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In order to avoid these ethical and practical problems, the ARA uses no capitals and a modified European punctuation system.<sup>8</sup> This strategy avoids the value judgements inherent in capitalisation decisions by avoiding the decisions themselves. Thus, it is not controversial whether names of persons, sacred objects, deities, or days of the week have initial capitals, since no capitals exist.

Several national alphabets are like the ARA with respect to capitalisation. For example, the Nigerian alphabet, for which a typewriter has been produced, includes no upper-lower case distinctions among its graphs, using mostly graphs that correspond with lower case roman graphs. However, in practice, people who are literate in European languages often copy their capitalisation conventions into languages with non-capitalising alphabets. For example, the Ivoirian alphabet (Kokora 1979) includes no upper case forms. However, initial capitals at the beginnings of sentences and in proper names are used in a journal published at the University of Abidjan in the Baule language (with French translations on opposite pages), which purportedly employs the official Ivoirian orthography (Loucou 1981). However, because certain graphs included in the Baule text have no upper case forms, this capitalisation convention could not be universally applied. Furthermore, initial capitalisation is irregularly applied to the titles of articles and the journal itself, as well as to the names of ethnic groups. With such irregular observation of a capitalisation convention, it is difficult to understand the motivation for using capitals in the first place. Perhaps the authors and editors of the journal thought that a journal without capital letters might look "unacademic", or perhaps the overwhelming availability of French printed materials, in comparison to Baule printed materials, has instilled in the authors a subconscious bias toward capitalisation in the French fashion. If a system without capital letters is to survive as such, it is necessary that literacy education in that system include some sort of reinforcement of the idea that orthographies without capitalisation are as worthy of print as those with capitalisation, and that the sacred objects of cultures with capitalisation are not more sacred because they are capitalised. (These are real problems because of the use of European languages in schools. Any person with more than a couple of years of formal education will know of the capitalisation conventions in some European language.)



## 5. The Beng case

I now turn to a case study and critique, which concerns the following questions: Will (and should) development of an orthography for the purpose of western study of an African culture affect future attempts at alphabetisation and literacy in that language? For the Beng language of Côte d'Ivoire, what is the best orthography that can be developed for linguistic and ethnographic materials? The answers to these questions often became clear too late to influence the orthography used in the Beng-English dictionary (Gottlieb and Murphy 1995). Therefore, some of the following discussion is more rationalisation than criticism of the orthography chosen for Beng. However, close attention is paid to the usefulness of this orthography for the purpose of linguistic study and establishment of literacy.

The Beng are an ethnic group of approximately 10,000 people, divided into two kingdoms which use slightly different dialects of their language, Beng (Gottlieb 1992).<sup>9</sup> The language belongs to the Southern Mande group, which also includes Wan and Toura.

Information for the dictionary was first collected in 1979-80 and again in 1985 by Alma Gottlieb during anthropological field study. The result of these visits was a collection of index cards carrying over 2000 words plus hundreds of additional lexicalized phrases, transcribed in an IPA-like style. As linguistic study was not the foremost purpose of her visit, and as she is not trained in linguistics, Gottlieb's transcription of Beng words was often irregular; the sketch of Beng phonetics presented here is based on her transcriptions and a list of Beng phonemes produced by a member of the Summer Institute of Linguistics. The remainder of this section consists of subsections on the following topics: graph assignment for consonants and vowels, capitalisation, word division, and adaptation of borrowed words.

### 5.1 Consonant graphs

The bulk of the Beng consonants are common to West African languages. However, the written materials from Gottlieb's field research leave some questions as to the exact consonant inventory of Beng. Table 1 shows the graphs for the consonants of Beng used in the forthcoming dictionary, in contrast, where appropriate, with graphs of the IPA, the Ivoirian national alphabet, and the ARA.

Table 1. Beng consonants

	BILABIAL	LABIO-DENTAL	LABIO-VELAR	DENTAL	PALATAL	VELAR	GLOTTAL
STOP							
[-VOICE]	p		kp <sup>1</sup>	t	c	k	
[+VOICE]	b		gb <sup>2</sup>	d	j	g	
[+NASAL]	m		mgb <sup>3</sup>	n	ny <sup>4</sup>	ŋ	
FRICATIVE							
[-VOICE]		f		s			h*
[+VOICE]		v		z			
LIQUID				l/r			
TRILL				r <sup>5</sup>			

\* used extremely rarely, mostly in onomatopoeia

<sup>1</sup> ARA = β

<sup>2</sup> ARA = β

<sup>3</sup> IPA, Ivoirian = ŋm; ARA = ~

<sup>4</sup> IPA, ARA = ŋ, Ivoirian = ny/ŋ

<sup>5</sup> Because of uncertainty as to true nature of this phoneme, equivalents cannot be given for other orthographies

<sup>6</sup> IPA, ARA = r; not differentiated from other central liquids in Ivoirian alphabet

The dictionary orthography has a few problems that might have been prevented by a more thorough phonological study of the language. The first of these problems involves the possible existence of a labio-velar nasal stop, which was not included in Gottlieb's original estimation of the consonantal system. Instead, this phoneme was treated as a prenasalised /gb/ and was spelled **mgb**.

However, on closer examination of the other possible prenasalised stops, i.e., those consonantal clusters spelled as a nasal followed by a stop, the existence of prenasalised consonants in Beng becomes doubtful. There are no word-initial **mb** clusters, and the recorded **nd** and **nt** clusters involve the contraction of the first-person singular possessive pronoun, **ŋ**, and a kinship term that begins with [d] or [t]. In these cases, the **nd** does not represent an instance of prenasalisation, but of a syllabic [n] followed by a stop, i.e., two separate phonemes (belonging to different morphemes). Yet there are several instances of initial and medial clusters recorded as **mgb** (also **ngb** in Gottlieb's field notes). In these cases, contraction of two morphemes is clearly not the case. SIL work on Beng (1984) also posits a labio-velar nasal consonant.

The Ivoirian alphabet and IPA represent such a phoneme with a digraph, **ŋm**, while the ARA utilises a single graph which resembles a compact, oversized tilde. The dictionary persists in using a trigraph, **mgb/ngb** because of the

perceived explosive nature of the consonant; at the outset, the phoneme is nasal in pronunciation, but it is released with a [b]-like sound.

The trigraphic choice is deserving of some criticism. Not only does it carry us far from the One Sound / One Sign principle, but it is misleading in its suggestion of a *prenasalised* consonant, rather than as a nasal consonant. The explosive [b]-like ending of the phoneme is most likely a sub-phonemic, and perhaps allophonic, characteristic of the nasal phoneme. Including the **b** in the orthographic representation of the phoneme may be helpful to westerners attempting pronunciation of Beng, but it would be unnecessary for the Beng, should a popular orthography be developed from this dictionary. The Ivoirian and IPA representation, **ɲm**, would serve as a phonemically accurate representation for the sound and would be recognisable as that phoneme to any native Beng speaker who acquires literacy in Beng (a Beng speaker would not require so much phonetic detail as the **b**). By employing **ɲm**, we would also reduce the trigraph to a digraph, increasing readability. I have not lent serious consideration to the ARA single graph, as it is so unavailable in printing and typing equipment. If the ARA gains acceptance and use in western Africa before serious attempts at Beng alphabetisation for literacy are made, the ARA graphs would provide a more elegant representation of the labio-velar nasal than the suggested digraph.

The second major phonemic problem in the Beng orthography is the use of both **l** and **r** for what appears to be only one phoneme. A thorough investigation of the possible complementary distribution of [l] and [r] cannot be made from the written data; however, the written data do provide several clues which indicate that the two graphs represent the same phoneme. A first piece of evidence is the absence of words beginning with **r**, while many words begin with **l**. Furthermore, intervocalic **l** is much more prevalent than intervocalic **r**. Consonant-liquid clusters also reveal evidence of complementary distribution. The dictionary includes several words with initial **sr** but none with initial **sl**. The graphs **l** and **r** were used interchangeably in many words in Gottlieb's vocabulary cards and field notes, especially in stop-liquid clusters. Gottlieb (p.c.) confirms that [l] and [r] use seemed interchangeable to her in many words and among individual speakers.

One could rationalise that the **l/r** graph distinction is useful in recording allophonic distinctions. This rationalisation is actually somewhat rational for the purposes of this dictionary. As it is to be published by a linguistic organisation (Indiana University Linguistic Club), linguists will presumably be the dictionary's major audience. It is possible that our **l/r** distinctions will enable some linguist to determine the distribution of liquids in Beng. But should this orthography have an effect on future alphabetisation of Beng for popular literacy, the **l/r** distinction could be problematic. The excessive number of graphs for a single phoneme could make spelling difficult for native Beng writers, as the **l/r** distinction might often seem quite arbitrary.

The use of digraphs (**gb**, **kp**, **ny**) is forgivable despite the blatant disregard for the One Sound / One Sign principle. Utilising digraphs for the labio-velars simply follows the convention established by the IPA and adopted by most others, including the Ivoirian national alphabet. Though the ARA does include single-graph representations of the labio-velars, these graphs are unavailable in typing and printing equipment (except that which is especially made for the ARA), and therefore it would be burdensome for general use as well as for use in our dictionary.

The palatal nasal, which the dictionary represented with **ny**, does have a single-graph representation in the IPA and elsewhere, **ɲ**. In the Ivoirian alphabet, either **ny** or **ɲ** may be used, presumably depending upon one's typographical capabilities. Such a flexible solution seems appropriate for this sound, as the IPA graph is not only uncommon in typing equipment, it is difficult to differentiate from other nasal graphs in the handwriting of many. If the Ivoirian alphabet gains wider acceptance before Beng is alphabetised, it is reasonable to expect that both of the variant graphs will be employed by Beng-speaking individuals.

## 5.2 Vowel graphs

Beng has seven vowels, as illustrated in Figure 3. Two of the graphs used in the dictionary are not contained in the roman alphabet, but are used in many African orthographies (including the Ivoirian system and ARA) and in the IPA and are therefore somewhat available for typesetting and on African typewriters.

Figure 3. Beng Vowels



One controversial element of Beng phonetics is the status of nasalised vowels. The SIL missionaries researching Beng (1984) identify four nasal vowel phonemes in Beng, whereas Gottlieb and Murphy treat nasal vowels as pronunciation variations of vowel-nasal clusters (the nasal consonant of these clusters is deleted in certain contexts, leaving a nasal-coloured vowel). However, the dictionary treatment does not address these situations in a regular manner. The tendency is to use a vowel graph + nasal consonant graph in word-final

contexts and to indicate nasal(ised) vowels elsewhere by a diacritic tilde (~) over the vowel.

The SIL treatment of nasal vowels posits four nasal vowel phonemes: /ɿ/, /ū/, /ē/, and /ɔ/. In this situation, the nasal consonant (usually an /ŋ/) that follows these vowels in many contexts is explicable as some type of *liaison*. The lack of /ē/ and /ɔ/ in the SIL system concurs with the apparent lack of distinction between medial lax and tense nasal vowels. The Beng orthography makes a distinction between the lax and tense vowels, based on distinctions in Gottlieb's field notes. This distinction is likely to be meaningless, however, considering that many languages have fewer nasal vowels than oral vowels, since fewer vowel distinctions can be made with a lowered velum.

SIL's orthography uses digraphs (vowel + n) in describing the nasal vowels, despite the phonemic status that SIL accords the nasal vowels. Considering the popular use of the tilde as an indication of the nasal feature worldwide, the SIL's use of a digraph is puzzling and misleading. By its *sequential* ordering of the graphs that usually stand for (oral) vowels and nasal consonants, the SIL suggests that these two sounds are produced sequentially.

Before mass literacy in Beng is attempted (and before further lexicographical work in Beng is done), the status of the nasal vowel must be investigated. If the nasal vowels of Beng are best interpreted as different phonemes from the oral vowels, then regular use of the tilde-marked vowel graph should be employed. In any case, regularisation of the treatment of nasal vowels is necessary, but further phonological study of Beng is needed in order to decide the best course of action.

### 5.3 Representation of tones

In Beng, as in many other African languages, words carry lexical tone. The style of marking of tones reflects a prevalent custom in Africa and in the romanisation of Asian languages. This custom involves iconic diacritics borrowed from European orthographies, where they serve as accent marks. The five tones of Beng are represented as the following:<sup>10</sup> v (mid — no diacritic), ʋ (high), ˘ (low), ˆ (falling), ˊ (rising). Other options for marking tone have been established, but they involve either marking some tones by sub-graph diacritics or placing the tonal symbol before or after the syllable instead of placement on the vowel (IPA 1957). While these practices may make symbolic or phonetic sense, popular preference for the iconic accent system did bias the choice, as did the relative ease with which the accent diacritics can be produced in writing, typewriting, or word-processing. Use of this system should not be problematic in either academic work or in a future alphabetisation of Beng for literacy purposes. In the latter situation, tone-marking might be eliminated in most contexts, save for those in which lack of tone-marking induces a pragmatically plausible ambiguity. Our dictionary should not be used as a model for tone-marking in Beng, however, because many tones may be missing or

incorrect. Because Beng tones undergo changes dependent on neighbouring tones and because many lexical items in the dictionary were recorded from experiences of them in sentences, the underlying tone of any word may have been misinterpreted by the American recorder.

#### 5.4 Adaptation of borrowed words

Because our dictionary attempts a phonetic orthography, borrowed words have been spelled as they sound when pronounced by a Beng speaker, not as they are spelled in their original language, for example, Beng karfür for French carrefour. For personal names borrowed from neighbouring languages (such as Baule), the dictionary indicates the popular spelling of the name within the entry. While it may seem unorthodox to use a spelling other than the spelling that is used locally, the very French-style spellings of the names represent much different sounds in the Beng orthography than the names actually have (e.g., nesan replaces the spelling Nguessan and yakuba replaces Yacouba(h)). This juxtaposition of phonetic spellings with the popular spellings (which are somewhat official because of their use in identification papers) may help distinguish the dictionary's orthography as a phonetic, descriptive orthography, which is not in itself a practical orthography for popular use.

#### 5.5 Capitalisation

The dictionary follows the ARA in its non-use of capitals in all contexts, even personal names. This strategy avoids forcing western value judgements upon the orthography of Beng. Thus, it does not allow westerners to decide which (if any) sacred objects, characters, or traditions should have capitalised names. The non-use of capitals also reinforces the idea that ours is a phonetic orthography designed for linguistic study, not for popular writing. If the ARA system or the non-capitalised Ivoirian alphabet becomes popular in Côte d'Ivoire, future orthographies may not include capitals as well. If not, choices must be made for a popular orthography as to which words deserve initial capitalisation. Ideally, the Beng people themselves will be accorded the choice of capitalisation conventions.

#### 5.6 Word division

Decisions as to which morphemes and strings of morphemes would be treated as words depended upon both knowledge of Beng morphology and English-speaking biases, an accidental adherence to Wolff's (1962) compromise strategy C (see Section 4). Bound morphemes are treated as affixes, such as the passive

suffix -le (used in the verbal citation form, as in trile 'to be / make black' < tri 'black' + -le) and the 'one removed' temporal suffix -ze (gbleze 'day before yesterday' < gble 'yesterday' + ze). As a matter of policy free morphemes are treated as words in any case where sound changes have not rendered the morpheme orthographically dissimilar to its pronunciation in isolation. So, for example, blonyile ('to be happy' < blon 'liver' + nyile 'to cool') is treated as one word because of the loss of the [ŋ], while a compound without sound change is treated as two words, such as yiru yali ('hyena' < 'night' + 'walker'). (One exception to this is the set of patriclan names, which all end in the morpheme len 'child'. For consistency across patriclan names, all are written as compounds, regardless of whether any sound change is evident in the constituent morphemes.)

Apostrophes indicate certain contractions, most notably the address forms of many kinship terms, which contract the first-person, singular, possessive pronoun with the reference form of the kinship term. In many of these cases, some sound change does occur in the contraction, usually the deletion of (or assimilation of nasal qualities in) the initial stop of the kinship term and place-of-articulation assimilation in the possessive pronoun (e.g., n + da → n'a '(my) mother'). Use of the apostrophe differentiates the contractions from similar, uncontracted words (e.g., n'a 'mother (address)' vs. na 'wife (reference)') and does not misleadingly suggest the existence of a prenasalised consonant phoneme (as in n'toma '(my) namesake'). Because the pronoun does not undergo assimilatory sound changes in other contexts of use, possessive pronouns are treated as words in other contexts.

These choices in word division seem morphologically and phonologically wellmotivated, however at least one other choice may deserve some criticism and revision. The postpositions of Beng, on analogy with the prepositions of English, were treated as separate words from their objects. It is possible, however, that these postpositions might be better treated as case-markers (or semantic rôle markers), and therefore (on analogy with languages with rich case-marking systems) would be better represented as suffixes, rather than words. Furthermore, many of the postpositions vary in pronunciation, depending on their phonological contexts (e.g., o/wo 'in'). Thus, in treating postpositions as words, we have broken our own rule of word division according to phonological stability. Because no serious grammatical study of Beng has been attempted, it is impossible to draw firm conclusions about the syntactic function of the so-called postpositions, but such premature assessment of the situation may bias future studies or literacy efforts.

## 6. The dictionary as orthographic model

Any lexicographic study of a non-alphabetic culture risks affecting that culture. If people of this culture are interested in having an orthography for their lan-

guage, but feel they lack the skills to create one, the lexicographer's orthography may be seen as a solution to their problems. For forces outside the culture that are interested in seeing the language alphabetised (e.g., government, missionaries), exposure to the lexicographer's orthography may (correctly or misleadingly) give the orthographers linguistic information with which to work. As discussed above, the lexicographer, in creating an orthography, makes many judgement calls about the language: what is a word, how is a particular sound represented, what is worthy of initial capitalisation. These decisions provide a medium by which biases toward the lexicographer's native (or preferred) tongue or his / her misunderstanding of the target language may be carried into the writing system of the language and ultimately into indigenous and external popular (and even academic) perceptions of the language.

English-speaking culture's attitudes toward dictionaries indicate the reverence we have toward their entries. Because most standard English dictionaries only record the terms of the higher social registers of English, the dictionary is used as a tool of linguistic discrimination. The grade school teacher's cliché, "Ain't isn't a word — it's not in the dictionary," demonstrates the authority that English speakers give to dictionaries (and lexicographers). Dictionaries are respected as fonts of linguistic "truth" and are expected to be very conservative. The esteem in which we hold the dictionary is evident in references to the dictionary (like the Bible), in which we ignore the fact that competing dictionaries exist and may represent different "truths" about our language.

If the same sort of authority is given to a preliminary dictionary of an unalphabetised language (such as Beng), the consequences could be disastrous if popular use of the orthography prescribed by the dictionary is attempted, since the dictionary is based on an outsider's perceptions of the language and not on native speaker intuitions (although it may be produced in consultation with native speakers). Therefore, the description of a language through a dictionary should be as accurate as possible, not only for the benefit of western science, but so as not to sabotage later efforts at establishing literacy in the language.

In the case of the *Beng-English dictionary*, thorough linguistic study could not be made prior to publication. The ethical issues surrounding the alphabetisation of Beng with only a cursory study of its linguistic structure conflict with the concern that other English-speaking academics have access to information about the Beng.<sup>11</sup>

The sins in the *Beng-English Dictionary's* alphabetisation of Beng are mitigated by a number of factors. First, the text of our dictionary is in English, which is not widely used in Côte d'Ivoire. Thus, Beng speakers and Ivoirian educators will have limited access to the dictionary and will be less likely to use its orthographic model than if we had written in French (the official language of Côte d'Ivoire). The fact that the dictionary is published by a small organisation in the United States adds to the dictionary's inaccessibility as a model (although at least a dozen copies are now available in Beng villages). As discussed above, some of our orthographic conventions (non-capitalisation, phonetic spelling of



borrowed names) reinforce the perception of this orthography as a scientific endeavour, not a first step toward a Beng written literature. Disclaimers in the dictionary front matter may also serve to lessen the perception of our dictionary as authoritative.

Upon hearing of the imminent publication of this dictionary, some Beng people expressed the hope that this dictionary might help them learn English (Philip Graham, p.c.). It is interesting to note that Beng people who are literate in some language (most likely French) have assumed that they will be able to recognise Beng in print. The fact that this orthography is based upon the IPA may make this task more difficult than these Beng individuals imagine (they may be expecting the French-based type of spelling one often sees for their neighbouring languages, including Baule / Baoulé). This dictionary was not intended for such a task, and therefore would be of very limited use to anyone wishing to learn English. However, with the input of a literate Beng person, it may be possible to revise the dictionary, first through more careful linguistic study, then by the addition of an English-Beng section, so that this study can serve the Beng people.

## Notes

1. Arguments that literacy aids intellectual development have been challenged in recent years. Eisenstein (1979) traces European history to the conclusion that many of the social advances thought to have been caused by the invention of writing were actually products of the invention of printing technology. Scribner and Cole (1981) argue that while the development of certain intellectual habits is frequently attributed to literacy, these habits are instead the product of the discipline of formal education. In their study, individuals who attain literacy skills in the informal village settings in Liberia and Sierre Leone did not attain the same intellectual skills characteristic of those who gained literacy through formal schooling.
2. According to Bendor-Samuel and Bendor-Samuel (1983), this problem has been encountered by missionary literacy workers in Ghana. Although village schools taught students to read and write in English, the missionaries could not find literate, adult villagers. This was because those who completed their educations quickly became unsatisfied with agricultural life and moved to the cities to find means of employment that would allow them to utilise the skills gained in school.
3. Of the 43 African nations discussed in Chrystal (1987), only seven do not have European official languages. Of these seven, six have Arabic as an official language. Only Ethiopia has only an indigenous language (Amharic) and its writing system predates European influence (Dalby 1986).
4. For further discussion of orthographic principles, see International Phonetic Association (1957), Williamson (1984), Mann and Dalby (1987: 207-211).
5. Other alternatives are apparently considered so unviable that they are not even discussed. In *Practical Orthography in Nigeria*, Kay Williamson' (1984:13) takes "for granted that the Latin

- alphabet, particularly as it is applied to English, is to form the basis of the representation of Nigerian languages."
6. This principle is also known as "One Phoneme/One Graph" and "One Phoneme/One Grapheme." In order to avoid the debate over the usefulness of the concept 'grapheme', I have chosen to use a more neutral, albeit less precise, label for the principle.
  7. The ARA's Principle 9, with relation to existing orthographies, states "any a.r.a letter that coincides with an i.p.a letter should have as its most frequent realisation a value concordant with its i.p.a value, or other widely established usage" (Mann and Dalby 1987: 208, punctuation and capitalisation as in original).
  8. See the quote in footnote 7 for an example of ARA-style punctuation and (non-)capitalisation conventions.
  9. The Beng have been referred to by other sources as the Ben, the Ngan, the Gan, and the Ngen (Mundt 1987: 31). The name Beng is preferred here as it is an auto-ethnonym.
  10. The *v* in these examples is intended to serve as a generic symbol for "vowel" and is included in order to demonstrate the placement of the diacritic above the vowel graph.
  11. The desire to produce a record of Beng is not completely self-serving for the academic community. With the epidemic of language death around the world, it is vital to record minority languages now in an effort to retard their demise or at least have a cultural record in case of the language's death. (See Linguistic Society of America 1993.)

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