buy or sell on credit
fi-l-i (v) wet fo
è-fû-n-y (n) corpse fû-lj

(13) Twi s  Nzema s
sa-w (v) scoop sa
ê-sà (n) hand sa-le
ê-si-û (n) piece si-nli

(14) Twi s  Nzema s = s1.
ê-sa-wa (n) funeral nza-ba(2)
money
ê-sû (n) water n-zû-le
ê-sû (n) ashes n-zû-nli

(15) Twi h  Nzema h
a-hê (n) afternoon a-hê
hê-n-f (v) shut hê
hê-w (v) winnow hê

(16) Twi h  Nzema f = hy
ê-hê (n) teasing a-fê
ê  hy (v) poor fê-a

1. See note on page 27
2. See note on page 64.
(17) Twi h = Nzema n

h\textsuperscript{u} (n) outside \textit{qu}

h\textsuperscript{y} (v) see \textit{yp}

(18) Twi ji = hy\textsuperscript{1}. = Nzema y

ji-a (v) meet \textit{yi-a}

ji-r-a (v) bless \textit{yi-r-a}

(19) Twi jw = hy\textsuperscript{1}. = Nzema w

jwi-w (v) bale out \textit{wi}

a-jwi-a (n) sand \textit{a-wi-a}

(20) Twi ts = ky\textsuperscript{2}. = Nzema k

a-tsi-m-i (n) drum \textit{ki-nli}

tsi-r-a (v) write \textit{ke-l-e}

(21) Twi ts = ky = Nzema h = k\textsuperscript{3}.

n-tsi-\textsuperscript{y} (n) side \textit{a-he-nle}

a-tsi (n) morning \textit{a-hi}

(22) Twi dz = gy = Nzema dz = gy\textsuperscript{4}.

dza-i (v) stop \textit{dz\textsuperscript{a}-tsi}

a-dza (n) father \textit{a-dza}

a-dzwi (v) cool \textit{dz\textsuperscript{u} 5.}

dzwi (v) hack \textit{dz\textsuperscript{u} 5.}

\textit{a-dzwi-ma} (n) work \textit{a-dz\textsuperscript{i}-ma 5.}

dzwi-w (n) louse \textit{dz\textsuperscript{i}-ke}

1. See note on page 26
2. See note on page 27
3. See note on page 27
4. See note on page 26
5. See note on page 26
(23) **Twi ds = gy É Nzema dy**

dze (v) receive đje

dzj-dze (v) tinkle đje-dże

a-dze (n) deliverance a-lie-le¹.

(24) **Twi m = Nzema m**

ma (v) give ma

ì-ma-nj (n) nation mà-nli

'ì-mù-n-u (n) fresh à-mu-nli²

(25) **Twi n = Nzema n**

ni (v) be ni

e-nj (n) honour nj

nu-m (v) drink nu

ny (v) stir ny

(26) **Twi n = Nzema ny**

à-nj (n) eye ì-nys

è-nj'-nj (n) python è-nyi-nli³

(27) **Twi ny = Nzema ny**

nya (v) get nya

nya-ŋ (v) insipid nya-nli

nyŋ (v) grow nyŋ

(28) **Twi nyw = Nzema n**

nywi-n-i (v) bitter ñu-nli

nywi-n-i (v) weave ñu

nywi-n-i (v) leak ñu

¹. Where l = d, see note on page 27
(29) **Twi w & Nzema w**

wa-ri (v) long wa-li
à-wo (n) snake ë-wo-le
à-wj-a (n) sun ë-wi-a
wu (v) die wu

(30) **Twi y & Nzema y**

ò-yi-r-i (n) wife ò-yi
ya-g (v) rear ye-ni
GROUP A + B.

Notes: The following transformation rules apply:

**Vowels:**

1. **Twi i = Guang i**
   
   aʃ-η(n) piece tʃ
   
   n-ʃ-a(n) ɔ sʃ-e
   
   ki-ri(v) catch kyi-ri
   
   hi-m (v) blow fʃ nose

2. **Twi e = Guang e**
   
   ʌ-be-ŋ (n) horn ʌ-be-ri
   
   ɛ-kɛ (n) side ny-kye-ŋ

3. **Twi a = Guang e**
   
   n-ta-m (n) oath n-tʃ
   
   a-dze (n) fire a-gya
   
   ʌ-bje (n) stool ʌ-gwa hirc1. (v) mix frank.

4. **Twi o = Guang o**
   
   do (v) love do
   
   po-w (n) knot kpɔ
   
   to-w (n) ball i-tʃ

---

1. Note: radicals are ha and fa, both with r-infix. See page 60.
(5) **Twi u = Guang u**

- n-sú (n) water  n-tšú
- dý-á (n) tail  ʔ-a-dý
- sũ-m (v) support  sũ

(6) **Twi u = Guang w(e)**

- n-sú (n) ashes  n-swe
- tǔ (v) err  twè
- kū (v) fight  kwè

Consonants:

(7) **Twi p = Guang kp¹**

- pa (v) skim  kpé
- pó-w (n) knot  kpó
- ʔ-pí-m (n) 1,000  á-kpi

**Twi b = Guang b**

- ba (v) come  bs
- bí-m (n) innocence  bi
- ʔ-bš-n (n) horn  á-bš-ri

**Twi b = Guang f**

- bá-n (n) fence  ʔ-fá
- by-e (v) open  fy-ntʃ
- bů-n (n) berk  fy-ri

(8) **Twi t = Guang t**

- n-tš-m (n) oath  n-te

---

1. p = p only in presumed loans from Twi; see note page /2.
<table>
<thead>
<tr>
<th>Twi (n)</th>
<th>ball</th>
<th>ball</th>
<th>Twi (v)</th>
<th>err</th>
<th>err</th>
<th>Tw (n)</th>
<th>tail</th>
<th>tail</th>
<th>Tw (n)</th>
<th>10</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>tow</td>
<td></td>
<td></td>
<td>twe</td>
<td></td>
<td></td>
<td>e-du</td>
<td></td>
<td></td>
<td>e-du</td>
<td>i-dų</td>
<td>i-dų</td>
</tr>
</tbody>
</table>

(9) **Twidi** = **Gabansoo**

- do (v) love  do
- dű (n) tail  ādű
- e-du (n) 10  i-dų

(10) **Twi k. ti = ky = Guang k**

- kā (v) say  kē
- ̋-kra (n) blood  ̋-kre
- ̋-ky-ny (n) husband  ̋-ky-ri
- kyi-ri (v) catch  ki-ri
- ny-kye-ŋ (n) side  e-kē

**Twi kw = Guang kp**

- ̋-kwé-ŋ (n) road  ̋-kpē
- ̋-kwé (n) life  ̋-kpē

(11) **Twi gw = Guang by**

- gwa-ri (v) bathe  bie
- ̋-gwa (n) stool  ̋-bie

(12) **Twi i = Guang h**

- a-ff (n) comb  ̋-hi
- f-ra (v) mix  hire
- fy-ŋ (n) corpse  hū-nū

(13) **Twi s = Guang s**

- ̋-sa (n) war  ̋-se
(14) **Twila** = Guang t

n-sa (n) strong drink n-te
sa (v) finish te
si (n) piece t

(15) **Twila** = Guang ts

sa (v) cure tse
so (v) try, peck tso
n-su (n) water n-tsye

(16) **Twih** = hy = Guang f

hi-m (v) blow fi
nose
hu-n-u (v) dissolve fu
ye-hu (n) fear i-fu
hye-n (v) blow fe-ri

(17) **Twi hw** = Guang iv

hwaw (v) beg for ji
food
hwa-m (v) smell fi-n-e

(18) **Twi m** = Guang m

a-ma-ni (n) gum es-met
a-mi (n) greed es-met
my (v) shut my
(19) **Twi n ꜆ Guang n**

<table>
<thead>
<tr>
<th>Twi</th>
<th>Guang</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ŋ-ŋ-a-n (n)</td>
<td>nɛ̄</td>
<td>know</td>
</tr>
<tr>
<td>n-y-m (v)</td>
<td>nji</td>
<td>mouth</td>
</tr>
<tr>
<td>a-nu (n)</td>
<td>a-nu</td>
<td></td>
</tr>
</tbody>
</table>

(20) **Twi w ꜆ Guang w**

<table>
<thead>
<tr>
<th>Twi</th>
<th>Guang</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ɔ-wi-a (wµ-a) (v)</td>
<td>wµ-rj</td>
<td>steal</td>
</tr>
<tr>
<td>ɔ-wi-a (n)</td>
<td>a-wi</td>
<td>sun</td>
</tr>
<tr>
<td>wµ (v)</td>
<td>wµ</td>
<td>die</td>
</tr>
</tbody>
</table>

(21) **Twi w ꜆ Guang k**

<table>
<thead>
<tr>
<th>Twi</th>
<th>Guang</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>wu (v)</td>
<td>ku-ki (Ku)</td>
<td>give birth</td>
</tr>
<tr>
<td>ɔ-wu (n)</td>
<td>a-ku</td>
<td>honey</td>
</tr>
</tbody>
</table>
GROUP C + D

Notes: The following transformation rules apply:

Consonants:

(1) Adangme n = Ga f

pë (v)  do  fë
ple (v)  irritate  fle
po (v)  cut  fo

(2) Adangme b = Ga b

bë (v)  sweep  bë
bë (n)  horn  b-lè
ba (v)  come  ba

(3) Adangme b = Ga gb

bo (v)  grow old  gbo
g-bo- (in compounds) foreign -gbo-

(4) Adangme b = Ga m

ba (v)  borrow, ma
lend
b-l-a (n)  gum  a-ma

(5) Adangme t = Ga t

të (n)  stone  të
tô (n) sheep tóol
tu (v) jump tū

(6) Adangme d = Ga d
do (n) grief do
dů (v) catch dů

(7) Adangme d = Ga dz
da (v) right dza
do (v) dance dzo
du (v) bathe dzu

(8) Adangme k = Ga k, kw
ke (v) give as a present ke
kū (v) break across kū
kus (n) neck kùs
kuo (v) climb kwo

(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 nāa
gā (n) oæft nāa
gūgū (n) cymbal nūno

1. See note on page 28
2. See note on page
<table>
<thead>
<tr>
<th>(11)</th>
<th>Adangme kp = Ga kp</th>
</tr>
</thead>
<tbody>
<tr>
<td>kpe (v)</td>
<td>meet kpe</td>
</tr>
<tr>
<td>kps (v)</td>
<td>chip off kps</td>
</tr>
<tr>
<td>kpo (n)</td>
<td>knot kpo</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(12)</th>
<th>Adangme gb = Ga gb</th>
</tr>
</thead>
<tbody>
<tr>
<td>gba (n)</td>
<td>bridge a-gba</td>
</tr>
<tr>
<td>gbți (v)</td>
<td>dry gb-1-I</td>
</tr>
<tr>
<td>gbo (v)</td>
<td>die gbo</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(13)</th>
<th>Adangme f = Ga f</th>
</tr>
</thead>
<tbody>
<tr>
<td>fî (v)</td>
<td>tie fî</td>
</tr>
<tr>
<td>fli (v)</td>
<td>winnow fli</td>
</tr>
<tr>
<td>fů (v)</td>
<td>rise, eg. fů of dough</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(14)</th>
<th>Adangme jv = Ga jw</th>
</tr>
</thead>
<tbody>
<tr>
<td>jîa (v)</td>
<td>set on edge jwã</td>
</tr>
<tr>
<td>jie (v)</td>
<td>play jwã</td>
</tr>
<tr>
<td>jio (v)</td>
<td>suck jwã</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(15)</th>
<th>Adangme z = Ga f</th>
</tr>
</thead>
<tbody>
<tr>
<td>jîa (n)</td>
<td>sand jîa</td>
</tr>
<tr>
<td>jâ-mi (n)</td>
<td>urine jâ-mo</td>
</tr>
<tr>
<td>jî-gbâ (n)</td>
<td>ground jî-kpoŋ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(16)</th>
<th>Adangme s = Ga s</th>
</tr>
</thead>
<tbody>
<tr>
<td>sâ (n)</td>
<td>mat saa</td>
</tr>
<tr>
<td>sê (n)</td>
<td>stool sêi</td>
</tr>
<tr>
<td>s-1-e (v)</td>
<td>melt 5e-r-e</td>
</tr>
</tbody>
</table>
(17) **Adangme s ṣe Ga i**

ṣa (v) burn ṣa
ṣf (v) leave ṣf
ṣe (v) take ṣe
leave of

(18) **Adangme h ṣe Ga h**

hṣ (v) give hṣ
he (v) accept he
hű (v) weed hű

(19) **Adangme ṣu ḫw ṣe Ga v, v**

hi (v) full up yi
his (v) white ye
with contextual nasality
hie (n) yesterday nye
hio (n) debt nyö-mo
hua (v) hard wa
huo (v) sleep wo
huo (n) tomorrow wo

(20) **Adangme m ṣe Ga m**

má (v) build má
mǐ (v) swallow mǐ
mō (n) fort móo

(21) **Adangme m ṣe Ga rm**

mọọ (n) mud ọọ-
mọ (mọ) (v) laugh ọọ
(22) **Adangme m = Ga b**

m-1-á (v) coil round b-l-a
mōmō (n) pity mōbō
mo (n) you bo

(23) **Adangme m = Ga m**

mō (n) person nō
mü (n) oil nu

(24) **Adangme n = Ga n**

nāne (n) foot nane
na (v) get na
nō (v) fight nō

(25) **Adangme ny = Ga ny**

nyē (n) mother nyē
nyē (v) hate nyē
nyē (v) walk ny-1-ē

(26) **Adangme ny = Ga n**

nyū (n) water nū
nyū-mu (n) male nuu

(27) **Adangme n = Ga n**

nā (v) shut na
nā-1-ā (v) wither nā-1-ā
nō (n) salt nō
(28) Adangme rm = Ga rm
rmá (n) food rmá
rmé (n) palm rmé
rmlé (n) bell rmlé

(29) Adangme l = Ga l
le (v) rear le
le (n) canoe le-le
ló (n) meat lóo

(30) Adangme ts = Ga ts
tsé (n) father tsè
tsū (n) too much tsū
tsū (n) room tsū

(31) Adangme dz = Ga dz
dza (v) worship dza
dze (v) resemble dze
dzo (v) cool dzo

(32) Adangme w = Ga w
wó (n) fetish wó
wo (v) wear wo
wu (v) smear wu

(33) Adangme wy = Ga dzw
wia (v) break dzwa
éwis (n) 4 édzwe
Adangme $y = Ga y$

ya (v) scoop water $ye$

yo (n) woman $yo$. 
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.\(\text{XXX}\)

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 Gα could not be grouped with Adangme despite the obviously close relationship that exists between the two languages in almost every other respect.
(2) morphological: Mention has already been made of Delafosse'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)

(3) syntactic and/or semantic: 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) "anschauungsvfuhllle" - cf. Die Semantische Gestalt des Ewe, Anthropos, vol 28, pp 621-632. "Es ist der Fall denkbar dass Sprachen trotz verschiedener Wortschätze, trotz verschiedener Grammatik, Phonetik usw. doch in der Art verwandt sind, wie sie gegebenes Geistesgutsprachlich gestalten, d.h. verwandt in semantischer Beziehung."

(3) "lokalisime", "polariteit", "onzekerheids-relatie", etc. cf. Afrikanistische Taalwetenschap, Problemen, Taak en Doel, Leiden 1950.
(a-) 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 phonological 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 asusiri, resting place and simple borrowings.

(i) Note also the difficulties of classifying the 6 languages of this paper 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.)
Ga: dunde / Twi: tree yam
Adangne: agbeli / Ewe: agbeli

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 Adangne, is due to Twi influence on Ga speech. Similarly, the existence of true labio-palatais 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 Adangne.

It is not insignificant that Adangne resembles the geographically contiguous Ewe in possessing, for example, a 'definite article'\(^1\) and in forming nominals of a special type by reduplication of the verbal base\(^3\).

---

1. See note on page 17

2. cf. Adangne: tso a, tso dme, the tree, the trees, and Ga: tso la, tsoi le (le is 3rd p.s. pronoun cf. Twi: dua nu, the tree and enu, he, him).

3. cf. pages 81 and 94 .
Note (i). page 148: In these languages what have been called in this thesis paper, "velarization", "labiovelarization" and "lateralization", 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 credibility to a diffusionist theory of this type.

In the last resort, of course, many of these "semantic and phonetic basis (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 possibilities of articulation. For instance it is interesting to note that in all 6 languages

"brother/sister = mother's child. cf. Twi nua (ni and ba); Ga nyem (nyx and bi) etc.

"believe" is expressed as a serial predicate = take, eat. cf. Twi gyidi; Ga he; ye etc.

but this is at most equivalence of semantic function not identity of sememes unless a phonological correspondence can be established. This type of equivalence has been represented in this paper by the symbol $\equiv$ which signifies that it is to be ignored for purposes of the main argument. cf. page 64 Nzema kyj $\not{\equiv}$ 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-Tshi 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 \( \neq \) nea ḗkānnade = that which affects iron\(^1\).

: similarly,

Twi: agyanka (n) orphan \( \neq \) 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\(^2\).

: Ewe: ku, die = Twi: ku, kill\(^3\).

\( ^1 \) 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: guare¹.
Ga: mlu, powder = Twi: aduru².
Ewe: ma, nicht = Twi: m, negation³.

(3) the partial nature of the phonological correspondences, e.g.

Ewe: axa, side = Twi: nkeŋ (ŋ ia? (sic))
Ewe: (dhe) bala, palmwedel = Twi: bergw
Ewe: vō, durchsauert sein = Twi: bɔŋ, penetrate as

but also

Ewe: vō, riechen = Twi: bɔŋ, smell.

1. Twi: guare is English 'bathe' for which the Ga is du.

2. Ga: mlu is dust, Twi: aduru is medicine / duɔ, 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/, pɔ 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: kɔ 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 and D and E.

Ga - Adangme si/ji = Ewe 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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ZAS - Zeitschrift für Afrikanische Sprachen.
ZAOSS - Zeitschrift für Afrikanische und Ozeanische Sprachen.
ZK - Zeitschrift für Kolonialsprachen.
ZE - Zeitschrift für Eingeborensprachen.
Glossary.

**adjunct:** A word which defines (modifies, qualifies) the primary words of a sentence or phrase; adnominals so define nominals, adverbals define verbals.

**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. attikizein = lat. attingisse), d'un système (lat. tra-ducere, all. uber-tragen), d'une construction (all. Was ist es 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 a la série des douces, qui équivaut d'ordinaire a 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.


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.

spirantization: "On designe quelquefois de ce nom la lenition des langues celtiques qui consiste en ce qu'une consonne, augmentant d'aperture, est affectee d'une sorte d'aspiration ou de renforcement de souffle, qui fait par example 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.
Yotization: (yodization); "Se dit quelquefois de la palatalisation ou mouillure qui donne à la lèvre un moelle approximativement l'impulsion d'un yod (l'i en fonction du sonante) ajouté après la consonne."

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

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